Understanding Nursing Science: Bridging The Gap In Definition

Khalid Ibrahim Sultan Albargi , Amal Mohammed Saeed Al Moheb , Badriah Ali A Alshehri , Nabilah Ali H Alshehri , Muaddiyah Hassan L Alshehri , Ramadan Abdullah Al Shehri , Abeer Mohammed Ali Alassiri , Hanan Mohammed Hassan Alshehri, Jawaher Mohammed Hassan Alshehri , Laila Mohammed Hassan Alserhri , Rahmah Mohammed Ahmed Albarqi , Salihah Dhafer Saeed Alamri , Hebah Abdlrhman Alshehri , Aishah Hezam Rajeh Alshehry , Saeed Hadi Hamad Alqahtani

Abstract:

Nursing science, despite its widespread use in literature, lacks a clear and universally accepted definition. This paper investigates the reasons behind this ambiguity, exploring the various perspectives on nursing and science itself. It examines the impact of philosophical underpinnings and the existence of multiple schools of thought within nursing. The paper argues for a definition that encompasses the entirety of nursing knowledge, acknowledging the contributions of both the totality and simultaneity paradigms.

Keywords: Nursing science, definition, paradigms, totality paradigm, simultaneity paradigm.

Introduction:

This paper explores the concept of nursing science, delving into the ongoing debate surrounding its definition. The lack of a universally accepted definition raises questions about the unique body of knowledge that constitutes nursing science. By examining the nature of nursing and science itself, the paper aims to shed light on the complexities of defining this crucial field.

What Is Nursing Science?

We go back to the original question: What is nursing science? after taking a quick look at what nursing and science are. The term "nursing science" is used extensively in the literature, but there are few definitions of what nursing research is. This

was surprising to find out from computer searches and a variety of books on nursing theory and research; basically, the majority of these authors do not distinguish between nursing research and research conducted by nurses or between nursing science and science produced by nurses. For most sources that do offer defini- tions, they may not be universally ac- ceptable, nor can they be if they repre- sent a particular philosophy, rather than the various philosophies that guide mul- tiple schools of thought within the disci- pline.

Failure to define key terms and failure to specify philosophical under- pinnings are grave errors in building a unique body of disciplinary knowledge, which by definition reflects more than one paradigm (Parse, 1997). In addi- tion, definitions need to be congruent with the philosophical underpinnings. To illustrate this point, in Fitzpatrick's (2000) Encyclopedia of Nursing Re- search, nursing science is not listed in the index, nor is nursing research. What is listed is nursing care research, and it is defined as "research directed to un- derstanding the nursing care of individ- uals and groups and the biological, physiological, social, behavioral, and environmental mechanisms influencing health and disease that are relevant to nursing care" (p. 507). This reflects a particular worldview and does not re- flect the discipline as a whole.

Nursing Definition:

Nursing science: what is it? Even though a lot of nurses are aware with the term, its exact meaning is still unknown. Since there are numerous interpretations of what love is, correctly capturing its meaning can be nearly as challenging as defining it. I believed this was an impossible mission at different points while I was trying to put my thoughts together to answer what sounded like such an easy question. Determining what nursing is is a perennial problem. Nursing has always been described as a verb, meaning to do. "The actions taken by nurses on behalf of or in conjunction with the person, and the goals or outcomes of nursing ac- tions" is how Fawcett (2000a) describes the metaparadigm notion of nursing (p. 5). Nursing is "a process of action, reaction, and interaction," according to King (1981/1990) (p. 2). According to Orem (1997), nursing agency is made up of "a triad of interrelated action systems" (p. 28) (Fawcett, 2000a). Conversely, Rogers (1992) defines nursing as a noun that means to know. According to her proposal, nursing is a basic science

that focuses on the universal human condition of reciprocal interaction with surroundings.

What constitutes science?

The meaning of science:

Given these perspectives on nursing diagnosis, what exactly is science? According to King (1997a), science is to know. Parse (1997) describes science as "the methodological process of attaining knowledge in a discipline and the theoretical explanation of the subject of inquiry; thus, science is both product and process" (p. 74). According to others, science is a coherent body of knowledge composed of tested theories and research findings for a specific discipline (Burns & Grove, 2000, p. 10). Science, as scientific knowledge, represents best efforts toward discovering truth. It is open-ended, evolving, and subject to re-vision and occasionally unfolds in dramatic shifts in thought.

Research, defined as "the formal process of seeking knowledge and understanding through use of rigorous methodologies" (p. 74) by Parse (1997), is the means by which science is produced. Taking a more limited perspective, the National Institutes of Health suggest that "research means a systematic investigation designed to develop or contribute to generalizable knowledge" (Daniel Vasgird, personal communication, November 21, 2000).

The Contextual Challenge: Defining Nursing Science Through Multiple Paradigms:

Munhall (1997) highlights the fact that definitions must be examined in the context of their use and reflect assumptions as well as philosophical, political, and practical dimensions; in fact, it is the context that accounts for the variations in definitions and applications of the same nursing terms among authors as well as the fact that many terms cannot be defined universally.

challenging task to answer the question, "What is nursing science?" Nevertheless, this collaborative journey is justified because, as Watson (1999) so succinctly states, "without a language, we are invisible." Until nursing has clearly defined and embodied its unique identity, it will continue to be invisible as a distinct discipline and be seen as a subset of medical science or social science. Despite this, this conversation is

disregarded as useless in many nursing circles. The contextual issue must be resolved before nursing science can be defined. Fortunately, there are a number of approaches to contextualize nursing science, such as the paradigmatic schemas developed by Fawcett in 1993 and Newman, Sime, and Corcoran-Perry in 1991. In 1984, Parse (as cited in Parse, 2000) defined the original, and most widely used, paradigmatic organization of nursing knowledge based on a conceptual differentiation of the totality and singularity paradigms (see Table 1).

Each of these two paradigms is a worldview that expresses a philosophical perspective about the unique phenomenon of concern in nursing; all nursing knowledge is connected with this phenomenon in some way (Parse, 1997). Nursing's phenomenon of concern focuses on the human as a whole being in The human-universe-health process, as defined by Parse (1997, 2000), is widely acknowledged as the phenomenon of concern in nursing. However, the definitions of these terms vary depending on paradigms, which helps to clarify rather than confuse since the philosophical context is now explained. The two paradigms' differing perspectives on the human as a whole person are frequently cited as the reason for the contrast between worldviews, though this is only one example of how they differ. The totality paradigm sees the human as a biopsycho-sociocultural-spiritual being that can be understood by studying the parts, but is more than the sum of them. The individual is distinct from the changing environment.

There is a wellness-illness continuum that corresponds to health. The majority of writers, such as King (1981/1990), Orem (1995), Roy (1997),

Totality paradigm thinkers include Betty Neuman (1996), Peplau (1952), Leininger (1995), and others. According to the simultaneity paradigm, whole refers to unitary, and the unitary human has qualities that set it apart from the parts and that knowledge of the parts cannot explain. In addition, the human cannot be isolated from the universe because both constantly undergo novel, unpredictable changes that together produce health, a value that individuals define for themselves (Parse, 1997, 1998, 2000; Rogers, 1992). Theorists of simultaneity include Margaret Newman (1990), Rog- ers (1994), Parse (1998), and Watson (1999), among others.

These differences give rise to different methods of inquiry and practice and provide sufficient scope to encompass all disciplinary activities; however, the two paradigms of nursing are not superior, and it is important to keep in mind that a discipline requires more than one worldview of the phenomenon of concern (Parse, 1997).

Philosophical Schools

Schools of thought comprise the substantive knowledge of the discipline (Parse, 1997); illustrates Orem's (1995) school of thought as one example from the plurality paradigm and Parse's (1998) school of thought as one example from the simultaneity paradigm. Parse (1997) has advanced the conceptualization of schools of thought and proposes that each paradigm is composed of philosophically congruent schools of thought based on similar beliefs about the essential phenomenon of concern of nursing. She states, “Each school of thought is a knowledge tradition that includes a specific ontology (belief system) and congruent method-logies (approaches to research and practice)” (p. 74). Distinctive Research and Practice Approaches: The creation of original research methodologies—all qualitative in nature and listed in Table 2 by Fawcett (2000b)—is of much more importance. Fawcett asserts that

We have to break away from the research methodologies of other fields, like the grounded theory method from sociology, the phenomenological methods from psychology, and the randomized, controlled trials methodology from pharmacology, which came from agriculture and is now widely used by doctors and psychologists (p. 5).

Fawcett does, however, support the refor- mulation of a method within the parameters of a nursing framework or theory. For instance, Leininger (1995) developed the ethnonursing method by refor- mulating ethnography, an anthropological method, within the parameters of her nursing theory. (Fawcett, 2000b).

Unique research methods "facilitate creation of knowledge for colleagues who practice nursing in the new way" (Barrett, 1998, p. 95). Those who use them are on the cutting edge, experiencing the passion of blazing a new trail as they sing the diversity chant of pioneers on the nursing road less traveled.

This is in line with my 1998 proposal that special research methods are one direct path to moving nursing toward further disciplinary definition.

Another facet of a school of thought is nursing practice methodologies, which are crucial for bridging the gap between theory and practice and illuminating the practical nature of nursing theories. Fawcett (2000b) pointed out that Johnson (1992), King (1981/1990), Levine (1996), Margaret Newman (1990), Orem (1995), and others

In other words, Fawcett (2000b) and earlier Newman (1990) proposed that information obtained during the practice of research could serve as a foundation for research methodologies. Scholars working with those frameworks and theories, such as Rogers (1994) and Parse (1998), have developed practice methodologies consistent with their work that can also serve as the basis for research methodologies.

Theory-Guided Practice in Nursing

Based on the discipline-specific knowledge articulated in nursing frameworks and theories, nursing theory-guided practice is a human health service to society that reflects the philosophical perspectives embedded in the ontological, epistemological, and methodological processes that frame nursing's ethical approach to the human-universe-health process (Parse et al., 2000, p. 177)

In nursing, evidence-based practice is defined differently than in medicine, especially when it is nursing theory-guided. Nursing frameworks and theories offer two pathways to nursing practice through nursing theory–guided practice. The totality paradigm permits the adoption of evidence-based practice.

Ingersoll (2000) offers a definition of evidence-based nursing that, in contrast to medicine's definition, includes theory: "Evidence-based nursing practice is the conscious, explicit, and judicious use of theory-derived, research-based information in making decisions about care delivery to individuals or groups of patients and in consideration of individual needs and preferences" (p. 152). tice is the results of randomized controlled trials. Evidence-based nursing, linked with the current buzzword in medicine, refers to research usage.

King (2000) has provided an example using her conceptual system. Her "theory of goal attainment within which a transaction process model was derived results in the following: Goals set lead to trans- actions which lead to goal attainment (outcomes) which is evidence-based practice" (p. 8) is how nursing theory-guided evidence-based nursing differs from evidence-based nursing in that the practice is guided by the discipline-specific knowl- edge reflected in the schools of thought within the totality paradigm.

Navigating its Status as a Discipline

What then is a discipline if nursing is one? Parse (1997) defines a discipline as “a branch of knowledge or- dered through the theories and methods evolving from more than one worldview of the phenomenon of concern” (p. 74). Her schema of worldviews in nursing, shown in Table 1, explains why different definitions of the same words exist; when viewed within their appropriate place in the disciplinary domain, the definitions clarify rather than creating confusion.

To further complicate matters, nursing is sometimes referred to as a practice distinguished by an area of study that reflects a common understanding among its participants as to why it exists. A professional discipline is

The focus stems from a belief and value system regarding the profession's social commitment, the nature of its service, and an area of responsibility for knowledge development. It is defined by social relevance and value orientations (p. 1)

Navigating Knowledge Boundaries and Disciplinary Identity.

It seems important to consider the following before offering a working definition of nursing science: Rogers (1992), Parse (2000), and Fawcett (2000a) are all clear that research by nurses that develops or tests theories from other disciplines is not nursing research; furthermore, the findings of such research build the knowledge base of the other disciplines; since most nursing research falls into this category, the presumption is that we are using precious resources to build a knowledge base with strong roots in other disciplines. This is not to say that research should not be conducted; scholars are free to follow any path to knowledge they choose; however, can we call it nursing knowledge if its sources are in other disciplines?

This is not to say that the knowledge of other disciplines is not valuable and is not used by nurses. Of course it is. It is simply knowledge required of a learned person. Likewise, nursing knowledge can be used by others. Knowledge, per se, does not belong to anyone. It is not a commodity to be bought and sold, even though in the not too distant past, access to medical knowledge, for example, was much more difficult to obtain. We simply need to be clear on what is nurs-ing knowledge and what is not. How- ever, there is a difference between ac- cess to information and the use of the discipline-specific knowledge to pro- vide a professional service that consti- tutes the practice of a particular disci- pline. Furthermore, knowledge that is not nursing knowledge simply does not reflect the uniqueness of what nurses and nursing are about. In contrast, it is nursing knowledge from both para- digms that allows us to build our disci- pline so that nursing services reflect nursing's distinctive schools of thought.

The Public's Perception of Nursing

It's possible that the public's lack of clarity about what makes nursing special stems from their lack of exposure to the real thing—that is, from not having experienced being recognized and treated with knowledge as whole, human beings living in an environment that is always changing and encompassing. More importantly, though, it's possible that they haven't encountered the reality that their nurse caregivers are human beings who are conscious of their own wholeness and of living in an environment that is always changing and encompassing. The experience's mutuality is what sets it apart from the typical experience of clients receiving care that falls short of this standard of care. Instead,

It's time to ask, "What is the foundational knowledge that drives the modus operandi of nursing practice?" Nursing theory-guided practice allows the discipline to escape its low profile and create waves that demonstrate to the public why nursing services are essential to health and well-being. In part, the public views nursing as a verb that means doing and nurses as those who carry out tasks of a certain nature. What nurses do is based on what nurses know.

Reexamining What Nursing Science Is

Now that we have gone back to the original question, what exactly is nursing science?, I suggest that the definition should be sufficiently inclusive to cover all disciplinary knowledge and

should not be limited to any one paradigm or the activities that make up our science, like research and theory development. Knowledge should be the fundamental focus.

Conclusion:

Defining nursing science remains a challenge due to the multifaceted nature of the discipline. The existence of multiple paradigms and the ongoing debate surrounding the sources of nursing knowledge contribute to the complexity. This paper emphasizes the importance of acknowledging the various schools of thought and their unique contributions to the overall body of nursing knowledge.

References:

1. Allison, S. E., & Renpenning, K. (1999). Nursing administration in the 21st cen- tury. Thousand Oaks, CA: Sage.
2. Anderson, C. A. (2000). The time is now.
   Nursing Outlook, 48, 257-258.
3. Barrett, E.A.M. (1990). Preface. In E.A.M. Barrett (Ed.), Visions of Rogers' science- based nursing (pp. xxi-xxiii). New York: National League for Nursing.
4. Barrett, E.A.M. (1998). Unique nursing re- search methods: The diversity chant of
   pioneers. Nursing Science Quarterly, 11, 94-96.
5. Burns, N., & Grove, S. K. (2000). The prac- tice of nursing research: Conduct, cri- tique, & utilization (4th ed.). Philadelphia: Saunders.
6. Daly, J., Mitchell, G. J., Toikkanen, T., Millar, B., Zanotti, R., Takahashi, T., et al. (1997). What is nursing science? An international dialogue. Nursing Sci- ence Quarterly, 10, 10-13.
7. Donaldson, S. K., & Crowley, D. M. (1978). The discipline of nursing. Nursing Out- look, 26, 113-120.
8. Fawcett, J. (1993). From a plethora of para- digms to parsimony in world views. Nursing Science Quarterly, 6, 56-58.
9. Fawcett, J. (2000a). Analysis and evaluation of contemporary nursing knowledge: Nursing models and theories. Philadelphia: F. A. Davis.
10. Fawcett, J. (2000b). The state of nursing sci- ence: Where is the nursing in the sci- ence? Theoria: Journal of Nursing Theory, 9(3), 3-10.
11. Fitzpatrick, J. J. (Ed.). (2000). Encyclopedia of nursing research. New York: Springer. Frost, R. (1967). The road not taken. In R. Frost (Ed.), Complete poems of Robert Frost (p. 131). New York: Holt, Rinehart&

Winston.

12. Gustafsson, B. (2000). The SAUC model for confirming nursing. Theoria: Journal of Nursing Theory, 9(1), 6-21.
13. Ingersoll, G. L. (2000). Evidence-based nursing: What it is and what it isn't. Nursing Outlook, 48, 151-152.
14. Johnson, D. E. (1992). The origins of the be- havioral system model. In F. N. Nightin- gale (Ed.), Notes on nursing: What it is, and what it is not (Commemorative ed., pp. 23-27). Philadelphia: J. B. Lippincott. King, I. M. (1990). A theory for nursing: Systems, concepts, process. Albany, NY: Delmar. (Original work published 1981) King, I. M. (1997a). Knowledge develop- ment for nursing: A process. In I. M.
15. King & J. Fawcett (Eds.), The language of nursing theory and metatheory (pp. 19-25). Indianapolis, IN: Center Nursing Press.
16. King, I. M. (1997b). Reflections on the past and a vision of the future. Nursing Sci- ence Quarterly, 10, 15-17.
17. King, I. M. (2000). Evidence-based nursing practice. Theoria: Journal of Nursing Theory, 9(2), 4-9.
18. Leininger, M. (1995). Culture care theory, research and practice. Nursing Science Quarterly, 9, 71-78.
19. Levine, M. E. (1996). The conservation principles: A retrospective. Nursing Sci- ence Quarterly, 9, 38-41.
20. Munhall, P. L. (1997). Deja vu, parroting, buy-ins, and an opening. In I. M. King&
    J. Fawcett (Eds.), The language of nurs -ing theory and metatheory (pp. 79-87). Indianapolis, IN: Center Nursing Press. Nagle, L. M. (1999). A matter of extinction or distinction. Western Journal of Nursing Research, 21, 71-82.
21. Neuman, B. M. (1996). The Neuman sys- tems model (3rd ed.). Norwalk, CT: Appleton & Lange.
22. Newman, M. A. (1990). Newman's theory of health as praxis. Nursing Science Quarterly, 3, 37-41.
23. Newman, M. A., Sime, A. M., & Corcoran- Perry, S. A. (1991). The focus of the dis- cipline of nursing. Advances in Nursing Science, 14(1), 1-6.
24. O'Neill, E. (2000, November). Workplace Issues in Nursing. Paper presented at the annual conference of the American Academy of Nursing, San Diego, CA.
25. Orem, D. E. (1995). Nursing: Concepts of practice (5th ed.). St. Louis, MO: Mosby.
26. Orem, D. E. (1997). Views of human beings specific to nursing. Nursing Science Quarterly, 10, 26-31.
27. Orlando, I. J. (1987). Nursing in the 21st century: Alternate paths. Journal of Ad- vanced Nursing, 12, 405-412.
28. Parse, R. R. (1997). The language of nursing knowledge: Saying what we mean. In I.
    M. King & J. Fawcett (Eds.), The lan- guage of nursing theory and metatheory

(pp. 73-77). Indianapolis, IN: Center Nursing Press.

29. Parse, R. R. (1998). The human becoming school of thought: A perspective for nurses and other health professionals. Thousand Oaks, CA: Sage.
30. Parse, R. R. (1999). The discipline and the profession. Nursing Science Quarterly, 12, 275.
31. Parse, R. R. (2000). Paradigms: A reprise. Nursing Science Quarterly, 13, 275-276. Parse, R. R., Barrett, E., Bourgeois, M., Dee, V., Egan, E., Germain, C., et al. (2000). Nursing theory–guided practice: A defi- nition. Nursing Science Quarterly, 13, 177.
32. Pender, N. J. (1996). Health promotion in nursing practice (3rd ed.). Stamford, CT: Appleton & Lange.
.
33. Phillips, J. R. (2000). Rogerian nursing sci- ence and research: A healing process for nursing. Nursing Science Quarterly, 13, 196-203.
34. Ray, P. H., & Anderson, S. R. (2000). The cultural creatives: How 50 million peo- ple are changing the world. New York: Harmony Books.
35. Rogers, M. E. (1964). Reveille in nursing.36. Philadelphia: F. A. Davis.
36. Rogers, M. E. (1970). An introduction to the theoretical basis of nursing. Philadel- phia: F. A. Davis.
37. Rogers, M. E. (1992). Nursing science and the space age. Nursing Science Quar- terly, 5, 27-34.
38. Rogers, M. E. (1994). The science of unitary human beings. Nursing Science Quar- terly, 7, 33-35.
39. Roper, N., Logan, W., & Tierney, A. J. (2000). The Roper-Logan-Tierney model of nursing. New York: Churchill Living-stone.
40. Roy, C. (1997). Future of the Roy model: Challenge to redefine adaptation. Nursing Science Quarterly, 10, 42-48.
41. Roy, C. (1999). The Roy adaptation model- based research: 25 years of contribu- tions to nursing science. Indianapolis, IN: Center Nursing Press.
42. Watson, J. (1999). Postmodern nursing and beyond. New York: Churchill Livingston. Wieck, K. L. (2000). A vision for nursing: The future revisited. Nursing Outlook8-7 ,48,
43. Young, A., Taylor, S. G., & Renpenning, K. (2001). Connections: Nursing theory, re- search, and practice. St. Louis, MO: Mosby.