

ORIGINAL ARTICLE

Concept analysis of nursing leadership: An evolutionary perspective

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ABSTRACT

Background and aim: Nursing leadership is a dynamic and evolving concept that significantly impacts patient care, staff satisfaction, and organizational performance. A structured analysis is necessary to identify its key attributes and practical implications in healthcare. The study aims to clarify the concept of leadership in nursing using Rodgers' evolutionary method of concept analysis, providing a theoretical foundation for its application in nursing management.

Methods: A systematic concept analysis was conducted using Rodgers' evolutionary method. A comprehensive literature search was performed in databases such as PubMed, CINAHL, Scopus, and ProQuest, including peer-reviewed articles and empirical studies up to 2024. Studies were selected based on their focus on defining and examining the concept of nursing leadership, its attributes, antecedents, and outcomes.

Results: Key attributes of nursing leadership include communication, decision-making, influence, and vision. Antecedents identified were personal development, educational background, and organizational culture. Empirical references for leadership measurement include performance evaluations, leadership assessments, and patient outcomes. Effective nursing leadership was found to improve patient care, enhance staff satisfaction, and positively influence organizational performance.

Conclusions: This concept analysis demonstrates the evolving and dynamic nature of nursing leadership. Understanding the core attributes, antecedents, and empirical measures provides a foundation for cultivating nursing leaders who can drive positive outcomes in healthcare settings. (www.actabiomedica.it)

Key words: nursing leadership, concept analysis, Rodgers' evolutionary method, healthcare quality, leadership development



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Introduction

Nursing leadership is a multifaceted concept that plays a crucial role in providing high-quality care and effectively managing healthcare teams. As healthcare systems evolve and operational complexities increase, nursing leadership has become an essential component in ensuring the efficiency and sustainability of healthcare services (1). Nursing leaders must possess not only advanced clinical competences but also management, communication, and decision-making abilities to successfully navigate the challenges of the modern healthcare sector (2). Nursing leadership directly impacts the quality of care and patient outcomes. Studies have shown that effective leadership is associated with higher staff satisfaction, better team cohesion, and more favorable clinical outcomes (3). Additionally, nursing leaders play a key role in implementing healthcare policies, managing resources, and ensuring compliance with quality and safety standards (4). For example, Cummings et al. (2010) highlight how effective nursing leaders can create a positive work environment that promotes staff well-being and reduces turnover rates while simultaneously improving patient outcomes (3). The increasing complexity of the healthcare sector requires nursing leaders to develop advanced competences in areas such as conflict management, promoting interprofessional collaboration, and quickly adapting to changes (5,6). Nursing leadership extends beyond staff management to include the ability to influence healthcare policies, manage resources effectively, and foster a culture of continuous improvement (2). These competencies are essential to address the growing challenges in healthcare, such as an aging population, the rise of chronic diseases, and the need to implement innovative health technologies. Nursing leadership is not only about authority or staff management but is also closely linked to the ability to positively influence the work environment and clinical outcomes (7). The literature emphasizes that effective nursing leaders can significantly improve care quality through transformational leadership, which encourages innovation, empowerment, and professional growth (8). Transformational leadership is characterized by four key components: idealized influence, inspirational motivation, intellectual stimulation, and

individualized consideration (9). Another critical aspect of nursing leadership is conflict management (10). Nursing leaders must be adept at managing and resolving conflicts within the team to maintain a harmonious and productive work environment (11). The ability to effectively resolve conflicts is essential to prevent burnout and improve team cohesion, which are crucial for maintaining high standards of care and staff satisfaction (12). The competencies required of nursing leaders are multifaceted and include advanced clinical competences, management capabilities, excellent communication competences, and decision-making competencies (13,14). The ability to make informed and timely decisions is particularly critical in emergency situations and high-pressure contexts (15). Moreover, nursing leaders must be able to develop and implement strategies that improve operational efficiency and care quality (16,17). Promoting interprofessional collaboration is another fundamental aspect (18). Nursing leaders must facilitate communication and collaboration among various healthcare professionals to ensure an integrated approach to patient care (19). Interprofessional collaboration is essential to tackle the complex challenges of the healthcare sector and to provide patient-centered care (20). Numerous studies have demonstrated that effective nursing leadership is correlated with better clinical outcomes for patients (21-24). For instance, a study by Aiken et al. (2012) found that hospitals with strong nursing leadership had lower mortality rates and fewer adverse events (25). Additionally, effective nursing leaders can create a work environment that promotes patient safety, reduces medical errors, and improves overall care outcomes (26). Nursing leadership assumes particular relevance given the growing complexity of the healthcare system and the challenges associated with managing limited resources (27). Nurse leaders face challenges such as staff shortages, the need to implement new health technologies, and the importance of ensuring quality care despite budget constraints (28). Continuous education and professional development are crucial to preparing nurses for leadership roles (29). Training programs that emphasize the development of leadership competences, change management, and conflict resolution can significantly contribute to improving nursing leadership competencies (30).

Rodgers' evolutionary concept analysis is a methodology that considers concepts as dynamic entities subject to change over time and influenced by social, cultural, and historical contexts (31). This approach is particularly useful for analyzing nursing leadership as it allows for an understanding of how this concept has evolved and adapted to the changing needs of the healthcare sector. Rodgers' conceptual analysis involves identifying the attributes, antecedents, empirical referents, and consequences of the concept under examination (32). The objective of this study is to explore and clarify the concept of nursing leadership using Rodgers' evolutionary method. Through a systematic review of the literature, this study aims to identify the key characteristics, antecedent factors, empirical indicators, and consequences of nursing leadership. These findings will provide a solid theoretical foundation for developing training and practice strategies that can enhance leadership competencies among nurses. Furthermore, they will highlight the importance of nursing leadership in improving care quality and ensuring the sustainability of healthcare services.

Materials and methods

The analysis of the concept of Leadership in Nursing was conducted following a modified version of Rodgers' method, incorporating an articulated theoretical perspective as both a starting point and an interpretive framework. We also examined the theoretical perspective or framework in the selected articles, as the concept of 'leadership' can often appear vague and lacking a solid theoretical foundation. The analysis began by identifying the concept of interest, 'leadership in nursing', rather than the generic concept of 'leadership', which tends to be perceived as an external structure. In contrast, 'leadership in nursing' refers to an internal dimension that aligns with our theoretical perspective. We then selected the context and sampled relevant articles from nursing research through database searches. The next step involved identifying the key aspects of leadership in nursing by analyzing attributes, antecedents, surrogates, and related terms. Consequences and concrete examples were also identified. The analysis was conducted thematically, focusing

on identifying the content of each component through content analysis, following Rodgers' structure. Interpreting the results through a theoretical perspective provided theoretical implications and directions for further research.

Data sources

The search was conducted across multiple databases, including PubMed®, CINAHL®, Scopus®, Web of Science®, utilizing a comprehensive set of keywords such as 'leadership in nursing', 'nursing leadership attributes', 'antecedents of nursing leadership', and 'consequences of nursing leadership' in various combinations. We searched PubMed®, CINAHL®, Scopus®, and Web of Science® for English-language, peer-reviewed publications from January 1, 2010, through December 31, 2024. To ensure currency, we conducted an update search in early 2025, which confirmed the inclusion of late-2024 publications; no additional 2025 records met inclusion criteria. We also performed backward citation tracking to identify further eligible studies. This systematic search yielded 50 articles pertinent to the topic. Our selection criteria focused on studies that examined leadership within the nursing context, including empirical research, theoretical discussions, and comprehensive reviews. Articles were included if they provided clear definitions, frameworks, or models of nursing leadership and discussed the outcomes and implications of leadership practices in clinical and organizational settings. Out of the initial 50 articles, 35 met the inclusion criteria and were selected for the concept analysis (Figure 1). Articles that were excluded primarily dealt with leadership in contexts outside of nursing or did not provide a robust theoretical foundation. The final selection comprised studies that highlighted various perspectives: 15 studies from the viewpoint of nurse leaders, 12 from staff nurses, and 8 that incorporated perspectives from both nurse leaders and staff. Additionally, to ensure thoroughness, we performed a manual review of the reference lists from the selected articles, identifying any additional relevant studies that might have been missed in the initial search. This approach ensured a comprehensive and diverse data set, providing a solid foundation for a detailed concept analysis of leadership in nursing.

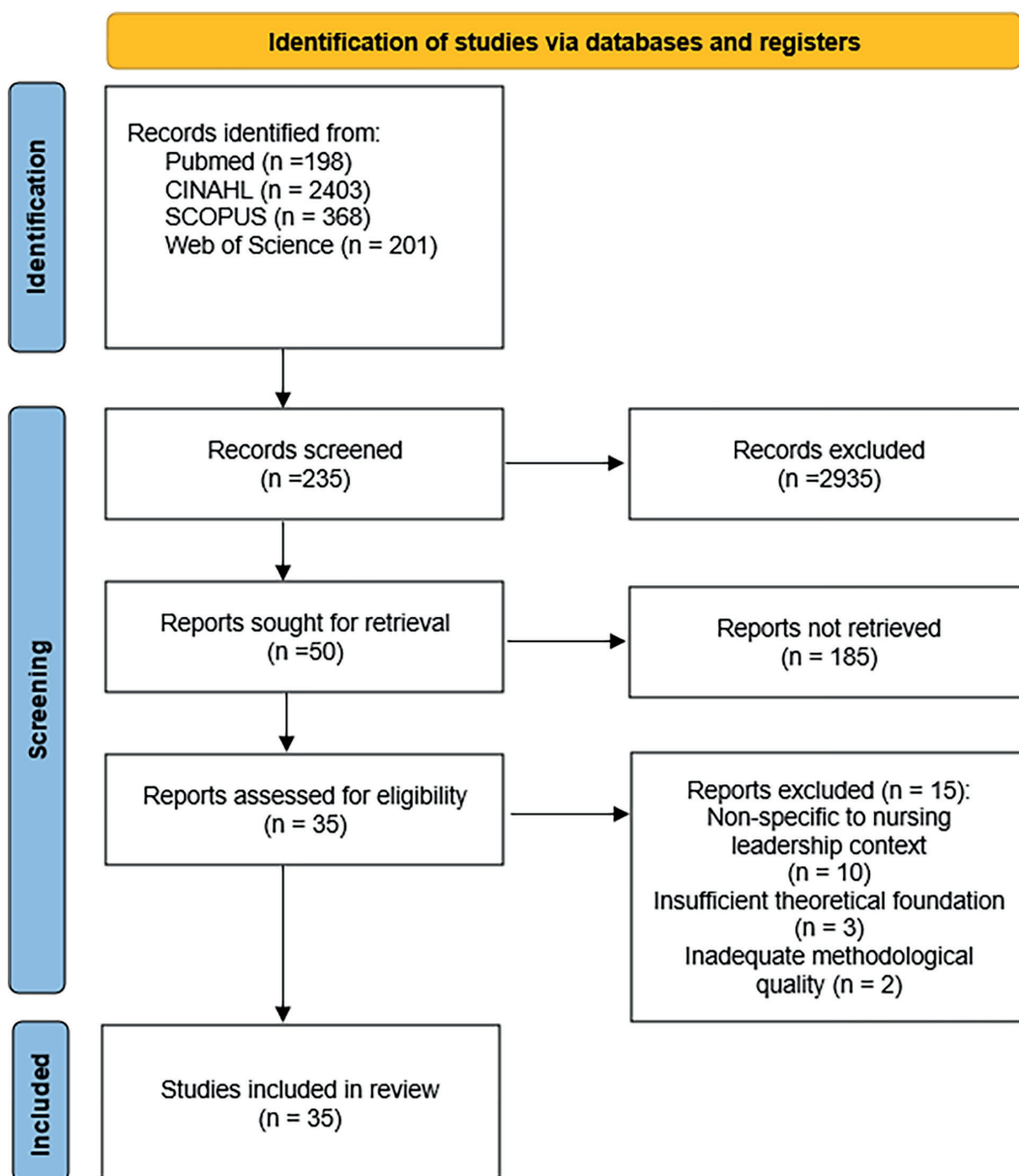


Figure 1. Flowchart illustrating the process of selecting studies for concept analysis.

Results

Definition of nursing leadership

Nursing leadership has been defined in various ways over the years, reflecting the multifaceted nature of the role (33). Stanley (2016) defines nursing leadership as the ability to influence and guide others toward achieving common goals (2). This definition emphasizes

the importance of influence and guidance, which are key elements for the success of nursing leaders. Sullivan and Garland (2010) expand this definition to include resource management, the promotion of interprofessional collaboration, and the implementation of evidence-based practices (34). This integrated perspective underscores that nursing leaders must be not only clinically competent but also effective managers and promoters of continuous quality improvement in care.

Surrogate and related terms

Surrogate and related terms for nursing leadership include management, supervision, guidance, mentorship, and coordination. These terms highlight various aspects of the leadership role in nursing, emphasizing the multifaceted nature of leadership responsibilities in healthcare settings.

Fundamental attributes of nursing leadership

The fundamental attributes of nursing leadership include communication competences, decision-making ability, influence, vision, and adaptability. Effective communication is crucial for nursing leaders as it facilitates the clear transmission of information and promotes a culture of transparency and trust (35). Decision-making ability allows leaders to make informed and timely decisions that can significantly impact the quality of care (36). Influence and vision are essential for guiding and motivating the team, while adaptability enables leaders to respond effectively to the challenges and changes in the healthcare environment (37). Communication Competencies: Communication competencies are the foundation of effective nursing leadership. The ability to communicate clearly and concisely is essential to avoid misunderstandings and ensure that all team members are informed and aligned with common goals (38). Nursing leaders must be able to listen actively, provide constructive feedback, and manage difficult conversations with diplomacy and tact. Non-verbal communication, such as body language and facial expressions, also plays a significant role in creating an environment of trust and collaboration. Decision-Making Ability: Decision-making ability is another crucial attribute of nursing leadership. Nursing leaders must be able to quickly assess situations, analyze available information, and make informed decisions that can improve the quality of care and ensure patient safety (39). This requires a combination of clinical knowledge, practical experience, and analytical competences. The ability to make decisions under pressure is particularly important in emergency situations, where swift and accurate choices can mean the difference between life and death. Influence and Vision: Influence and vision are key elements of nursing leadership. Nursing leaders must be able to inspire

and motivate their team, creating a shared vision and aligning everyone's efforts towards common goals (2). This requires a combination of charisma, interpersonal competence, and strategic leadership capabilities. Vision is essential for driving innovation and continuous improvement, helping the team see the big picture and work together to achieve significant outcomes. Adaptability: Adaptability is a fundamental competence for nursing leaders, especially in a constantly evolving healthcare context. The ability to quickly adapt to changes, whether they involve new technologies, regulations, or patient needs, is crucial for maintaining operational effectiveness and ensuring the quality of care (37). Nursing leaders must be flexible and open to continuous learning, ready to modify their strategies and approaches in response to new information and circumstances.

Antecedents of nursing leadership

The antecedents of nursing leadership include education, experience, organizational support, and personal characteristics. Education and Professional Development: The antecedents of nursing leadership include education, experience, organizational support, and personal characteristics. Nursing education provides the theoretical and practical foundations necessary for developing leadership competencies (40). Advanced training programs and continuous professional development courses are essential for preparing nurses for leadership roles (41). Education should cover not only clinical competences but also managerial and relational competences to ensure that nursing leaders are well-equipped to face the challenges of their roles. Clinical and Managerial Experience: Clinical and managerial experience is crucial for developing leadership competencies. Nurses who have had the opportunity to work in various areas of clinical practice and take on roles of responsibility are more likely to develop the necessary competences to become effective leaders (41). Practical experience provides an in-depth understanding of the operational dynamics and challenges of the healthcare sector, enabling nursing leaders to make informed decisions and manage resources effectively. Organizational Support: Organizational support, including continuous training and mentoring,

is essential for the success of nursing leaders. Healthcare organizations must invest in the growth and development of their leaders by providing resources and opportunities to enhance leadership competences through structured training programs and mentorship from experienced leaders (2). Organizational support can also include policies that encourage the active participation of nursing leaders in strategic planning, change management, and the implementation of evidence-based improvements. **Personal Characteristics of Nursing Leaders:** Personal characteristics play a significant role in the development of nursing leadership. Qualities such as integrity, empathy, resilience, and the ability to manage stress are fundamental for building effective relationships, maintaining a positive work environment, and leading change (37). Nursing leaders must be role models of professional and ethical behavior, inspiring trust and respect among staff and patients.

Consequences on nursing leadership

Impact on Clinical Outcomes: Numerous studies have highlighted the importance of nursing leadership in improving patient clinical outcomes. For example, a study conducted by Wong et al. (2013) demonstrated that hospitals with strong nursing leadership and effective clinical governance tend to achieve superior

clinical results, such as reduced rates of nosocomial infections and improved pain management (4). Additionally, nursing leaders have been associated with higher patient and staff satisfaction, thereby contributing to a more positive and collaborative care environment (3). **Role in Resource Management:** Nursing leaders play a crucial role in managing healthcare resources, optimizing the allocation of available resources to ensure safe, efficient, and effective care (42). This includes managing staff, materials, and healthcare technologies, as well as implementing sustainable practices that minimize waste and enhance operational efficiency. Effective resource management by nursing leaders is essential for maintaining high standards of care and ensuring the best possible outcomes for patients. **Contribution to Organizational Culture:** Nursing leadership profoundly influences the organizational culture within healthcare facilities. Leaders who promote a culture of safety, collaboration, and continuous learning tend to improve the quality of care, reduce patient risks, and increase staff satisfaction (39). These leaders create an environment where staff feel supported, motivated, and engaged in achieving organizational goals and continuously improving their performance. A positive organizational culture fostered by effective nursing leadership is vital for maintaining a high-quality healthcare environment and achieving long-term success (Figure 2).

Nursing Leadership Definition: The ability to influence and guide others towards achieving common goals, including resource management, promotion of interprofessional collaboration, and implementation of evidence-based practices.

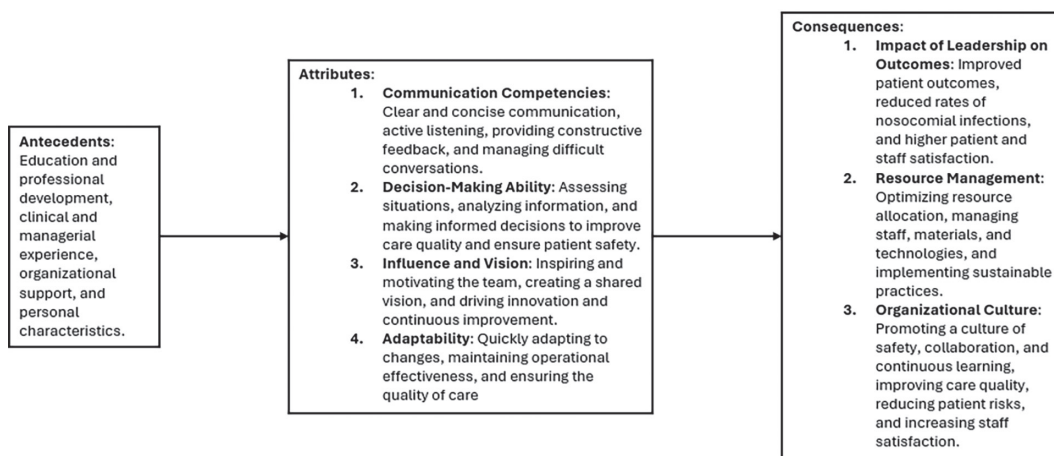


Figure 2. Antecedents, Attributes and Evidence for Nursing leadership.

Conceptual framework of nursing leadership

The conceptual framework of nursing leadership encompasses several core dimensions that are essential for navigating the complex and dynamic healthcare environment. Firstly, advanced clinical competencies are fundamental, requiring a deep knowledge of evidence-based nursing practices, the ability to make informed clinical decisions grounded in research, and proficiency in utilizing healthcare technologies to enhance care efficiency and accuracy. Additionally, managerial competencies are crucial for planning, organizing, and coordinating healthcare resources to optimize patient outcomes. This includes managing nursing staff to foster a collaborative and sustainable work environment and balancing patient needs with available resources to ensure safe and effective care.

Effective communication and relational competences are also integral to nursing leadership. Leaders must communicate clearly, empathetically, and effectively with patients, staff, and other healthcare professionals. Building and maintaining positive interprofessional relationships is essential for improving team collaboration and cohesion. Furthermore, the ability to manage conflict and negotiate successfully to achieve common goals is vital. The theoretical foundations of nursing leadership include the Complex Adaptive Systems (CAS) theory and the Empowerment theory. The CAS theory views nursing leadership as a dynamic and adaptable system influenced by internal and external variables. It highlights the importance of interprofessional relationships and effective communication to enhance care quality. Key attributes identified by this theory, such as flexibility, adaptability, and resilience, are necessary to address challenges in a rapidly changing healthcare environment. The Empowerment theory emphasizes delegating responsibility and authority to nursing team members to improve autonomy and motivation. This approach fosters distributed leadership capabilities, encouraging active participation and innovation among nursing staff. In practical terms, nursing leadership has several implications. Continuous development and training programs are essential for enhancing leadership competences among nurses. Initiatives such as mentorship and coaching can support the professional and personal

development of future nursing leaders. Additionally, change management and innovation strategies are critical for implementing evidence-based improvements in nursing practices. Promoting an organizational culture that values innovation and continuous improvement is necessary to adapt to the evolving needs of the healthcare sector. The conceptual framework of nursing leadership outlined above provides a clear guide for understanding and developing the leadership competencies required to tackle the complex and dynamic challenges of the modern healthcare system (Figure 3). By integrating the principles of Complex Adaptive Systems and Empowerment theory, this framework supports the evolution of nursing practice towards more flexible, interprofessional, and patient-centered models. Future studies should further explore the practical implementation of this framework in diverse healthcare settings to evaluate its impact on care quality and patient experience.

The diagram illustrates the following key components:

- Fundamental Dimensions of Nursing Leadership:
- Advanced Clinical Competencies: Knowledge of evidence-based practices, informed decision-making, use of healthcare technologies.
- Managerial Competencies: Planning and coordinating resources, managing staff, balancing patient needs with available resources.
- Communication and Relational Skills: Clear and empathetic communication, building interprofessional relationships, conflict management.
- Theoretical Foundations of Nursing Leadership:
- Complex Adaptive Systems Theory: Leadership as a dynamic and adaptable system, importance of interprofessional relationships and effective communication.
- Empowerment Theory: Delegating responsibility and authority, fostering distributed leadership.
- Practical Implications of Nursing Leadership:
- Continuous Development and Training: Continuous training programs, mentorship and coaching initiatives.
- Change Management and Innovation: Strategies for managing change, promoting a culture of innovation and continuous improvement.

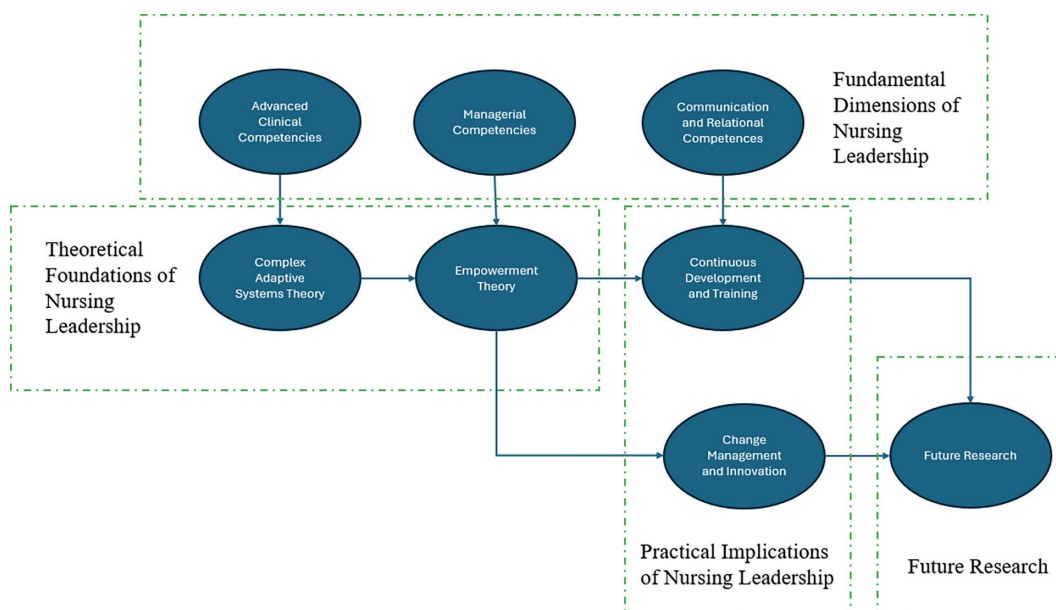


Figure 3. Conceptual Framework of Nursing Leadership.

Future research

Indicate the importance of future research to further explore the practical implementation and impact of the framework on care quality and patient experience. This conceptual framework clearly organizes the fundamental dimensions of nursing leadership, theoretical foundations, and practical implications into a visually comprehensible format. It demonstrates how the theoretical foundations influence the fundamental dimensions and practical implications of nursing leadership, underscoring the importance of future research to further explore and refine these concepts. The connections between the different sections of the diagram (lines) highlight the interaction and interdependence among the concepts presented in the conceptual framework of nursing leadership.

Exemplar

An illustrative example of nursing leadership in practice can be seen in the implementation of a hospital-wide initiative to reduce patient falls. Using Rodgers' evolutionary concept analysis, we can break down this initiative into its fundamental attributes, antecedents, empirical referents, and consequences, thereby

providing a clear understanding of how effective nursing leadership contributes to achieving this goal.

Fundamental Attributes: The nursing leadership involved in this initiative demonstrated advanced clinical competencies by applying evidence-based practices to develop and implement a comprehensive fall prevention program. This included thorough risk assessments, personalized care plans, and the use of advanced technologies like bed alarms and non-slip flooring.

Antecedents: Key antecedents for the success of this initiative included the extensive training and professional development of nursing staff. Leaders facilitated workshops and continuous education sessions to ensure all team members were proficient in fall prevention techniques and understood the importance of the program. Additionally, strong organizational support provided the necessary resources and infrastructure to implement these changes effectively.

Empirical Referents: Empirical referents of the initiative's success included measurable reductions in fall rates across the hospital. Nursing leaders collected and analyzed data on fall incidents before and after the implementation of the program. This empirical evidence highlighted the direct impact of the

leadership-driven initiative on patient safety and quality of care.

Consequences: The consequences of this leadership initiative extended beyond the immediate reduction in patient falls. There was a notable increase in patient and staff satisfaction, as the program created a safer and more supportive environment. The success of the fall prevention program also fostered a culture of continuous improvement and innovation within the hospital, encouraging further initiatives aimed at enhancing patient care.

This real-world example illustrates how the application of Rodgers' evolutionary concept analysis can provide a comprehensive framework for understanding and evaluating nursing leadership in practice. By focusing on the attributes, antecedents, empirical referents, and consequences, we can clearly see the multifaceted role of nursing leadership in driving significant improvements in healthcare outcomes. In summary, this concept analysis identifies the key attributes of nursing leadership as communication skills, decision-making, influence, and vision. Antecedents include personal development, educational background, and organizational culture. Empirical referents for measuring leadership encompass leadership assessments, performance evaluations, and patient outcomes. The consequences of effective nursing leadership include improved patient outcomes, enhanced staff satisfaction, and overall better organizational performance.

Conclusions

Nursing leadership represents a critical element for the success and sustainability of modern healthcare services. Nursing leaders not only facilitate the delivery of high-quality care and the effective management of healthcare teams but also influence patient clinical outcomes, staff satisfaction, and the overall organizational culture. Using Rodgers' evolutionary approach, this study explored the dynamic dimensions of nursing leadership, identifying fundamental attributes, antecedents, empirical referents, and consequences of this key concept in the healthcare sector. The conceptual framework of nursing leadership presented in this analysis highlights the intricate interplay between

advanced clinical competencies, managerial competences, and communication abilities. Supported by the theoretical foundations of Complex Adaptive Systems. Future research should focus on the empirical validation of the identified attributes and the applicability of the nursing leadership framework in diverse healthcare settings, particularly in non-Western countries. This would provide a broader understanding of the global impact of nursing leadership.

Limitations

This study has several limitations. The analysis was restricted to a specific timeframe (2010–2024) and to English-language publications, which may have excluded relevant contributions from other languages, cultural contexts, or earlier/later periods. As with all evolutionary concept analyses, our synthesis inevitably involves a degree of interpretative subjectivity in coding, clustering, and labelling attributes, antecedents, and consequences. Although rigour was enhanced through independent screening and consensus, subjectivity cannot be fully eliminated. In addition, publication bias is possible, as the corpus largely reflects peer-reviewed, published evidence and did not systematically include grey literature. Finally, empirical validation of the identified attributes was not feasible within this study and should be addressed in future research.

Implications for nursing management

The findings from this concept analysis have significant implications for nursing management. Understanding the key attributes, antecedents, and consequences of nursing leadership can guide nurse managers in developing and implementing effective leadership strategies within healthcare organizations. Firstly, recognizing the importance of communication, decision-making, influence, vision, and adaptability allows nursing managers to prioritize these skills in their leadership development programs. By incorporating targeted training sessions, mentorship opportunities, and continuous professional development, nurse managers can cultivate these essential

competencies among their staff. Furthermore, the identified antecedents, such as educational background, professional development, and organizational support, underscore the need for robust support systems within healthcare institutions. Nurse managers should advocate for and invest in comprehensive education and training programs that not only focus on clinical skills but also on managerial and relational competencies. This holistic approach to professional development will better prepare nurses for leadership roles and enhance their ability to navigate the complexities of modern healthcare environments. Additionally, understanding the consequences of effective nursing leadership, including improved patient outcomes, enhanced staff satisfaction, and better organizational performance, highlights the broader impact of strong leadership on healthcare delivery. Nurse managers can use this knowledge to implement evidence-based leadership practices and foster a positive organizational culture. By promoting a work environment that values safety, collaboration, and continuous learning, nurse managers can improve both patient care quality and employee morale, ultimately leading to a more efficient and effective healthcare system. In summary, this concept analysis provides a valuable framework for nursing management, offering practical insights and actionable strategies to develop and support effective nursing leaders. By leveraging these findings, nurse managers can enhance leadership practices within their organizations, contributing to the overall improvement of healthcare services. Implementing nursing leadership strategies can encounter several challenges, such as staff resistance to change, lack of resources for continuous education, and insufficient organizational support. Overcoming these barriers requires a joint commitment from nursing leaders and healthcare administrations to ensure a work environment conducive to growth and innovation.

Conflict of Interest: Each author declares that he or she has no commercial associations (e.g. consultancies, stock ownership, equity interest, patent/licensing arrangement etc.) that might pose a conflict of interest in connection with the submitted article.

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draft preparation: E.G., I.N., Writing – review and editing: A.S., G.R. Supervision: A.S., G.R., I.N. All authors have read and agreed to the published version of the manuscript.

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