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NURSE EMPOWERMENT THROUGH ENTREPRENEURIAL INNOVATION AND ORGANIZATIONAL CHANGE: A SYSTEMATIC REVIEW OF LEADERSHIP STRATEGIES IN NURSING ROLE EXPANSION

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Abstract

Nurse empowerment is an important strategy in facing the challenges of an increasingly complex and competitive health care system. This study aims to systematically review how entrepreneurial innovation and organizational change supported by transformational leadership can expand the role of nurses and enhance their strategic contribution to the health system. A literature search was conducted on the Scopus database for studies published in the last ten years, namely from January 1, 2015 to December 31, 2024. Eight articles that met the inclusion criteria were analyzed thematically and narratively. The results of the review indicate that the integration of entrepreneurship into nursing practice encourages the formation of new service models such as independent practice, home care and telenursing that are more responsive to patient needs. Flexible organizational structures, collaborative work cultures and performance-based incentive systems strengthen the role of nurses as agents of change. Participatory leadership has been shown to create a work climate that supports innovation and initiative taking at the clinical level. Challenges such as limited infrastructure, training gaps, and cultural and structural barriers still need to be overcome to optimize nurse empowerment as a whole. This study concludes that empowering nurses through entrepreneurial innovation and organizational change requires a multidimensional approach and sustainable policy support so that nurses can play a strategic role in building a resilient health system that is oriented towards future needs.

Keywords: nurse empowerment, nursing entrepreneurship, organizational change, transformative leadership, health care innovation.

INTRODUCTION

Health services in the modern era are experiencing very rapid dynamics as a result of globalization, technological advances and public demands for quality services that are oriented towards patient needs. In order to survive in the midst of increasingly competitive global competition, health service organizations in Indonesia are required to carry out continuous innovation, both in terms of management, human resources (HR) to the development of new service models that are more flexible and adaptive. One important element in the health service system is nurses who not only play a role as medical practitioners but also as agents of change in providing humanistic, efficient and responsive services.[1.2] In the context of empowering nursing staff, entrepreneurial strategies and organizational change are important keys to opening up opportunities for developing the role of nurses outside the hospital environment.[3]Community-based services, home care, independent practice, and telehealth are examples of alternative health services that can be a space for expansion for more innovative nursing practices. This transformation requires the support of visionary leadership and a management system that can accommodate changes in the structure, role, and function of nursing staff in a professional and sustainable manner.[4.5]

Increasing the competence, independence and competitiveness of nurses must also be accompanied by the ability to adapt to market developments and patient needs. In a competitive environment, hospitals and other health care institutions compete not only in terms of facilities and technology, but also in terms of the quality of their human resources. Therefore, nurse empowerment strategies must take into account market dynamics, patient expectations, and the existence of competitors in the health care sector. Nurses as the front line in interactions with patients can provide added value to institutions if they are given space to innovate and develop their roles optimally.[3,4] Healthcare organization leadership plays a major role in creating a work climate that supports innovation and nursing entrepreneurship. Adaptive, collaborative, and strategic leaders are able to become the driving force of organizational change in a more progressive direction.

By building an organizational culture that is open to new ideas and oriented towards improving the quality of service, nurse empowerment becomes not only an internal initiative, but also a primary strategy in maintaining the existence and competitive advantage of healthcare organizations.[6] Based on the background and various previous studies that highlight the importance of empowering nursing human resources in health service innovation, researchers are interested in conducting a study using a systematic review method. This study aims to summarize and synthesize various findings from previous studies on the influence of entrepreneurial strategies and organizational change on nurse empowerment and its impact on expanding the role of nursing. The results of this review are expected to provide strategic recommendations for policy makers, health service leaders, and educational institutions in designing an innovative, competitive and sustainable nurse empowerment system.

METHOD

This study is a systematic review with a PICO approach to formulate research questions. P (Population) is nurses and nursing staff, I (Intervention) is entrepreneurial innovation and organizational change, C (Comparison) is a condition without intervention or conventional practice, and O (Outcome) is nurse empowerment and nursing role expansion. A literature search was conducted in the Scopus database using relevant keywords such as “nurse empowerment,” “entrepreneurship innovation,” “organizational change,” and “nursing role expansion.” Inclusion criteria included studies that discussed entrepreneurial innovation and organizational change in the context of nurse empowerment and their role expansion, written in English, and published within the last 10 years, namely from January 1, 2015 to December 31, 2024. Exclusion criteria included non-empirical articles, opinions, and studies that were not relevant to the focus of the study. The search results were then filtered based on the title and abstract to determine relevance. Studies that met the criteria were downloaded for full text and further evaluated.

The selection process was carried out by two independent reviewers. If there were differences of opinion, they were resolved through discussion or by involving a third reviewer. The selection process was documented using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flowchart to ensure transparency and traceability of the process. For each study selected for the review, researchers reviewed core information such as author names, year of publication, and thematic contexts relevant to entrepreneurial innovation, organizational change, and leadership strategies in empowering nurses. The studies were analyzed narratively, highlighting how these elements contribute to the expansion of nurses’ roles in the health care system. Emphasis was placed on the linkages between organizational strategies and leadership dynamics to nurses’ professional capacity building. Data from the eight selected studies were synthesized to identify thematic trends and key findings, which were then used as the basis for formulating conclusions and strategic recommendations.

RESULTS AND DISCUSSION

From the database search, 167 studies were identified. After screening based on title and abstract, 70 studies were considered relevant. Furthermore, 13 full-text articles were assessed for eligibility, and finally 8 studies were selected for inclusion in this systematic review.

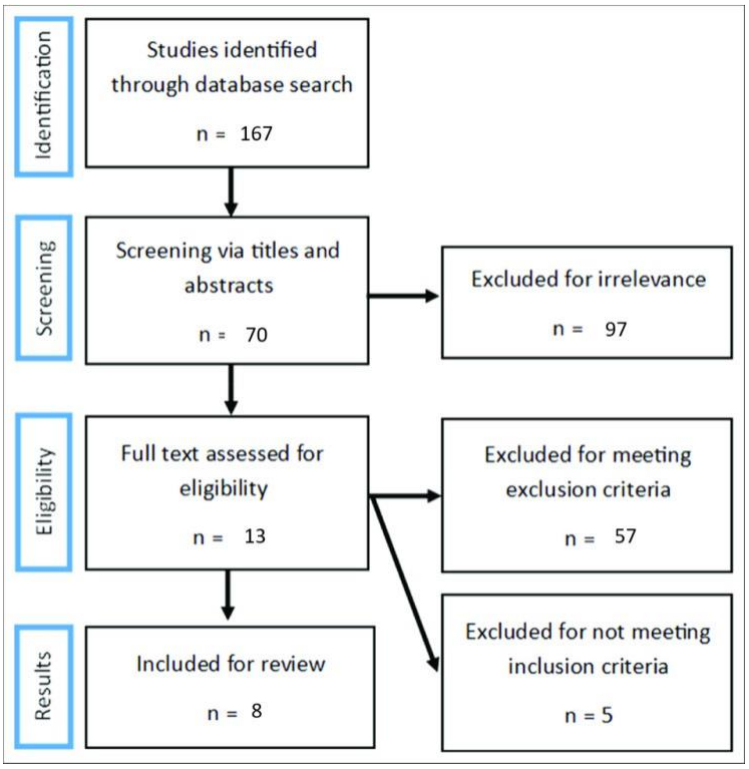

Figure 1. PRISMA Study Scheme

A summary of the systematic review is depicted in Table 1.

Table 1. Summary of Systematic Review of Studies

Author; Year	Objective	Article Type	Method	Results	Study Application
Kjeld Mller Pedersen, Terkel Christiansen, and Mickael Bech; 2005[7]	This study analyzes the gradual evolution of the Danish health care system, focusing on its structure, financing, administrative arrangements, the impact of decentralization, and the use of economic incentives, budgetary controls, and reimbursement systems to maintain efficiency within a politically decentralized framework.	Policy review and analysis	Descriptive-historical analysis through literature review and policy analysis with narrative synthesis	The study concludes that Denmark's decentralized health care system has evolved through gradual reforms, managing to maintain high productivity and patient satisfaction despite budget controls and political debates, thanks to a constrained budget, performance-based incentives, and structured reimbursement methods.	Gradual reform through decentralization, consistent use of local budgets and fiscal federalism, coordinated negotiations between different levels of government, use of economic incentives to influence provider behavior, policy stability with gradual adjustments, balanced focus on efficiency and equity in health care delivery.
Ali Mohammad Mosadegh Rad; 2006[8]	This study aims to determine the impact of cultural values on the success of Total Quality Management (TQM) implementation in Isfahan University Hospital by examining the relationship between organizational culture and TQM outcomes, as well as identifying the main barriers and	Empirical research articles based on descriptive and cross-sectional studies.	This study used quantitative research methods involving stratified random sampling, self-administered questionnaires on TQM and organizational culture, and statistical analyses including chi-square, Mann-Whitney, and logistic regression to test the relationship between	The study found a moderate level of TQM success (mean score 3.47/5), with the greatest impact on process management, customer focus, and leadership, while highlighting barriers such as HR issues, performance appraisal issues, and strategic constraints, and showing that hospitals	Best practices for TQM success include developing a quality-oriented organizational culture, strong top management commitment, effective and participative leadership, employee empowerment, teamwork, long-term strategic planning, continuous

Author; Year	Objective	Article Type	Method	Results	Study Application
	influencing factors such as leadership, employee attitudes, strategic planning, and cultural alignment.		cultural values and TQM success.	with organic structures and moderate organizational cultures achieved better TQM implementation.	improvement, aligning processes with TQM principles, reducing bureaucracy, increasing creativity, and open communication among all stakeholders.
Lisa K. Allen, Jennifer M. Hatfield, Mange J. Manyama; 2013[9]	This study aimed to reduce malaria misdiagnosis in a low-transmission area in Tanzania. The study aimed to demonstrate that a simple intervention could significantly reduce the rate of malaria misdiagnosis based on microscopy for individuals seeking treatment for uncomplicated malaria.	Quasi-experimental quantitative research with a pre-post intervention study design, using a social entrepreneurship approach.	This study used a cross-sectional pre-post intervention design, with sampling in January and June 2009, incorporating interventions such as staff training, additional trained technologists, epidemiology education, and feedback on diagnostic performance, while data were analyzed using logistic regression that accounted for confounding factors such as age and gender.	The study found that the proportion of participants who were misdiagnosed decreased from 70.2% before the intervention to 30.6% after the intervention, representing a reduction of 39.6%, with a significantly lower likelihood of being misdiagnosed after the intervention (crude odds ratio = 5.3).	This study shows that combining targeted interventions with cultural changes in clinical decision-making can sustainably improve malaria diagnosis and treatment in low-transmission areas, highlighting the use of WHO standard operating procedures and the inclusion of trained personnel as key best practices.
Neil Lunt, Mark Exworthy, Johanna Hanefeld, Richard D.	This study examines how and under what conditions public sector entrepreneurship emerges in the UK National Health Service (NHS),	This article is an exploratory qualitative research paper investigating entrepreneurial strategies in the public	This study used a qualitative research approach with semi-structured interviews with 16 participants (13 NHS managers and 3	The study found that NHS Trust managers actively developed strategies to expand international patient activity in response to	This research highlights that successful public sector entrepreneurship in the NHS requires navigating the political

Author; Year	Objective	Article Type	Method	Results	Study Application
Smith; 2015[10]	focusing on NHS Trust managers' strategies to expand international patient activities to alleviate financial pressures while balancing revenue generation with core public service values.	healthcare sector, combining theoretical insights with empirical findings from a real-world example within the English NHS.	stakeholders), analysed using a thematic analysis framework method, and used snowball sampling and convenience sampling to capture a range of perspectives on public sector entrepreneurship in NHS international patient work.	financial pressures, demonstrating a mix of political, commercial and stakeholder-driven entrepreneurship aimed at generating revenue while maintaining public service obligations and leveraging under-utilised capacity to strengthen the NHS brand internationally.	landscape, fostering collaboration between clinicians, commercial teams and stakeholders, and implementing best practices such as coalition building, strong governance, clear communication and strategic use of capacity—all while maintaining a careful balance between commercial objectives and the core mission of the NHS public service.
T Mathole, M Lembani, D Jackson, C Zarowsky, L Bijlmakers and D Sanders; 2018[11]	This study aims to examine how leadership styles and practices influence the functioning and performance of maternal health services in two rural South African hospitals, particularly in resource-limited settings, contributing to the broader discussion on leadership in Low- and Middle-Income	This article is an exploratory mixed methods case study that combines qualitative and quantitative data to assess the effectiveness of leadership and performance of maternal health care services in two rural district hospitals.	This study used a mixed methods case study design involving the purposive selection of two district hospitals, with data collected through document analysis, non-participant observation, staff interviews, and hospital records, analyzed using thematic and constant comparative methods for qualitative data and SPSS and Excel for quantitative	The study found that strong, supportive, and innovative leadership at Chisomo Hospital—characterized by supervision, teamwork, communication, and use of data—was associated with better maternal health outcomes, while authoritarian leadership at Tinyade Hospital led to poor performance, highlighting how	These findings highlight key policy implications, emphasizing that strengthening leadership capacity—through supportive and transformational leadership that focuses on teamwork, accountability, innovation, regular meetings, data-driven decisions, and team

Author; Year	Objective	Article Type	Method	Results	Study Application
	Countries (LMIC) and offering insights for improving health service delivery.		analysis to explore how leadership practices influence maternal health outcomes.	leadership style can significantly impact maternal health service delivery.	cohesion—is critical to improving maternal health outcomes and can guide similar health facilities in resource-constrained settings toward better service performance.
Per Magnus Mæhle, Senada Hajdarevic, Erna Håland, Rikke Aarhus , Sigbjørn Smeland, Bjørn Erik Mørk; 2021[12]	This study explores the processes that led to cancer care reforms in three Scandinavian countries, aiming to understand why these reforms became necessary and what created opportunities for political action.	Qualitative research based on comparative policy studies with a cross-country case study approach.	This study uses qualitative methods based on interviews and public documents, applying iterative comparative analysis to explore the reform process and identify reciprocal relationships and causalities across three countries.	This study identifies three key institutional logics—economic-administrative, medical, and patient-related—that institutional entrepreneurs strategically aligned to drive reform, leading to the introduction of the Cancer Patient Pathway (CPP) to shorten the time from referral to treatment.	The introduction of CPP is seen as a logistics and quality reform that standardizes processes and improves coordination, with studies emphasizing the importance of aligning institutional logics and involving strategically positioned actors to achieve successful health care reform.
Wagner from Oliveira,José Olimpio Rodrigues Batista Jr,Tiago Novais,Silvio	To test and evaluate the use of 5G private networks using Open Radio Access Network (RAN) technology to improve remote medical examinations and	Project report on technological innovations in digital health.	The project involved two phases of proof-of-concept testing—first using a portable ultrasound device within the hospital, then enabling remote screening in underserved areas with	Initial phases are underway with successful connectivity and data transmission, demonstrating the potential of 5G for faster	Using cost-effective Open RAN technology and partnerships between hospitals, technology companies, and universities can advance digital health

Author; Year	Objective	Article Type	Method	Results	Study Application
Toshiyuki Takashima, etc.; 2023	healthcare connectivity in Brazil.		real-time analysis by clinicians at HCFMUSP.	and more reliable healthcare services.	and increase access to quality care, especially in remote areas.
Naif H. Alanazi, Tariq Ahmed Falqi; 2023	To examine middle managers' perceptions of patient safety culture at Aseer Central Hospital in Abha, Saudi Arabia, and to assess their role in improving safety standards in healthcare institutions.	Quantitative and cross-sectional research.	This study involved 52 middle managers at Aseer Central Hospital. A structured questionnaire was used, incorporating items adapted from the Safety Attitudes Questionnaire, Hospital Survey on Patient Safety Culture, Mintzberg's ten managerial roles, and six types of managerial power. Data were analyzed to explore attitudes, role performance, and demographic associations.	Most respondents were Saudi nationals (73.1%), with the majority aged 31–40 years (44.2%). Leadership was the most commonly practiced managerial role (85%), while figurehead leadership was the least practiced role (23%). All participants had positive attitudes towards patient safety. No significant association was found between demographic factors and safety perceptions. However, managers performed poorly in some power-based roles. Cultural and traditional influences were also found to limit effective competency-based management.	To improve patient safety, it is important to strengthen the implementation of all managerial roles, not just leadership. Encouraging inclusive decision-making can increase staff motivation and engagement. In addition, addressing cultural barriers that inhibit merit-based performance is essential. Providing structured training will further support effective safety management and help build a proactive safety culture.

DISCUSSION

A study by Pedersen et al. (2005) showed that gradual reforms in the Danish decentralized health system succeeded in improving efficiency and patient satisfaction through strategic structural adaptations.[7]A closed budget policy was implemented to control spending while ensuring accountability in financial management. The performance-based incentive (PBI) model encourages improvements in service quality by providing financial rewards to providers who perform well, while the reimbursement system is designed to align financial incentives with patient care goals. This makes resource use more efficient. In the context of nurse empowerment, this reform opens up opportunities for nurses to experience role transformation. Nurses who are only clinical practitioners become leaders and agents of change in the service system. Nurses are also empowered through the use of data for more informed decision-making, thereby improving service quality and operational efficiency. This model still faces challenges, especially in ensuring that reform evaluations are carried out continuously and in addressing socio-economic disparities that have the potential to reduce the effectiveness of the system.[13.14]

Furthermore, research by Ali Mohammad Mosadegh Rad (2006) shows that the success of TQM implementation in hospitals is greatly influenced by organizational cultural values, especially in the context of nurse empowerment.[8]A supportive organizational culture creates a work environment that encourages leadership, active participation, and a more organic structure—all elements that are essential to the success of TQM. This cultural fit not only improves clinical practice but also integrates nurses directly into continuous quality improvement initiatives. TQM is most effective when implemented in an environment that emphasizes learning and adaptability.[15,16]The success rate of TQM at Isfahan University Hospital is still moderate, with only 8.3% of hospitals achieving high success—indicating that cultural factors play an important role in implementation outcomes.[8]In an environment that supports TQM, nurses are empowered to take on strategic roles, both in clinical services and in quality improvement efforts. A strong nursing culture helps strengthen professional values and behaviors, thereby improving the quality of management and nurse performance. Several studies have also emphasized that there is a positive correlation between organizational culture and nurse empowerment. Barriers such as human resource issues and suboptimal performance appraisal systems are still challenges in the implementation of TQM as a whole.[15,16]

Research by Lisa K. Allen et al. (2013) emphasized the crucial role of staff training and feedback in reducing malaria misdiagnosis, and emphasized that improving nurses' technical competence is key to patient safety and health service efficiency.[9]Effective interventions, such as structured training programs and mentorship, have been shown to improve diagnostic accuracy and adherence to treatment protocols.[17]Case management training in Namibia is an example of a study that increased malaria screening rates from 25% to 66%, demonstrating the significant impact of training in improving diagnostic practices. In Tanzania, a simple intervention approach focused on training and feedback reduced misdiagnosis rates from 70.2% to 30.6%, demonstrating the potential of targeted training models.[9]Nurse empowerment strategies through clinical capacity building also contribute to better decision-making, especially in resource-constrained settings. Sustainable practices such as recurrent training and supportive supervision encourage health workers to adhere to national guidelines, which can improve overall quality of care. [17]Although these interventions have shown promising results, challenges remain in ensuring consistent implementation across health system contexts, particularly in resource-limited settings.

In the context of public sector entrepreneurship, a study by Neil Lunt et al. (2015) shows that NHS managers in England are increasingly adopting innovative strategies to address financial pressures without compromising the core values of public service.[10]This strategy includes empowering nurses as key members of multidisciplinary teams to engage in entrepreneurial activities that can improve the quality of care. Nurses have a strategic role in driving service innovation. Through direct experience on the front line of care, nurses are able to identify gaps and opportunities to develop superior, patient-oriented services. Nurses' involvement in the development of international training programs allows for the exchange of best practices globally, while enhancing the reputation and effectiveness of the NHS. Technology-based innovations, such as telehealth services, are also a potential area where nurses can play a significant role in improving the accessibility and efficiency of services. Nurses' participation in entrepreneurial activities is

not without challenges. Various obstacles such as organizational limitations, limited resources and lack of recognition of nurses' entrepreneurial capacity are still real obstacles. To overcome this, systemic support is needed both from within and outside the organization, including leadership that encourages a culture of innovation and entrepreneurship in the workplace. [18.19]While the potential contribution of nurses to public sector entrepreneurship is enormous, it is important to ensure that structural barriers are addressed to create a truly innovative and sustainable healthcare ecosystem. A study by T. Mathole et al. (2018) showed that leadership style has a significant influence on maternal health service outcomes.[11]Supportive and collaborative leadership styles—especially transformational and participatory approaches—have been shown to increase nurse empowerment, improve service quality, and drive better patient outcomes. In contrast, authoritarian leadership tends to demotivate staff and negatively impact service quality.

Transformational leadership encourages innovation and staff loyalty, which can improve service quality and satisfaction. Collaborative leadership fosters effective communication and teamwork, which are particularly crucial in health facilities with limited resources, as seen in the case study of a hospital in South Africa. In contrast, authoritarian leadership is associated with poor communication and low staff morale, leading to suboptimal maternal care outcomes. Supportive leadership significantly enhances nurse empowerment, which in turn improves organizational commitment and service performance.[20]Nurses who feel empowered are more likely to engage in patient safety-oriented practices and improve quality of care. Despite strong evidence supporting the benefits of supportive leadership styles, many organizations still maintain an authoritarian approach due to legacy practices or lack of managerial training. This creates challenges in implementing change and improving maternal health outcomes.[11] Leadership transformation is a strategic element in creating a healthy, collaborative work environment that is able to enhance the role of nurses in maternal health services.

Research by Per Magnus Mæhle et al. (2021) shows that the integration of different institutional logics is key to the success of cancer service reform in the Scandinavian region, particularly in the context of nursing.[12]Strategic actors who understand and are able to bridge the gap between economic, medical, and patient logics have a critical role in facilitating meaningful service reform. This multidimensional understanding is essential for nurses as their roles in modern health systems expand. The economic-administrative logic emphasizes cost efficiency and appropriate resource allocation, critical aspects in managing the increasing demand for cancer services. Meanwhile, the medical logic focuses on clinical practice and treatment outcomes, driving the need for an evidence-based approach to patient management.

The patient-oriented logic places the patient's experience and needs as the top priority so that the reforms undertaken are more patient-centered and contribute to increased satisfaction and adherence to therapy. Within this framework, nurses are strategically positioned as bridges between different logics, facilitating communication and collaboration between stakeholders in the health system. Through understanding the diversity of logics, nurses can also act as policy advocates that promote the integration of holistic, patient-centered care. However, challenges remain, such as deeply rooted hierarchies and conflicts of interest between professions, which can hinder collaborative efforts. [21,22]Increasing leadership and advocacy capacity within the nursing profession is urgently needed to ensure that health care reform, particularly cancer, can be effective and sustainable.

A technology study by Wagner de Oliveira et al. (2023) shows that the implementation of 5G networks in Brazil opens up strategic opportunities for the nursing profession, particularly through the development of telenursing practices.[23]This digital transformation has great potential to improve access to health services and the quality of care in remote areas, enabling nurses to reach vulnerable populations more effectively.[24]Telenursing enables remote healthcare services through telecommunications technology, increasing the accessibility of services to previously hard-to-reach communities. Digital technology also supports better coordination of services between healthcare providers, increasing efficiency in the service process. In addition, telenursing empowers patients through proactive management of chronic diseases and early detection of health problems, so they are more able to take control of their own health. The implementation of telenursing is not without its challenges. Low levels of digital literacy in some communities can be a barrier to the effective implementation of this technology. In addition, issues of data

security and privacy need to be addressed seriously to build trust in digital health solutions.[24,25]The gap in technological infrastructure is also a major obstacle, considering that the success of telenursing is highly dependent on the availability of adequate networks and devices. Therefore, to maximize the positive impact of digital innovation in nursing, there needs to be strong policy support and comprehensive training programs to overcome these challenges.[23]Telenursing is not only a technological solution but also a transformation of the way nurses practice in a more inclusive and adaptive health system.

A study by Naif H. Alanazi and Tariq A. Falqi (2023) highlighted that the effectiveness of middle managers in healthcare, particularly in shaping a patient safety culture, is greatly influenced by their perception of the managerial roles they play. Although leadership is the primary focus, other managerial roles such as negotiators and authoritative figures are often overlooked, even though both have important contributions to the success of safety practices. In the study, 85% of managers identified leadership as their primary role, but only 23% played a role as a symbol or representative of the organization. Although all respondents showed a positive attitude towards the importance of a patient safety culture, the minimal use of other managerial roles such as negotiators was considered to be able to hinder the implementation of optimal safety practices.[26]To enhance nurse empowerment and ensure effective clinical leadership, comprehensive managerial training is needed.

This training will expand the capacity of managers to perform multiple roles in a balanced manner, and create a work culture that promotes safety and accountability. The leadership style of nursing managers has also been shown to influence staff perceptions of safety culture, so training should also be directed at directly empowering nurses. On the other hand, there is a view that overemphasis on managerial roles can reduce focus on direct clinical responsibilities, risking creating a gap between management and practice.[27,28]A balance between managerial functions and clinical practice must be maintained so that patient safety remains a top priority across all lines of the healthcare organization. This systematic review confirms that nurse empowerment cannot be separated from the synergy between entrepreneurial innovation, organizational change, and progressive leadership strategies.

In facing the increasingly complex dynamics of the global health system, nurses are required to not only be technical implementers of medical services but also strategic actors in developing adaptive and community-based service models. Through the integration of elements such as flexible organizational structures, collaborative quality cultures, and the adoption of digital technology and telenursing, the role of nurses has shifted to a broader direction, including in the managerial, educational and innovative fields. Participatory and transformative leadership plays an important role in creating an organizational ecosystem that supports the professional development of nurses. In this context, empowerment is not only interpreted as increasing individual competence, but as part of a collective strategy in designing a resilient, responsive and sustainable health service system. With the increasing openness of space for nursing practice outside hospital institutions, such as home care, independent practice, and digital services, entrepreneurial strategies are key to expanding the spectrum of nurses' roles in the future.

These findings provide a clear direction that nurse empowerment through entrepreneurial innovation and organizational change needs to be institutionalized in national health policy. Service system reform should encourage a regulatory framework that supports the freedom of community-based nursing practice, while providing adequate legal protection and structural support. In this regard, the leadership of health organizations needs to be directed to build a participatory work culture, where nurses have the autonomy to contribute ideas, initiate change, and take an active role in improving service quality. The formulation of nursing HR policies should include entrepreneurial and managerial training as part of ongoing professional development.

Evaluation of the effectiveness of health reform also needs to consider indicators of nurse empowerment, not only in the quantitative aspect of the number of HR but also in the dimensions of leadership, participation in decision-making, and involvement in service system innovation. The results of this study provide a foundation for health institutions to build a conducive environment for the growth of innovative nursing practices. Nurse empowerment needs to be facilitated through the establishment of innovation units that can act as incubators for the development of community-based service solutions. On

the other hand, nursing education institutions must strengthen the integration of the curriculum that not only emphasizes clinical aspects but also digital literacy, leadership and social entrepreneurship. The ability of nurses to manage technology, lead teams, and create added value through creative approaches will be a competitive advantage in facing the challenges of the 21st century health system. In practice, strengthening digital infrastructure and increasing technological literacy are also crucial steps to ensure that digital transformation, including telenursing, can be accessed and utilized optimally by nursing staff.

This study has several limitations that are worth noting. First, the scope of the literature is limited to studies available in the Scopus database, which, although reputable, may limit the diversity of geographic contexts and health systems analyzed. Second, most of the studies reviewed are from developed countries with relatively well-established health systems, so the application of findings in the context of developing countries such as Indonesia needs to be adjusted to more complex local conditions and limited resources. Third, the synthesis method used is narrative in nature, thus not allowing for stronger quantitative or meta-analytic conclusions. Furthermore, variations in methodological design across studies pose challenges in directly comparing results and may affect thematic consistency in the final synthesis. Therefore, further research is needed with a more contextual empirical approach, either in the form of in-depth qualitative studies or intervention trials, to strengthen these findings while answering practical questions related to effective nurse empowerment strategies at various levels of the health care system.

CONCLUSION

The conclusion of this systematic review shows that nurse empowerment in modern health care systems is the result of a strategic integration of entrepreneurial innovation, organizational change, and transformative leadership. Nurses no longer only play a role as technical implementers, but become agents of change who are able to lead, innovate and adapt in facing the complexity of health services. Adaptive organizational structures, collaborative quality cultures and the use of digital technologies such as telenursing are important foundations in expanding the role of nursing in various service lines, including outside the hospital institution. Participatory leadership also creates a work environment that encourages initiative, creativity and more autonomous decision-making for nurses. With the support of appropriate policies and a continuous professional development system, nurse empowerment not only improves the quality of health services but also strengthens their position as key actors in building a resilient, innovative and patient-oriented health system in the future.

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