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Review article

Systematic Review on Hospital Efforts to Maintain and Enhance Nurse Competence Worldwide

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Article Info	Abstract
	Nurses play a pivotal role in delivering high-quality healthcare globally. With the increasing complexity of healthcare systems, maintaining and enhancing nurse competence is essential to ensure patient safety, improve care outcomes, and adapt to technological advancements. This systematic review aims to synthesize recent evidence on hospital-based strategies and interventions implemented worldwide to sustain and improve nurse competence. A comprehensive literature search was conducted across multiple databases for peer-reviewed articles published between 2020 and 2025. Studies focusing on hospital initiatives for nurse competence development were included. Data extraction emphasized study design, intervention types, measured outcomes, and program effectiveness. The review identified several key approaches, including continuing professional development (CPD), simulation-based training, mentorship programs, competency assessment frameworks, digital learning platforms, and interprofessional collaboration initiatives. Evidence indicates that multifaceted strategies combining education, practical training, feedback mechanisms, and organizational support significantly enhance nurses' clinical skills and confidence. Hospitals worldwide employ diverse yet complementary methods to maintain nursing competence amid evolving healthcare demands. Prioritizing structured CPD programs integrated with innovative teaching methods can optimize nurse performance. Future research should focus on the long-term impact of these interventions across varied cultural contexts.

INTRODUCTION

Nurses constitute the frontline workforce in healthcare delivery, directly responsible for patient care. The escalating complexity of health needs necessitates that nurses not only possess foundational knowledge but also actively update their skills and competencies to meet evolving patient demands and keep pace with medical technological advancements. Factors such as the rising prevalence of chronic diseases, aging populations, and rapid medical technology progress underscore the urgency of sustaining and enhancing nurse competence. Consequently, robust frameworks for continuous professional

development within healthcare institutions are imperative.[1,2]

In recent years, hospitals globally have increasingly recognized the importance of investing in ongoing education and training for nursing staff. Such investments transcend mere regulatory compliance, serving as strategic imperatives that directly influence patient care outcomes, safety, and overall healthcare quality. Empirical studies demonstrate that hospitals prioritizing nurse competence through structured training programs experience reductions in medical errors, improved patient satisfaction, and enhanced healthcare delivery.[3,4]

Moreover, the World Health Organization (WHO) emphasizes the critical role of competent nursing personnel in effective health systems. The WHO's Global Strategic Directions for Nursing and Midwifery (2021–2025) highlight the necessity for countries to strengthen nursing workforces through education, training, and supportive work environments.[5,6] This systematic review seeks to explore various hospital-based strategies worldwide aimed at maintaining and enhancing nurse competence, highlighting best practices and identifying gaps in current approaches.

The primary rationale for this review is to synthesize existing literature on hospital initiatives for nurse competence development. By examining studies published between 2018 and 2022, this review endeavors to provide a comprehensive understanding of effective strategies, institutional challenges, and the impact of these initiatives on nursing practice and patient care.

METHODS

This systematic review was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines.[7] A thorough literature search was performed across major databases including PubMed, CINAHL, Scopus, and the Cochrane Library to identify relevant studies published from January 2018 to December 2022. Search terms included "nurse competence," "continuing education," "hospital training programs," "nursing professional development," and "competency assessment," combined using Boolean operators to refine results.

Inclusion criteria encompassed original peer-reviewed research articles focusing on hospital-based initiatives aimed at improving nurse competence. Studies were selected based on topic relevance, methodological rigor, and clarity of findings. Exclusion criteria included opinion pieces, editorials, and non-English publications.

Data extraction was systematically performed to collect information on study design, sample size, intervention details, outcome measures, and key findings. Studies were categorized by design, including randomized controlled trials (RCTs), cohort studies, qualitative research, and systematic reviews. Risk of bias was assessed using appropriate tools tailored to each study design to evaluate methodological quality.

Data analysis focused on identifying common themes and strategies employed by hospitals to enhance nurse competence. Findings were synthesized to highlight best practices, challenges, and recommendations for future initiatives. Quantitative data were analyzed descriptively, while qualitative data underwent thematic analysis to provide a comprehensive overview of global nurse competence development in hospital settings.

RESULTS

The systematic review included 25 studies meeting the inclusion criteria, representing diverse hospital settings and geographic locations. Key strategies identified for

maintaining and enhancing nurse competence are as follows:

Structured Continuing Professional Development Programs

Many hospitals implement mandatory continuing professional development (CPD) programs requiring nurses to complete a specified number of training hours annually. These programs typically encompass workshops, seminars, and online courses focusing on clinical skills, evidence-based practice, and emerging health trends.[8,9]

Mentorship and Preceptorship Models

Several studies underscore the effectiveness of mentorship and preceptorship programs in supporting novice nurses and enhancing their clinical competencies. Experienced nurses serve as mentors, providing guidance, support, and feedback to facilitate new nurses' adaptation to their roles.[10,11]

Simulation-Based Training

Simulation-based training has gained popularity as a method to improve clinical competence. Hospitals utilize high-fidelity simulations to replicate real-life scenarios, allowing nurses to practice critical skills in a safe environment. This approach enhances technical abilities as well as teamwork and communication among nursing staff.[12,13]

Competency Assessment and Evaluation

Routine competency assessments are considered vital for identifying areas requiring improvement and ensuring nurses maintain necessary skills. Hospitals employ various assessment tools, including self-assessments, peer evaluations, and direct observation to monitor nurse performance.[14,15]

Interprofessional Collaboration

The review highlights the importance of interprofessional collaboration in advancing nurse competence. Hospitals fostering collaborative learning environments, where nurses work alongside other healthcare professionals, report improved communication skills and better understanding of team dynamics.[16,17]

Supportive Work Environment

A positive work environment is identified as a significant factor in promoting nurse competence. Hospitals prioritizing staff well-being, providing professional development opportunities, and recognizing nurse contributions experience higher job satisfaction and retention rates.[18,19]

Despite these advancements, challenges persist in implementing competence enhancement strategies. Resource limitations, time constraints, and variable administrative support often hinder program effectiveness. Additionally, the absence of standardized competency frameworks across healthcare settings impedes the delivery of consistent and effective training programs.[20,21]

Table 1
The Synthesis of Findings

Study	Methodology	Key Findings	Implications for Nursing Practice
Ben Natan et al. (2018)	Quantitative Study	Continuing education improves nurse knowledge and practice	Encourages structured CPD programs to enhance care quality
McCoy & Theeke (2019)	Systematic Review	CPD plays a crucial role in nurse competence development	Advocates integrating CPD into hospital policies
Henneman et al. (2019)	Qualitative Study	Mentorship effectively supports new nurses and skill growth	Recommends formal mentorship programs for novice nurse adaptation
Ben Natan & Mahajna (2020)	Quantitative Study	Mentorship increases clinical skills and job satisfaction	Establishes mentorship as a core component of nurse training
Cant & Cooper (2018)	Systematic Review	Simulation enhances technical skills and team communication	Integrates simulation training into nursing curricula
McGaghie et al. (2010)	Literature Review	High-fidelity simulation is effective in nursing education	Utilizes simulation technology for critical skill development
McCoy & Theeke (2019)	Systematic Review	Routine competency assessment is essential for skill maintenance	Implements regular competency evaluations as standard practice
Reeves et al. (2016)	Systematic Review	Interprofessional collaboration improves communication and care outcomes	Promotes interprofessional teams to enhance care coordination
Laschinger et al. (2018)	Quantitative Study	Supportive work environments increase nurse satisfaction and retention	Develops positive workplace cultures to sustain competence
McCoy & Theeke (2020)	Systematic Review	Major barriers include resource and time constraints	Calls for adequate resource allocation and time management

DISCUSSION

The findings of this systematic review affirm the critical importance of maintaining and enhancing nurse competence in response to the dynamic nature of healthcare delivery. The growing demand for high-quality healthcare services necessitates that hospitals prioritize the professional development of nursing staff to ensure they possess the requisite skills and knowledge to meet patient needs effectively.[22,23]

Best practices identified include structured CPD programs, mentorship models, simulation-based training, and routine competency assessments, all of which have demonstrated efficacy in improving nursing practice and patient outcomes. Furthermore, fostering supportive work environments and promoting interprofessional collaboration are integral components of a comprehensive approach to nurse competence development.[24,25]

Nevertheless, significant challenges remain, particularly regarding limited resources, time constraints, and inconsistent administrative support. Addressing these barriers requires healthcare institutions to increase funding and allocate dedicated resources for nursing education and professional development. Additionally, establishing standardized competency frameworks across healthcare settings is essential to facilitate effective training implementation and ensure uniform competency assessment.[26,27]

CONCLUSION

Hospitals must adopt proactive strategies to sustain and enhance nurse competence. Investment in nursing professional development not only elevates patient care quality and nurse job satisfaction but also contributes to improved overall health outcomes. Future research should focus on evaluating the long-term effects of competence development initiatives on patient outcomes and exploring innovative educational and training methodologies in nursing.

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