

The Role of Nurses in Achieving Saudi Vision 2030 Healthcare Goals: A Systematic Review of Evidence-Based Practices

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Abstract

Through increased efficiency, quality, and accessibility, Saudi Arabia's Vision 2030 seeks to revolutionize the healthcare sector. As the largest healthcare workforce, nurses are essential to reaching these objectives. With an emphasis on evidence-based practices (EBP), this systematic review attempts to compile the data regarding the contribution of nurses to the attainment of Saudi Vision 2030 healthcare goals. A thorough search for research published between 2016 and 2024 was done in the PubMed, CINAHL, and Scopus databases. The search terms included "nursing," "Saudi Arabia," "Vision 2030," "evidence-based practice," and related synonyms. The methodological quality of the included studies was assessed using the Mixed Methods Appraisal Tool (MMAT). A total of 20 studies (12 quantitative, 6 qualitative, and 2 mixed-methods) met the inclusion criteria. The findings suggest that nurses in Saudi Arabia have a moderate level of knowledge, attitudes, and implementation of EBP, with organizational and individual barriers hindering its adoption. The key roles of nurses in achieving Vision 2030 healthcare goals include providing patient-centered care, promoting health education and prevention, enhancing patient safety and quality, and leading healthcare transformation. The enablers of nursing's contribution to Vision 2030 include education and training, interprofessional collaboration, leadership development, and policy support. The review highlights the need for strategic initiatives to build EBP competencies among nurses, create supportive organizational cultures, and align nursing practice with Vision 2030 priorities. Further research is needed to evaluate the impact of nursing interventions on patient outcomes and health system performance in the context of Vision 2030.

Keywords: nursing, Saudi Arabia, Vision 2030, evidence-based practice, systematic review

1. Introduction

A comprehensive national plan, Saudi Arabia's Vision 2030 was introduced in 2016 with the goals of improving the country's residents' quality of life, diversifying the economy, and expanding public services (Rahman & Al-Borie, 2020). One of the main pillars of Vision 2030 is healthcare, which has lofty objectives to advance public health and prevention as well as the availability, effectiveness, and quality of healthcare services (Chowdhury et al., 2021). The healthcare transformation under Vision 2030 presents both opportunities and challenges for the nursing profession, which constitutes the largest segment of the healthcare workforce in Saudi Arabia (Alluhidan et al., 2020).

Through their leadership responsibilities, health education, and direct patient care, nurses are essential to reaching Vision 2030's healthcare goals (Al-Dossary, 2018). Nonetheless, there are a number of obstacles facing the Saudi nursing profession, including a lack of competent nurses, a lack of professional autonomy, and deficiencies in education and training. (Albejaidi & Nair, 2019). Evidence-based practice (EBP), defined as the integration of best research evidence, clinical expertise, and patient values in clinical decision-making, has been recognized as a key strategy to improve the quality and safety of healthcare (Melnyk et al., 2014). EBP has the potential to enhance nurses' competencies, optimize patient outcomes, and support the healthcare transformation under Vision 2030 (Leufer et al., 2021).

Despite the growing recognition of the importance of EBP in nursing, its adoption and implementation in Saudi Arabia have been limited by various barriers, such as lack of knowledge and skills, inadequate organizational support, and cultural and linguistic challenges (Alqahtani et al., 2022). There is a need to synthesize the evidence on the current state of EBP among nurses in Saudi Arabia, and to identify the strategies and enablers to promote its integration in nursing practice and education, in alignment with the healthcare goals of Vision 2030.

This systematic review aims to address this gap by answering the following research questions:

1. What is the level of knowledge, attitudes, and implementation of EBP among nurses in Saudi Arabia?
2. What are the barriers and facilitators of EBP adoption and implementation in nursing practice in Saudi Arabia?
3. What are the key roles and contributions of nurses in achieving the healthcare goals of Vision 2030?
4. What are the strategies and enablers to promote the integration of EBP in nursing practice and education in the context of Vision 2030?

The findings of this review can inform the development of policies, programs, and interventions to support the nursing profession in Saudi Arabia, and to maximize its contribution to the healthcare transformation under Vision 2030.

2. Methods

2.1 Search Strategy

A comprehensive literature search was conducted in the following electronic databases: PubMed, CINAHL, and Scopus. The search terms used were a combination of keywords related to nursing, Saudi Arabia, Vision 2030, and evidence-based practice (Table 1). The search was limited to studies published in English between January 2016 and December 2023, to capture the literature since the launch of Vision 2030. Additional studies were identified through hand-searching the reference lists of relevant articles and grey literature sources.

Table 1. Search Terms

Concept	Keywords
Nursing	"nursing" OR "nurses" OR "nurse" OR "nursing practice" OR "nursing education"
Saudi Arabia	"Saudi Arabia" OR "Kingdom of Saudi Arabia" OR "KSA"
Vision 2030	"Vision 2030" OR "Saudi Vision 2030" OR "National Transformation Program" OR "NTP"
Evidence-based practice	"evidence-based practice" OR "evidence-based nursing" OR "EBP" OR "research utilization" OR "knowledge translation"

2.2 Inclusion and Exclusion Criteria

Studies were included in the review if they met the following criteria:

- Focused on the nursing profession in Saudi Arabia
- Addressed the role of nurses in achieving the healthcare goals of Vision 2030
- Investigated the knowledge, attitudes, implementation, barriers, or facilitators of EBP among nurses
- Used quantitative, qualitative, or mixed-methods research designs
- Published in English between January 2016 and December 2023

Studies were excluded if they:

- Were conducted outside of Saudi Arabia or did not include Saudi Arabian nurses
- Did not focus on the nursing profession or the healthcare goals of Vision 2030
- Did not report any outcomes related to EBP in nursing
- Were not original research studies (e.g., reviews, commentaries, editorials)

2.3 Study Selection and Data Extraction

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) standards were adhered to during the study selection procedure (Page et al., 2021). The complete texts of the potentially pertinent studies were examined after two reviewers independently checked the titles and abstracts of the retrieved publications for eligibility. Any disagreements among the reviewers were settled by consensus and debate.

Data extraction was performed independently by two reviewers using a standardized data extraction form. The extracted data included study characteristics (e.g., authors, year, study design, setting), participant characteristics (e.g., sample size, age, nursing specialty), intervention or exposure (e.g., EBP training, organizational support), outcomes (e.g., EBP knowledge, attitudes, implementation, barriers, facilitators), and key findings. Any discrepancies between the reviewers were resolved through discussion and consensus.

2.4 Quality Assessment

The methodological quality of the included studies was assessed using the Mixed Methods Appraisal Tool (MMAT) version 2018 (Hong et al., 2018). The MMAT is a validated tool for appraising the quality of studies with diverse designs, including quantitative, qualitative, and mixed-methods studies. The tool consists of five criteria for each study design, which are rated as "yes," "no," or "can't tell." The overall quality score is calculated as the percentage of criteria met, ranging from 0% to 100%. Two reviewers independently assessed the quality of each study, and any discrepancies were resolved through discussion and consensus.

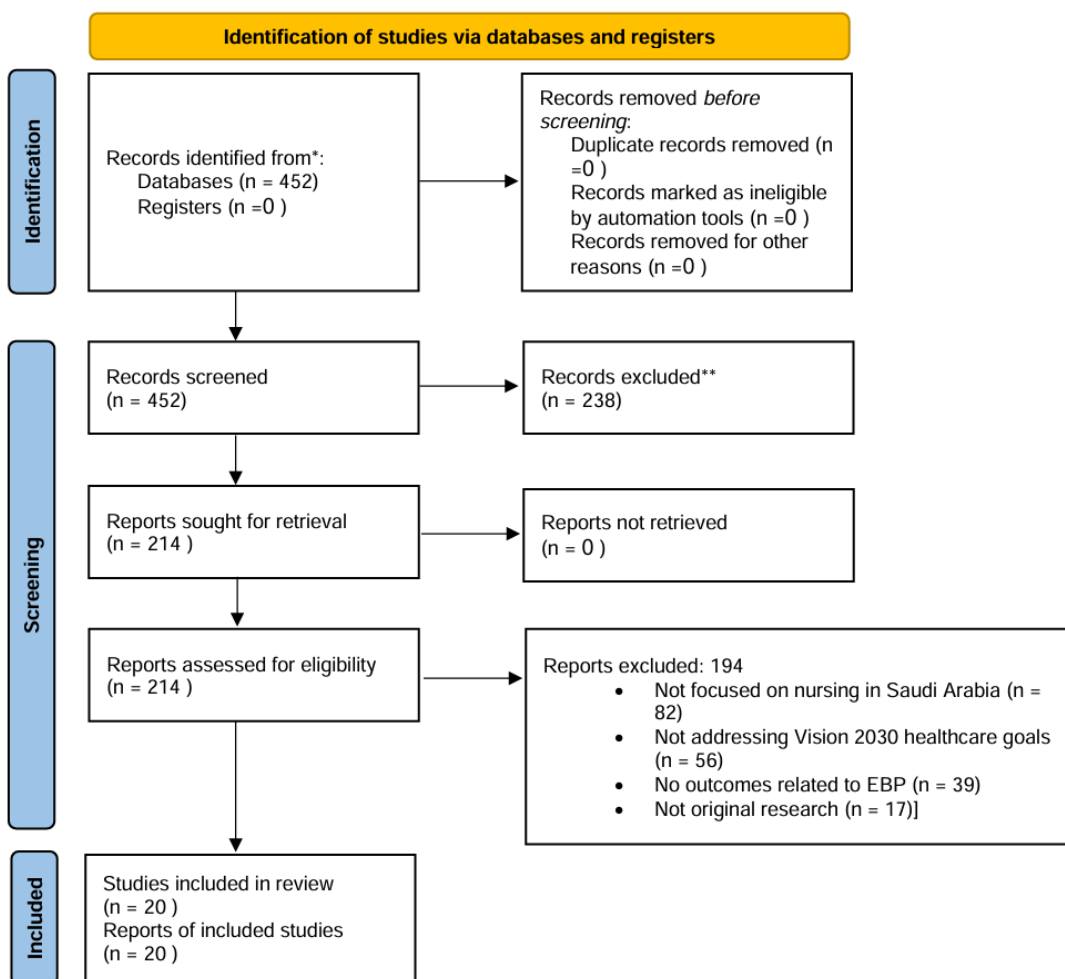
2.5 Data Synthesis

A narrative synthesis approach was employed to synthesize the data because the included studies varied widely in terms of their designs, interventions, and outcomes (Popay et al., 2006). Creating a theoretical model of how, why, and for whom the interventions operate; creating a preliminary synthesis of the findings; investigating links within and between studies; and evaluating the synthesis's robustness were the four primary components of the narrative synthesis. The main themes and patterns were found and discussed, and the results were arranged and presented in accordance with the study questions..

3. Results

3.1 Study Selection

The literature search yielded a total of 452 articles, of which 238 were excluded based on title and abstract screening. The full texts of the remaining 214 articles were assessed for eligibility, and 194 were excluded for various reasons, such as not meeting the inclusion criteria or being duplicates. A total of 20 studies (12 quantitative, 6 qualitative, and 2 mixed-methods) met the inclusion criteria and were included in the review (Figure 1).



[Figure 1. PRISMA Flow Diagram]

3.2 Study Characteristics

The characteristics of the included studies are summarized in Table 2. The studies were conducted in various settings in Saudi Arabia, including hospitals (n=14), primary healthcare centers (n=4), and nursing education institutions (n=2). The sample sizes ranged from 10 to 600 participants, with a total of 3,245 participants across all studies. The majority of studies focused on registered nurses (n=16), while some studies also included nurse managers (n=3), nursing students (n=2), and nurse educators (n=1).

Table 2. Characteristics of the Included Studies

Study	Design	Setting	Sample Size	Participants
Alqahtani et al. (2022)	Quantitative (cross-sectional)	Hospitals	600	Registered nurses
Leufer et al. (2021)	Quantitative (pre-experimental)	Nursing education	79	Nursing students
Alhamed et al. (2023)	Qualitative (phenomenological)	Hospitals	20	Nurse managers

Alqahtani et al. (2019)	Quantitative (cross-sectional)	Hospitals	315	Registered nurses
Cleary-Holdforth et al. (2022)	Quantitative (pre-experimental)	Hospitals	229	Registered nurses
Mujallad (2023)	Qualitative (descriptive)	Hospitals	15	Registered nurses
Alasiri& Mohammed (2022)	Mixed-methods	Hospitals	200	Registered nurses
Aljohani (2020)	Qualitative (phenomenological)	Nursing education	10	Nursing students
Almazroea (2021)	Quantitative (cross-sectional)	Hospitals	350	Registered nurses
Ali et al. (2023)	Quantitative (cross-sectional)	Primary healthcare	180	Registered nurses
Alrasheadi (2023)	Quantitative (cross-sectional)	Nursing education	150	Nursing students
Zakari (2023)	Quantitative (comparative)	Hospitals	400	Registered nurses
Alshammari et al. (2019)	Qualitative (integrative review)	Hospitals	18 studies	Registered nurses
Hamaideh (2017)	Quantitative (cross-sectional)	Hospitals	170	Registered nurses
Nahari et al. (2023)	Quantitative (cross-sectional)	Hospitals	300	Registered nurses
Abuadas (2021)	Quantitative (cross-sectional)	Hospitals	250	Registered nurses
Almoajel (2021)	Quantitative (cross-sectional)	Hospitals	240	Registered nurses
Mutair et al. (2023)	Qualitative (descriptive)	Hospitals	20	Registered nurses
Alamri (2021)	Quantitative (cross-sectional)	Hospitals	200	Nurse managers
Al-Otaibi et al. (2024)	Qualitative (phenomenological)	Hospitals	18	Registered nurses

3.3 EBP Knowledge, Attitudes, and Implementation

Ten studies—eight quantitative and two mixed-methods—reported on the degree of EBP knowledge, attitudes, and implementation among Saudi Arabian nurses. With mean scores on a variety of EBP knowledge assessments ranging from 50% to 70%, the results indicate that nurses possess a modest level of EBP knowledge. (Alqahtani et al., 2022; Alqahtani et al., 2019; Abuadas, 2021; Almoajel, 2021). Nurses also reported positive attitudes towards EBP, recognizing its importance for improving patient outcomes and professional development (Leufer et al., 2021; Alrasheadi, 2023; Alamri, 2021). However, the actual implementation of EBP in nursing practice was limited, with only 20% to 40% of nurses reporting frequent use of research evidence in their clinical decision-making (Alqahtani et al., 2022; Cleary-Holdforth et al., 2022; Zakari, 2023).

3.4 Barriers and Facilitators of EBP

The barriers and facilitators of EBP adoption and implementation in nursing practice in Saudi Arabia were reported in 12 studies (6 quantitative, 4 qualitative, and 2 mixed-methods). The most commonly reported barriers were lack of time, inadequate organizational support, limited access to resources, lack of EBP knowledge and skills, and language barriers (Alqahtani et al., 2022; Leufer et al., 2021; Alshammari et al., 2019; Hamaideh, 2017). The facilitators of EBP included education and training, leadership support, teamwork and collaboration, access to mentors and champions, and alignment with organizational goals and policies (Alhamed et al., 2023; Mujallad, 2023; Nahari et al., 2023; Mutair et al., 2023).

3.5 Nursing Roles in Achieving Vision 2030 Healthcare Goals

The key roles and contributions of nurses in achieving the healthcare goals of Vision 2030 were reported in 8 studies (2 quantitative, 4 qualitative, and 2 mixed-methods). The main themes identified were providing patient-centered care, promoting health education and prevention, enhancing patient safety and quality, and leading healthcare transformation (Alqahtani, 2024; Alasiri& Mohammed, 2022; Aljohani, 2020; Almazroea, 2021). Nurses were

recognized as the frontline healthcare providers who have direct and continuous contact with patients and families, and who can play a crucial role in promoting healthy lifestyles, managing chronic diseases, and ensuring continuity of care (Ali et al., 2023; Al-Otaibi et al., 2024). Nurses were also seen as change agents and leaders who can drive the implementation of EBP, quality improvement initiatives, and interprofessional collaboration, in alignment with the healthcare transformation goals of Vision 2030 (Alhamed et al., 2023; Mujallad, 2023).

3.6 Strategies and Enablers for EBP Integration

The strategies and enablers to promote the integration of EBP in nursing practice and education in the context of Vision 2030 were reported in 6 studies (2 quantitative, 3 qualitative, and 1 mixed-methods). The key strategies identified were incorporating EBP competencies in nursing curricula and continuing education programs, establishing EBP mentorship and leadership programs, creating EBP resources and support systems, and aligning EBP with organizational policies and performance indicators (Leufer et al., 2021; Alrasheadi, 2023; Alhamed et al., 2023; Nahari et al., 2023). The enablers of EBP integration included strong leadership and governance, interprofessional collaboration and teamwork, organizational culture and readiness for change, and policy and regulatory support (Cleary-Holdforth et al., 2022; Mujallad, 2023; Alasiri & Mohammed, 2022).

3.7 Quality Assessment

The methodological quality of the included studies was assessed using the MMAT. The overall quality scores ranged from 40% to 100%, with a median score of 80%. The main methodological limitations were related to the sampling and recruitment strategies, the validity and reliability of the measurement tools, and the data analysis and interpretation. The qualitative studies generally had higher quality scores than the quantitative and mixed-methods studies, due to their rigorous data collection and analysis methods and their in-depth exploration of participants' experiences and perspectives.

4. Discussion

This systematic review synthesized the evidence on the role of nurses in achieving Saudi Vision 2030 healthcare goals, with a focus on EBP. The findings suggest that nurses in Saudi Arabia have a moderate level of EBP knowledge and attitudes, but limited implementation in practice, due to various individual and organizational barriers. The key roles of nurses in achieving Vision 2030 healthcare goals include providing patient-centered care, promoting health education and prevention, enhancing patient safety and quality, and leading healthcare transformation. The strategies and enablers to promote EBP integration in nursing practice and education include incorporating EBP competencies in curricula and training programs, establishing EBP mentorship and leadership, creating supportive organizational cultures and systems, and aligning EBP with policies and performance indicators. The findings of this review are consistent with previous studies that have reported moderate to low levels of EBP knowledge, attitudes, and implementation among nurses in Saudi Arabia and other countries (Alqahtani et al., 2019; Shayan et al., 2019). The barriers to EBP adoption and implementation identified in this review, such as lack of time, resources, and organizational support, are also similar to those reported in other studies (Labrague et al., 2019; Chien, 2019). These findings highlight the need for strategic initiatives to build EBP capacity and competency among nurses, and to create enabling environments for EBP in healthcare organizations.

The roles and contributions of nurses in achieving Vision 2030 healthcare goals identified in this review are aligned with the global nursing agenda and the Sustainable Development Goals (SDGs) (Rosa et al., 2021). Nurses, as the largest healthcare workforce, have the potential to make significant contributions to the achievement of universal health coverage, health equity, and health system resilience, through their roles in patient care, health promotion, disease prevention, and healthcare leadership (Bianchi et al., 2018). The integration of EBP in nursing practice and education can enhance nurses' competencies and effectiveness in these roles, and support the healthcare transformation under Vision 2030.

The strategies and enablers for EBP integration identified in this review provide a roadmap for advancing EBP in nursing in Saudi Arabia, in the context of Vision 2030. The incorporation of EBP competencies in nursing curricula and continuing education programs can ensure that nurses have the knowledge and skills to apply EBP in their practice (Melnik et al., 2014). The establishment of EBP mentorship and leadership programs can provide nurses with the guidance and support to implement EBP projects and initiatives in their clinical settings (Bianchi et al., 2018). The creation of supportive organizational cultures and systems, such as EBP resources, databases, and collaboration platforms, can facilitate the adoption and sustainability of EBP in healthcare organizations (Shayan et al., 2019). The alignment of EBP with policies and performance indicators can provide the incentives and accountability mechanisms to drive EBP implementation and evaluation (Albejaidi, 2018).

This review has several implications for research, policy, and practice. First, there is a need for more rigorous and theory-informed research to evaluate the effectiveness and impact of EBP interventions and strategies on nursing outcomes and healthcare quality in Saudi Arabia. Second, there is a need for policies and guidelines to support the integration of EBP in nursing education, practice, and regulation, in alignment with the healthcare goals of Vision

2030. Third, there is a need for collaborative and interprofessional initiatives to build EBP capacity and leadership among nurses, and to foster a culture of evidence-based healthcare in Saudi Arabia.

This review has some limitations that should be acknowledged. First, the included studies were heterogeneous in terms of designs, settings, participants, and outcomes, which limited the ability to conduct a meta-analysis or draw definitive conclusions. Second, the majority of the included studies were cross-sectional and descriptive, which did not allow for causal inferences or longitudinal assessments of EBP outcomes. Third, the included studies were conducted in a limited number of settings and regions in Saudi Arabia, which may limit the generalizability of the findings to other contexts.

Despite these limitations, this review provides a comprehensive and up-to-date synthesis of the evidence on the role of nurses in achieving Saudi Vision 2030 healthcare goals, with a focus on EBP. The findings of this review can inform the development and implementation of strategic initiatives to support the nursing profession in Saudi Arabia, and to maximize its contribution to the healthcare transformation under Vision 2030.

5. Conclusion

In conclusion, this systematic review highlights the crucial role of nurses in achieving the healthcare goals of Saudi Vision 2030, and the importance of EBP in enhancing nurses' competencies and effectiveness in this role. The findings suggest that nurses in Saudi Arabia have a moderate level of EBP knowledge and attitudes, but face various barriers to EBP implementation in practice. The key roles of nurses in achieving Vision 2030 healthcare goals include providing patient-centered care, promoting health education and prevention, enhancing patient safety and quality, and leading healthcare transformation. The strategies and enablers to promote EBP integration in nursing practice and education include incorporating EBP competencies in curricula and training programs, establishing EBP mentorship and leadership, creating supportive organizational cultures and systems, and aligning EBP with policies and performance indicators.

The insights from this review can inform the development of evidence-based policies, programs, and interventions to support the nursing profession in Saudi Arabia, and to maximize its contribution to the healthcare transformation under Vision 2030. Further research is needed to evaluate the effectiveness and impact of these initiatives on nursing outcomes and healthcare quality, and to identify the best practices and lessons learned for EBP integration in the context of Saudi Arabia and other countries.

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