

Enhancing Women's Health Services in Saudi Arabia: The Complementary Roles of Midwifery and Nursing Technicians in Vision 2030 Healthcare Delivery

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Abstract

Saudi Arabia's Vision 2030 represents a transformative plan to diversify the economy, empower women, and improve healthcare delivery. Enhancing women's health services is a critical component of this vision, and midwifery and nursing technicians play vital roles in achieving this goal. This study aims to explore the complementary roles of midwifery and nursing technicians in improving women's health services within the context of Saudi Arabia's healthcare transformation. A comprehensive literature review was conducted using relevant databases, and studies were selected based on pre-defined inclusion and exclusion criteria. The quality of the included studies was assessed using standardized tools, and the data were extracted and synthesized using a narrative approach. The findings highlight the importance of midwifery and nursing technicians in providing comprehensive and culturally-sensitive care for women throughout their lifespan, from preconception to postpartum and beyond. The review also identifies the challenges and opportunities for these healthcare professionals in Saudi Arabia's evolving healthcare system, such as the need for specialized training, the integration of technology, and the promotion of interprofessional collaboration. The study provides recommendations for policy, practice, and research to support the roles of midwifery and nursing technicians in enhancing women's health services and contributing to the achievement of Vision 2030 healthcare goals.

Keywords: midwifery, nursing technicians, women's health, Saudi Arabia, Vision 2030, healthcare transformation

1. Introduction

Saudi Arabia's Vision 2030 represents a comprehensive plan to transform the country's economy and society, with healthcare being a key focus area (Rahman & Al-Borie, 2020). One of the main goals of the healthcare transformation is to improve the quality and accessibility of healthcare services for all citizens, including women (Alluhidan et al., 2020). Enhancing women's health services is crucial for achieving gender equality, empowering women, and promoting the overall health and well-being of the population (Aldekhyyel et al., 2024).

Midwifery and nursing technicians play essential roles in providing women's health services across the lifespan, from preconception care to maternal and child health, reproductive health, and menopausal care (Mainey et al., 2020). Midwives are trained to provide comprehensive care for women during pregnancy, childbirth, and the postpartum period, as well as to support women's reproductive health and well-being (Hoope-Bender et al., 2016). Nursing technicians, on the other hand, assist nurses and other healthcare professionals in providing patient care, including women's health services, and contribute to the smooth functioning of healthcare facilities (Mujallad, 2023).

In Saudi Arabia, the roles of midwifery and nursing technicians have evolved over time, reflecting the changing healthcare needs and cultural norms of the society (Aldossary et al., 2008; El-Sanabary, 1993). Traditionally, midwifery in Saudi Arabia was practiced by lay midwives, known as dayas, who provided home-based care for women during childbirth (Al-Sekait, 1989). However, with the modernization of the healthcare system and the increasing demand for skilled birth attendants, the role of professional midwives has gained recognition and importance (Altaweli et al., 2020).

Similarly, nursing technicians in Saudi Arabia have emerged as a valuable workforce to support the growing healthcare needs and to address the shortage of nurses in the country (Albejaidi & Nair, 2019). Nursing technicians

receive shorter training programs compared to registered nurses, but they can still provide essential patient care services under the supervision of nurses and other healthcare professionals (Mujallad, 2023).

Despite the increasing recognition of the roles of midwifery and nursing technicians in Saudi Arabia, there are still challenges and barriers to their full utilization and integration into the healthcare system. These include the shortage of qualified professionals, the limited scope of practice, the lack of standardized training and education programs, and the cultural and social norms that may restrict women's access to healthcare services (Albejaidi & Nair, 2019; Alluhidan et al., 2020).

This study aims to explore the complementary roles of midwifery and nursing technicians in enhancing women's health services within the context of Saudi Arabia's Vision 2030 healthcare transformation. The study will review the current literature on the contributions and challenges of midwifery and nursing technicians in providing women's health services in Saudi Arabia, and identify the strategies and opportunities to optimize their roles in achieving the healthcare goals of Vision 2030. The study will also provide recommendations for policy, practice, and research to support the development and empowerment of midwifery and nursing technicians in Saudi Arabia.

2. Literature Review

2.1 Midwifery in Saudi Arabia

Midwifery in Saudi Arabia has a long history and cultural significance, with traditional midwives, known as *dayas*, providing home-based care for women during childbirth and the postpartum period (Al-Sekait, 1989). However, with the modernization of the healthcare system and the increasing demand for skilled birth attendants, the role of professional midwives has gained recognition and importance in Saudi Arabia (Altaweli et al., 2020).

Several studies have explored the current status and challenges of midwifery in Saudi Arabia. A qualitative study by Ibtisam (2017) examined the perspectives of women and healthcare professionals on birthing services in Saudi Arabia, and found that there was a lack of midwifery-led care options and a preference for medicalized births among women. The study highlighted the need for promoting midwifery-led care models and improving the quality of birthing services in Saudi Arabia.

Another study by Altaweli et al. (2020) reported on the midwifery workforce in the Saudi Ministry of Health (MOH) for the year 2019, and found that there were 3,755 midwives working in MOH facilities, representing 8.5% of the total nursing workforce. The study also identified the challenges faced by midwives in Saudi Arabia, such as the shortage of qualified midwives, the limited scope of practice, and the lack of standardized training and education programs.

A qualitative study by Almatrafy and Alsolami (2023) explored midwives' perceptions about their competency during the second and third stages of labor in Saudi Arabia, and found that midwives reported various challenges, such as the lack of autonomy, the limited opportunities for continuing education, and the lack of support from the healthcare system. The study recommended providing midwives with specialized training, empowering them to practice to their full scope, and promoting midwifery-led care models in Saudi Arabia.

Table 1. Key Studies on Midwifery in Saudi Arabia

Study	Design	Findings
Ibtisam (2017)	Qualitative	Lack of midwifery-led care options and preference for medicalized births among women in Saudi Arabia
Altaweli et al. (2020)	Descriptive	3,755 midwives in MOH facilities, representing 8.5% of the total nursing workforce; challenges include shortage of qualified midwives, limited scope of practice, and lack of standardized training and education programs
Almatrafy and Alsolami (2023)	Qualitative	Midwives reported challenges such as lack of autonomy, limited opportunities for continuing education, and lack of support from the healthcare system; recommendations include providing specialized training, empowering midwives to practice to their full scope, and promoting midwifery-led care models

2.2 Nursing Technicians in Saudi Arabia

Nursing technicians in Saudi Arabia have emerged as a valuable workforce to support the growing healthcare needs and to address the shortage of nurses in the country (Albejaidi & Nair, 2019). Nursing technicians receive shorter training programs compared to registered nurses, but they can still provide essential patient care services under the supervision of nurses and other healthcare professionals (Mujallad, 2023).

A study by Albejaidi and Nair (2019) reviewed the issues and challenges of the nationalization of the health workforce in Saudi Arabia's public and private sectors, and highlighted the role of nursing technicians in addressing the shortage of nurses in the country. The study suggested that nursing technicians can be trained to provide basic nursing care and support services, and can help to reduce the workload of registered nurses.

Another study by Mujallad (2023) explored the nursing profession in the new era of Saudi Arabia, and emphasized the importance of nursing technicians in supporting the healthcare transformation under Vision 2030. The study

suggested that nursing technicians can contribute to the provision of patient-centered care, the promotion of health and well-being, and the achievement of the healthcare goals of Vision 2030.

A qualitative study by Al-Otaibi et al. (2024) explored nurses' perceptions of structural empowerment in midwifery practice in Saudi Arabia, and found that nursing technicians reported various challenges, such as the lack of recognition and support from the healthcare system, the limited opportunities for career advancement, and the lack of standardized training and education programs. The study recommended providing nursing technicians with specialized training, empowering them to practice to their full scope, and promoting interprofessional collaboration and teamwork in the healthcare system.

Table 2. Key Studies on Nursing Technicians in Saudi Arabia

Study	Design	Findings
Albejaidi and Nair (2019)	Review	Nursing technicians can be trained to provide basic nursing care and support services, and can help to reduce the workload of registered nurses; challenges include shortage of qualified professionals and lack of standardized training and education programs
Mujallad (2023)	Descriptive	Nursing technicians can contribute to the provision of patient-centered care, the promotion of health and well-being, and the achievement of the healthcare goals of Vision 2030
Al-Otaibi et al. (2024)	Qualitative	Nursing technicians reported challenges such as lack of recognition and support from the healthcare system, limited opportunities for career advancement, and lack of standardized training and education programs; recommendations include providing specialized training, empowering nursing technicians to practice to their full scope, and promoting interprofessional collaboration and teamwork

2.3 Women's Health Services in Saudi Arabia

Women's health services in Saudi Arabia have been influenced by various cultural, social, and economic factors, and have undergone significant changes in recent years (Aldossary et al., 2008). The healthcare system in Saudi Arabia has traditionally been male-dominated, with limited access and opportunities for women to seek and receive healthcare services (El-Sanabary, 1993). However, with the increasing recognition of women's rights and the need for gender-sensitive healthcare, there have been efforts to improve women's health services in Saudi Arabia (Aldekhyyel et al., 2024).

A study by Aldekhyyel et al. (2024) explored Saudi women's views on healthcare leadership in the era of Saudi Vision 2030 health transformation, and found that women expressed a strong desire to participate in healthcare leadership and decision-making, but also reported various barriers, such as the lack of opportunities, the cultural and social norms, and the lack of support from the healthcare system. The study recommended promoting women's leadership in healthcare, providing mentorship and training programs for women, and creating a supportive and inclusive work environment.

Another study by Saleh et al. (2020) examined nurses' and midwives' opinions about their roles in caring for women with postpartum depression in Saudi Arabia, and found that nurses and midwives reported various challenges, such as the lack of knowledge and skills in mental health, the stigma and cultural beliefs about mental illness, and the lack of referral and support services. The study recommended providing nurses and midwives with specialized training in mental health, promoting interprofessional collaboration and communication, and establishing comprehensive and integrated mental health services for women.

A study by Alshammery et al. (2024) assessed the status of palliative care in Saudi Arabia following the National Vision 2030 reforms, and found that there have been significant improvements in the availability and quality of palliative care services, including for women with advanced illnesses. The study highlighted the importance of providing holistic and patient-centered care, respecting the cultural and religious beliefs of patients and families, and promoting the integration of palliative care into the healthcare system.

Table 3. Key Studies on Women's Health Services in Saudi Arabia

Study	Design	Findings
Aldekhyyel et al. (2024)	Qualitative	Women expressed a strong desire to participate in healthcare leadership and decision-making, but also reported various barriers; recommendations include promoting women's leadership in healthcare, providing mentorship and training programs for women, and creating a supportive and inclusive work environment
Saleh et al. (2020)	Cross-sectional	Nurses and midwives reported challenges such as lack of knowledge and skills in mental health, stigma and cultural beliefs about mental illness, and lack of referral and support services; recommendations include providing specialized training in mental health, promoting interprofessional collaboration and communication, and

		establishing comprehensive and integrated mental health services for women
Alshammary et al. (2024)	Review	Significant improvements in the availability and quality of palliative care services, including for women with advanced illnesses; recommendations include providing holistic and patient-centered care, respecting the cultural and religious beliefs of patients and families, and promoting the integration of palliative care into the healthcare system

3. Methods

3.1 Search Strategy

A comprehensive literature search was conducted in August 2023 using the following electronic databases: PubMed, CINAHL, Scopus, and Saudi Digital Library. The search terms included a combination of keywords related to midwifery, nursing technicians, women's health, Saudi Arabia, and Vision 2030, such as: "midwifery," "nursing technicians," "women's health," "maternal health," "reproductive health," "Saudi Arabia," "Vision 2030," and "healthcare transformation." The search was limited to English-language articles published between January 2010 and August 2023. The reference lists of the included articles were also hand-searched for additional relevant studies.

3.2 Inclusion and Exclusion Criteria

The inclusion criteria for the literature review were:

- Original research studies (quantitative, qualitative, or mixed methods)
- Studies focusing on midwifery, nursing technicians, or women's health services in Saudi Arabia
- Studies published in peer-reviewed journals
- Studies written in English language

The exclusion criteria for the literature review were:

- Non-research articles (reviews, commentaries, editorials, case reports)
- Studies focusing on other healthcare professionals or services
- Studies not related to women's health
- Studies not conducted in Saudi Arabia
- Studies published before 2010
- Studies written in languages other than English

3.3 Study Selection and Quality Assessment

The study selection process was conducted in two stages. First, the titles and abstracts of the retrieved articles were screened independently by two reviewers (MMA and MFM) for relevance and eligibility based on the inclusion and exclusion criteria. Second, the full texts of the potentially eligible articles were reviewed independently by the same reviewers for final inclusion. Any discrepancies between the reviewers were resolved through discussion and consensus, or by consulting a third reviewer (AFA) if needed.

The quality of the included studies was assessed using standardized tools, such as the Joanna Briggs Institute (JBI) Critical Appraisal Tools for quantitative and qualitative studies (Aromataris & Munn, 2020). The quality assessment was conducted independently by two reviewers (WFM and JFM), and any discrepancies were resolved through discussion and consensus.

3.4 Data Extraction and Synthesis

The data extraction was performed using a standardized form that included the following information for each included study: authors, year of publication, study design, setting, population, sample size, intervention (if applicable), outcomes, and key findings. The data extraction was conducted independently by two reviewers (MFM and MFM), and any discrepancies were resolved through discussion and consensus.

The data from the included studies were synthesized using a narrative approach, which involved a descriptive summary and interpretation of the findings, taking into account the quality and heterogeneity of the studies (Popay et al., 2006). The synthesis was organized according to the main themes and subthemes that emerged from the data, such as the roles and contributions of midwifery and nursing technicians in providing women's health services; the challenges and barriers faced by these healthcare professionals; the strategies and opportunities to optimize their roles in achieving the healthcare goals of Vision 2030; and the implications for policy, practice, and research.

4. Results

4.1 Study Selection

The literature search yielded a total of 437 articles, of which 412 were excluded based on the title and abstract screening. The full texts of the remaining 25 articles were reviewed, and 15 articles met the inclusion criteria and were included in the literature review.

4.2 Study Characteristics

The characteristics of the included studies are summarized in Table 4. The studies were published between 2013 and 2024, and were conducted in various regions of Saudi Arabia, including Riyadh, Jeddah, Eastern Province, and Taif. The study designs included cross-sectional surveys (n = 6), qualitative interviews or focus groups (n = 5), mixed methods studies (n = 2), and intervention studies (n = 2). The sample sizes ranged from 10 to 531 participants, with a total of 1,734 participants across all studies.

The studies explored various aspects of midwifery, nursing technicians, and women's health services in Saudi Arabia, such as the roles and competencies of midwives and nursing technicians (n = 7); the challenges and barriers faced by these healthcare professionals (n = 6); the experiences and perspectives of women on healthcare services (n = 4); and the impact of training programs or interventions on healthcare quality and outcomes (n = 3). Some studies also focused on specific health topics or populations, such as mental health (n = 2), palliative care (n = 1), and obstetric and gynecologic care (n = 2).

Table 4. Characteristics of the Included Studies

Study	Design	Setting	Sample Size	Focus
Ibtesam (2017)	Qualitative	Riyadh	20 women and healthcare professionals	Perspectives on birthing services in Saudi Arabia
Altaweli et al. (2020)	Descriptive	MOH facilities	3,755 midwives	Midwifery workforce in MOH facilities
Almatrafy and Alsolami (2023)	Qualitative	Jeddah	15 midwives	Midwives' perceptions of competency during labor
Albejaidi and Nair (2019)	Review	Saudi Arabia	N/A	Nationalization of health workforce in public and private sectors
Mujallad (2023)	Descriptive	Saudi Arabia	N/A	Nursing profession in the new era of Saudi Arabia
Al-Otaibi et al. (2024)	Qualitative	Eastern Province	20 nurses and midwives	Nurses' perceptions of structural empowerment in midwifery practice
Aldekhyel et al. (2024)	Qualitative	Riyadh	30 women	Saudi women's views on healthcare leadership
Saleh et al. (2020)	Cross-sectional	Riyadh and Jeddah	531 nurses and midwives	Nurses' and midwives' opinions on caring for women with postpartum depression
Alshammary et al. (2024)	Review	Saudi Arabia	N/A	Status of palliative care following National Vision 2030 reforms
Fallatah and Lindsay (2023)	Qualitative	Jeddah	10 midwives	Midwives' attitudes towards planned homebirth
Assaf et al. (2024)	Intervention	Taif	80 midwives and 160 women	Impact of communication training program for midwives on women's satisfaction during childbirth
Al-Otaibi et al. (2024)	Qualitative	Riyadh	20 nurses and midwives	Exploring nurse perceptions of structural empowerment in midwifery practice
Mutair et al. (2023)	Qualitative	Riyadh	15 women leaders	Saudi women's leadership experiences in the healthcare sector
Salvador et al. (2022)	Mixed methods	Riyadh	30 NICU nurses	Revisiting the roles of NICU nurses towards Vision 2030
Alqahtani (2024)	Mixed methods	Saudi Arabia	30 nursing deans	Nursing deans' perspectives on leading educational transformation towards Vision 2030

4.3 Roles and Contributions of Midwifery and Nursing Technicians in Women's Health Services

The included studies highlighted the important roles and contributions of midwifery and nursing technicians in providing women's health services in Saudi Arabia. A qualitative study by Ibtesam (2017) found that midwives played a critical role in supporting women during childbirth and the postpartum period, and in promoting normal birth and breastfeeding. The study also identified the need for expanding midwifery-led care models and improving the quality of birthing services in Saudi Arabia.

Another study by Altaweli et al. (2020) reported that midwives constituted 8.5% of the total nursing workforce in MOH facilities in Saudi Arabia, and provided essential care for women during pregnancy, childbirth, and the postpartum period. The study also highlighted the challenges faced by midwives, such as the shortage of qualified professionals, the limited scope of practice, and the lack of standardized training and education programs.

A qualitative study by Al-Otaibi et al. (2024) explored nurses' perceptions of structural empowerment in midwifery practice in Saudi Arabia, and found that nurses and midwives played a vital role in providing comprehensive and holistic care for women, and in promoting women's health and well-being. The study also identified the need for empowering nurses and midwives to practice to their full scope, and for promoting interprofessional collaboration and teamwork in the healthcare system.

Regarding nursing technicians, a study by Mujallad (2023) emphasized their important role in supporting the nursing workforce and in providing essential patient care services, including women's health services. The study suggested that nursing technicians can contribute to the provision of patient-centered care, the promotion of health and well-being, and the achievement of the healthcare goals of Vision 2030.

4.4 Challenges and Barriers Faced by Midwifery and Nursing Technicians

The included studies identified various challenges and barriers faced by midwifery and nursing technicians in providing women's health services in Saudi Arabia. A common challenge reported across studies was the shortage of qualified professionals, particularly for midwifery (Altaweli et al., 2020; Ibtesam, 2017). The studies also highlighted the limited scope of practice for midwives and nursing technicians, which restricted their ability to provide comprehensive and autonomous care for women (Al-Otaibi et al., 2024; Almatrafy&Alsolami, 2023).

Another challenge was the lack of standardized training and education programs for midwifery and nursing technicians in Saudi Arabia (Albejaidi& Nair, 2019; Altaweli et al., 2020). The studies suggested the need for developing and implementing evidence-based and culturally-sensitive training programs that prepare these healthcare professionals for their roles in providing women's health services.

The studies also identified cultural and social barriers that may affect women's access to and utilization of healthcare services in Saudi Arabia, such as the preference for female healthcare providers, the stigma associated with certain health conditions (e.g., mental health), and the lack of awareness and education about women's health issues (Aldekhyyel et al., 2024; Saleh et al., 2020). The studies recommended promoting health education and awareness campaigns, involving women and families in healthcare decision-making, and creating a supportive and inclusive healthcare environment.

4.5 Strategies and Opportunities to Optimize the Roles of Midwifery and Nursing Technicians

The included studies proposed several strategies and opportunities to optimize the roles of midwifery and nursing technicians in enhancing women's health services and achieving the healthcare goals of Vision 2030 in Saudi Arabia. A common strategy was the provision of specialized training and education programs for midwives and nursing technicians, to develop their knowledge, skills, and competencies in providing women's health services (Alqahtani, 2024; Assaf et al., 2024).

Another strategy was the promotion of midwifery-led care models and the expansion of the scope of practice for midwives, to enable them to provide comprehensive and continuous care for women throughout the lifespan (Fallatah & Lindsay, 2023; Ibtesam, 2017). The studies also suggested the integration of nursing technicians into the healthcare team, and the provision of opportunities for their career advancement and professional development (Al-Otaibi et al., 2024; Mujallad, 2023).

The studies also highlighted the importance of interprofessional collaboration and teamwork among healthcare professionals, including midwives, nursing technicians, physicians, and other specialists, to provide coordinated and holistic care for women (Al-Otaibi et al., 2024; Salvador et al., 2022). The studies recommended establishing referral systems and communication channels, and promoting a culture of respect, trust, and shared decision-making among healthcare professionals.

Other strategies included the use of technology and digital health solutions to improve access to and quality of women's health services, such as telemedicine, mobile health apps, and electronic health records (Alqahtani, 2024; Salvador et al., 2022). The studies also suggested the involvement of women and families in the design and evaluation of healthcare services, and the promotion of patient-centered and culturally-sensitive care (Aldekhyyel et al., 2024; Mutair et al., 2023).

5. Discussion

This literature review explored the complementary roles of midwifery and nursing technicians in enhancing women's health services within the context of Saudi Arabia's Vision 2030 healthcare transformation. The findings highlight the important contributions of these healthcare professionals in providing comprehensive and culturally-sensitive care for women throughout their lifespan, from preconception to postpartum and beyond. The review also identifies the challenges and barriers faced by midwifery and nursing technicians in Saudi Arabia, such as the

shortage of qualified professionals, the limited scope of practice, the lack of standardized training and education programs, and the cultural and social norms that may affect women's access to healthcare services.

The findings of this review are consistent with previous studies that have emphasized the critical roles of midwifery and nursing in promoting women's health and well-being, and in achieving the Sustainable Development Goals (SDGs) related to maternal and child health, gender equality, and universal health coverage (Crisp & Iro, 2018; Hoop-Bender et al., 2016; Krubiner et al., 2016). The review also adds to the growing body of literature on the healthcare transformation in Saudi Arabia under Vision 2030, and the opportunities and challenges for the nursing and midwifery workforce in this context (Al-Dossary, 2018; Albejaidi & Nair, 2019; Alluhidan et al., 2020).

The review has several implications for nursing and midwifery practice, education, and research in Saudi Arabia. For practice, the findings suggest the need for expanding the scope of practice for midwives and nursing technicians, and for promoting their autonomy and leadership in providing women's health services. This may require the revision of policies and regulations, the establishment of clear job descriptions and competency frameworks, and the provision of ongoing support and supervision for these healthcare professionals.

For education, the findings highlight the importance of developing and implementing evidence-based and culturally-sensitive training programs for midwifery and nursing technicians, that prepare them for their roles in providing women's health services across the lifespan. This may involve the integration of women's health topics into nursing and midwifery curricula, the use of innovative teaching and learning strategies (e.g., simulation, problem-based learning), and the provision of opportunities for clinical practice and mentorship.

For research, the findings identify several gaps and priorities for future studies on midwifery and nursing technicians in Saudi Arabia, such as the evaluation of the effectiveness and cost-effectiveness of midwifery-led care models, the exploration of the experiences and perspectives of women and families on healthcare services, and the examination of the impact of training programs and interventions on healthcare quality and outcomes. Future research should also involve midwives, nursing technicians, women, and other stakeholders in the design and implementation of studies, to ensure the relevance and applicability of the findings to the local context and needs.

The review has some limitations that should be acknowledged. First, the review was limited to studies published in English language and may have missed relevant studies published in Arabic or other languages. Second, the review included studies with diverse designs, populations, and outcomes, which may limit the comparability and generalizability of the findings. Third, the review did not assess the quality of the included studies using a formal tool or checklist, which may affect the reliability and validity of the findings.

Despite these limitations, this review provides a comprehensive and up-to-date synthesis of the literature on the complementary roles of midwifery and nursing technicians in enhancing women's health services in Saudi Arabia, and offers valuable insights and recommendations for policy, practice, and research. The review also highlights the importance of collaborative and woman-centered approaches to healthcare, in which midwives, nursing technicians, and other healthcare professionals work together with women and families to promote health and well-being, and to achieve the goals of Vision 2030.

6. Conclusion

Midwifery and nursing technicians play vital roles in enhancing women's health services in Saudi Arabia, as part of the healthcare transformation under Vision 2030. This literature review explored the contributions, challenges, and opportunities of these healthcare professionals in providing comprehensive and culturally-sensitive care for women throughout their lifespan. The findings suggest that midwives and nursing technicians in Saudi Arabia have the potential to improve the quality, accessibility, and equity of women's health services, but also face various barriers and limitations in their practice, education, and research.

To optimize the roles of midwifery and nursing technicians in enhancing women's health services in Saudi Arabia, healthcare organizations, educators, and policymakers should invest in specialized training and education programs, expand the scope of practice and autonomy of these healthcare professionals, promote interprofessional collaboration and teamwork, leverage technology and digital health solutions, and involve women and families in the design and evaluation of healthcare services. Midwives and nursing technicians should also be empowered and supported to take leadership roles in providing and advocating for women's health and well-being, and to contribute to the achievement of the healthcare goals of Vision 2030.

This review also highlights the need for further research on the effectiveness, feasibility, and acceptability of midwifery and nursing technician interventions and models of care in Saudi Arabia, as well as the experiences and preferences of women and families in receiving healthcare services. Future research should involve midwives, nursing technicians, women, and other stakeholders in the design and implementation of studies, and use rigorous and culturally-appropriate methods to evaluate the outcomes and impact of these interventions and models.

In conclusion, midwifery and nursing technicians are essential partners in the healthcare transformation of Saudi Arabia under Vision 2030, and their complementary roles in enhancing women's health services are critical to

achieving the goals of improving population health, quality of life, and gender equality. By supporting and empowering midwives and nursing technicians to provide high-quality and woman-centered care, healthcare organizations, educators, and policymakers can contribute to a more effective, efficient, and equitable healthcare system in Saudi Arabia.

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