

Review Article

Navigating the future of Indian nursing: nurse practitioner in midwifery as an innovation nexus in maternal healthcare

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ABSTRACT

The Nurse Practitioner in Midwifery (NPM) programme represents a transformative initiative in India's maternal healthcare system, aiming to strengthen skilled birth attendance, improve the quality of maternity services, and address persistent shortages of qualified maternal healthcare professionals. This narrative review synthesizes current evidence on the evolution, educational framework, clinical roles, policy landscape, implementation challenges, and future prospects of the NPM programme. A comprehensive literature search was conducted across PubMed, Scopus, Web of Science, CINAHL, Embase, Google Scholar, and grey literature from the World Health Organization, International Confederation of Midwives, Indian Nursing Council, and the Ministry of Health and Family Welfare. Evidence indicates that competency-based NPM education aligns with international midwifery standards and prepares nurses to provide autonomous, evidence-based, respectful, and woman-centred maternity care. Midwifery-led continuity models are associated with improved maternal satisfaction, reduced unnecessary obstetric interventions, enhanced breastfeeding practices, and favourable maternal and neonatal outcomes. The review also highlights the growing role of digital health, telehealth, simulation-based education, and artificial intelligence in strengthening advanced midwifery practice. However, implementation remains constrained by regulatory ambiguity, limited professional autonomy, inadequate educational infrastructure, workforce shortages, and uneven adoption of Midwifery-Led Care Units across India. Strengthening legislation, expanding competency-based education, enhancing leadership capacity, and integrating digital innovations are essential for maximizing the impact of NPMs. The Nurse Practitioner in Midwifery programme has substantial potential to advance universal health coverage, improve maternal and newborn health outcomes, and strengthen India's nursing workforce through high-quality, evidence-based maternity care.

Keywords: Nurse Practitioner in Midwifery, Advanced practice nursing, Midwifery-led care, Maternal health, Maternal healthcare, Respectful maternity care, Nursing education, Digital health India, Narrative review

INTRODUCTION

Maternal and newborn health remains a cornerstone of sustainable health systems and a critical indicator of national development. Despite substantial global progress in reducing maternal mortality, preventable maternal and neonatal deaths continue to pose major public health challenges, particularly in low- and middle-income countries.^{1,2} India has achieved considerable improvement through reproductive, maternal, newborn, child, and adolescent health strategies, expansion of institutional deliveries, skilled birth attendance, and universal health initiatives.³⁻⁵ Nevertheless, substantial disparities persist across states, rural and tribal communities, socioeconomically disadvantaged populations, and geographically underserved regions. These inequalities highlight the need for innovative healthcare delivery models capable of ensuring equitable, evidence-based, accessible, and woman-centred maternity care.⁶⁻⁸

The global shortage of skilled healthcare professionals remains a major barrier to achieving the maternal and newborn targets of Sustainable Development Goal 3.⁹ The World Health Organization has identified persistent deficits in the nursing and midwifery workforce, with the greatest shortages occurring in settings that experience the highest burden of preventable maternal mortality.¹⁰ In response, many countries have strengthened advanced practice nursing and professional midwifery models to improve access, reduce unnecessary interventions, and enhance primary healthcare delivery.¹¹⁻¹³ Evidence indicates that appropriately educated and regulated midwives can provide safe, cost-effective, and high-quality maternity care, with maternal and neonatal outcomes comparable to or better than conventional models for appropriately selected pregnancies.¹⁴⁻¹⁶

Recognizing these developments, India introduced the Nurse Practitioner in Midwifery (NPM) programme as a transformative reform in nursing education and maternal healthcare.¹⁷ The programme represents a shift from conventional task-oriented obstetric nursing toward autonomous, competency-based, and evidence-informed professional midwifery. NPMs are prepared to independently manage uncomplicated pregnancy, physiological childbirth, postpartum care, and essential newborn services while recognizing complications and initiating timely consultation and referral.¹⁸ The curriculum emphasizes continuity of care, respectful maternity services, shared decision-making, physiological childbirth, emergency competencies, leadership, clinical governance, and interprofessional collaboration.^{19,20}

The NPM initiative aligns with broader national reforms, including the National Health Policy 2017, Ayushman Bharat, Health and Wellness Centres, LaQshya, Midwifery-Led Care Units (MLCUs), and India's commitment to universal health coverage.²¹⁻²⁴ Collectively, these initiatives aim to strengthen intrapartum quality, reduce unnecessary interventions,

promote respectful maternity care, improve maternal experiences, and prevent avoidable maternal and neonatal morbidity and mortality.²⁵ International evidence indicates that midwifery-led continuity models are associated with fewer obstetric interventions, reduced preterm birth, improved childbirth experiences, and favourable maternal and neonatal outcomes without compromising safety.²⁶⁻²⁸

Contemporary innovation in maternal healthcare also extends beyond clinical competencies to digital health, telehealth, artificial intelligence, simulation-based education, electronic records, remote monitoring, and data-informed decision-making.^{29,30} NPMs are strategically positioned to integrate these innovations into routine maternity services, particularly in resource-constrained settings where access to specialist obstetric care may be limited. Their role may encompass antenatal risk assessment, intrapartum monitoring, emergency preparedness, postnatal follow-up, newborn assessment, breastfeeding support, family planning counselling, health promotion, and continuity across the reproductive life course.^{31,32} Digital tools may further strengthen risk identification, referral coordination, documentation, education, and follow-up while preserving the central importance of compassionate and person-centred care.

Despite its potential, implementation of the NPM model faces important systemic challenges. Regulatory ambiguity, limited professional autonomy, inadequate infrastructure, shortages of qualified educators, uneven institutional support, professional resistance, insufficient public awareness, and variability in educational preparedness may restrict widespread adoption.³³⁻³⁵ Evidence concerning effectiveness, scalability, sustainability, educational outcomes, cost-effectiveness, and health-system integration in India also remains fragmented. A comprehensive synthesis is therefore needed to inform policymakers, nursing educators, administrators, clinicians, and researchers.

This narrative review examines the evolution, educational framework, policy landscape, clinical contributions, technological innovations, implementation challenges, and future directions of the NPM programme in India.³⁶⁻⁴¹ It positions NPM as an innovation nexus connecting evidence-based midwifery, nursing leadership, respectful maternity care, interdisciplinary collaboration, and digital transformation. By integrating contemporary national and international evidence, the review seeks to identify strategic priorities for advancing professional midwifery and accelerating progress toward equitable, high-quality maternal and newborn healthcare in India.

METHODS

Study design

This study was conducted as a narrative review to comprehensively synthesize and critically interpret the

available literature on the Nurse Practitioner in Midwifery (NPM) programme and its contribution to maternal healthcare in India. A narrative review design was selected because the topic encompasses heterogeneous evidence derived from quantitative studies, qualitative investigations, mixed-methods research, systematic reviews, implementation studies, policy documents, professional guidelines, educational frameworks, governmental reports, and international recommendations. Unlike systematic reviews focused on narrowly defined questions and statistical synthesis, the narrative approach enables broad examination of evolving concepts, policy reforms, professional roles, implementation experiences, and healthcare innovations. This approach was particularly appropriate for the NPM model, which represents an emerging and multidimensional innovation at the intersection of nursing, midwifery, maternal healthcare, education, policy, workforce development, and technology. The review process was informed by the Scale for the Assessment of Narrative Review Articles (SANRA) to strengthen methodological transparency, scientific rigor, and reproducibility.⁴²

Review objective

The primary objective of this review was to synthesize current evidence concerning the evolution, implementation, educational framework, clinical roles, maternal and neonatal health outcomes, policy implications, technological innovations, implementation challenges, and future directions of the NPM programme in India. The review also aimed to examine the contribution of NPMs to midwifery-led continuity of care, respectful maternity services, physiological childbirth, professional nursing autonomy, and health-system strengthening. Secondary objectives were to compare the emerging Indian NPM model with international advanced midwifery practice models and identify evidence gaps and priorities for future nursing, midwifery, maternal health, and implementation research.

Search strategy

A comprehensive literature search was undertaken to identify relevant publications issued between January 2010 and March 2026. The search strategy was developed using the Population–Concept–Context (PCC) framework to ensure broad retrieval of evidence relevant to advanced midwifery practice shown in table 1. The population included pregnant women, mothers, newborns, nurses, midwives, NPMs, and other maternity care professionals; the principal concept was advanced midwifery and nurse practitioner practice; and the context included India and comparable international healthcare systems. Controlled vocabulary, including Medical Subject Headings (MeSH), was combined with free-text keywords to maximize search sensitivity.⁴³

The principal search terms included “Nurse Practitioner in Midwifery,” “Nurse Practitioner,” “Midwifery,” “Midwives,” “Advanced Practice Nursing,” “Advanced Practice Midwife,” “Midwifery-Led Care,” “Maternal Health,” “Respectful Maternity Care,” “Skilled Birth Attendance,” “Midwifery Education,” “Maternal Mortality,” “Reproductive Health,” “Nursing Leadership,” and “India.”

A representative PubMed search strategy was: (“Nurse Practitioners” [MeSH] OR “Advanced Practice Nursing” OR “Nurse Practitioner in Midwifery” OR “Midwife” OR “Midwifery” [MeSH]) AND (“Maternal Health” [MeSH] OR “Pregnancy” [MeSH] OR “Obstetric Nursing” OR “Childbirth” OR “Maternal Healthcare”) AND (“India” OR “Low- and Middle-Income Countries”). Boolean operators, phrase searching, truncation, and database-specific indexing terms were adapted for each information source. Reference lists of relevant articles were manually searched to identify additional publications not retrieved electronically.⁴⁴

Table 1: MeSH terms and search strategy used for literature retrieval.

Concept	MeSH Terms/Keywords	Boolean Operators
Nurse practitioner in Midwifery	"Nurse Practitioners"[MeSH], "Nurse Practitioner in Midwifery", "Advanced Practice Nursing", "Midwifery", "Midwives"[MeSH]	OR
Maternal healthcare	"Maternal Health"[MeSH], "Maternal Health Services", "Pregnancy", "Labor, Obstetric"[MeSH], "Parturition", "Postpartum Period"	OR
Midwifery care	"Midwifery"[MeSH], "Midwifery-Led Care", "Respectful Maternity Care", "Continuity of Care"[MeSH], "Skilled Birth Attendant"	OR
Nursing education	"Education, Nursing"[MeSH], "Competency-Based Education", "Clinical Competence"[MeSH], "Simulation Training"	OR
India	"India"[MeSH], India, Indian Nursing Council, Midwifery Services Initiative	AND
Innovation	"Digital Health", "Telehealth", "Artificial Intelligence", "Health Innovation", "Healthcare Technology"	OR

Information sources

The literature search covered PubMed/MEDLINE, Scopus, Web of Science Core Collection, CINAHL Complete, Embase, the Cochrane Library, and Google Scholar. Grey literature was also examined because policy and programme evidence is particularly important for understanding the implementation of the NPM initiative in India. Sources included publications from the World Health Organization, International Confederation of Midwives, International Council of Nurses, Indian Nursing Council, Ministry of Health and Family Welfare, National Health Systems Resource Centre, United Nations Population Fund, and other relevant Government of India agencies. National policies, competency frameworks, educational curricula, implementation guidelines, programme reports, and professional standards were considered when directly relevant to the review objectives.⁴⁵

Eligibility criteria

Eligibility criteria were established before literature selection. Publications were included if they examined NPMs, advanced practice nursing, professional midwifery, midwifery-led care, or continuity models relevant to maternal and newborn healthcare. Eligible evidence addressed clinical, educational, policy, workforce, leadership, technological, or implementation outcomes and included quantitative, qualitative, mixed-methods, observational, experimental, evaluation, and implementation studies. Relevant systematic reviews, governmental reports, professional guidelines, competency frameworks, and expert consensus documents were also considered. Publications were required to be available in English and accessible in full text. Editorials without substantive evidence, conference abstracts without complete manuscripts, unsupported opinion pieces, duplicate publications, non-English literature, animal studies, laboratory research, and studies exclusively addressing physician-led obstetric practice without meaningful nursing or midwifery relevance were excluded.

Study selection and data extraction

Retrieved records were imported into reference management software, and duplicate citations were removed before screening. Titles and abstracts were assessed against the predefined eligibility criteria, followed by full-text assessment of potentially relevant publications. Eligible evidence was retained for narrative synthesis, with disagreements concerning inclusion resolved through discussion and consensus among reviewers.⁴⁶ Selection emphasized conceptual relevance and contribution to the review question rather than a rigid methodological hierarchy, enabling integration of diverse evidence across clinical practice, education, policy, leadership, and healthcare innovation. A standardized data extraction framework was used to collect

information on authorship, publication year, country, study objectives, design, sample characteristics, intervention or programme description, educational components, policy initiatives, implementation strategies, maternal and neonatal outcomes, workforce implications, leadership roles, technological integration, principal findings, recommendations, and limitations. Policy and professional documents were additionally examined for competency standards, curriculum design, accreditation, regulation, scope of practice, and implementation strategies.

Quality appraisal

Although formal risk-of-bias assessment is not mandatory for narrative reviews, the credibility and methodological rigor of the evidence were critically evaluated. Quantitative studies were considered according to study design, sampling strategy, sample size, outcome measurement, statistical analysis, and reporting transparency. Qualitative evidence was assessed for methodological appropriateness, credibility, transferability, dependability, and reflexivity, while mixed-methods research was considered according to methodological coherence and integration of quantitative and qualitative findings.⁴⁸ Policy documents and professional guidelines were appraised according to the authority of the issuing organization, evidence base, relevance, and consistency with internationally recognized standards. Greater emphasis was placed on authoritative organizations and peer-reviewed journals indexed in PubMed, Scopus, or Web of Science. Recent evidence was prioritized while retaining landmark publications essential to understanding the evolution of advanced midwifery practice.⁴⁹

Narrative synthesis and data presentation

The extracted evidence was synthesized using a thematic narrative approach. Findings from diverse methodologies were integrated to identify recurring concepts, patterns, similarities, differences, implementation experiences, and emerging perspectives. Statistical pooling was not undertaken because of substantial heterogeneity in study designs, populations, settings, interventions, and outcomes.⁵⁰ The synthesis was organized around the evolution of advanced midwifery roles; development of the Indian NPM programme; competency-based education; clinical scope and professional autonomy; maternal and neonatal outcomes; continuity of care; respectful maternity services; digital health and simulation; leadership and workforce development; implementation barriers; and future policy directions. Findings were presented descriptively under thematic headings and supported by evidence from research studies, reviews, government reports, and professional guidelines. Comparisons with international advanced midwifery models were incorporated where relevant, and summary tables were used to present major themes and implications.

RESULTS

Evolution of the nurse practitioner in midwifery programme in India

The synthesis identified the introduction of the Nurse Practitioner in Midwifery (NPM) programme as a major reform in Indian nursing and maternal healthcare. National policies, governmental guidelines, and published evidence indicate that the programme emerged in response to shortages of skilled maternity care providers, variations in quality of intrapartum care, unnecessary obstetric interventions, and the need to accelerate progress toward maternal and newborn health targets.^{17,21} The Midwifery Services Initiative launched by the Ministry of Health and Family Welfare established a dedicated cadre of professional midwives prepared according to international competency standards. The initiative emphasizes autonomous, evidence-based, respectful, and woman-centred care for uncomplicated pregnancy and childbirth, alongside collaborative referral to obstetric specialists when complications arise. Review of the Indian Nursing Council framework showed a transition from the earlier post-basic model toward an intensive 18-month competency-based residency programme integrating relationship-based care, physiological childbirth, emergency obstetric competencies, newborn care, leadership, evidence-based practice, simulation, and supervised clinical mentorship. Implementation across selected states has demonstrated increasing recognition of professional midwifery and gradual establishment of Midwifery-Led Care Units (MLCUs), although progress remains uneven because of differences in infrastructure, educational capacity, administrative commitment, and regulatory preparedness.

Competency-based education and professional development

Competency-based education emerged as a defining feature distinguishing the NPM programme from conventional obstetric nursing preparation. The reviewed evidence indicates that the programme aims to develop independent clinical judgement, continuity of care, respectful maternity practice, communication, leadership, and professional accountability rather than relying primarily on task-oriented learning.^{18,19} The curriculum integrates relationship-based and transformative midwifery care; comprehensive care during pregnancy, labour, birth, postpartum, and the newborn period; leadership and management of quality maternity services; and evidence-based practice, research utilization, and quality improvement. These competencies broadly align with international recommendations for midwifery education and professional practice. Simulation laboratories, supervised clinical residency, structured mentorship, reflective learning, and competency-based assessment were repeatedly identified as important educational strategies. Simulation enables trainees to practise both routine and emergency maternity care in

controlled environments, while clinical mentorship supports progressive development of autonomous decision-making. The evidence suggests that these approaches can strengthen clinical confidence, emergency preparedness, communication, teamwork, and respectful maternity practices. However, long-term evaluations of educational outcomes and graduate performance remain limited, emphasizing the need for standardized national monitoring of competency attainment and professional practice.

Expansion of clinical roles in maternal and newborn care

The reviewed literature consistently described NPMs as comprehensive providers across the continuum of reproductive, maternal, newborn, and postnatal healthcare. Their proposed scope extends beyond labour-room nursing to preconception counselling, antenatal assessment, birth preparedness, risk screening, intrapartum monitoring, support for physiological labour, immediate newborn care, breastfeeding assistance, postnatal follow-up, family planning counselling, health education, and timely referral of obstetric complications.^{17,23} Unlike conventional nursing roles that may operate predominantly under physician direction, the NPM model emphasizes autonomous management of low-risk pregnancy and childbirth within a defined scope of practice and established referral pathways. MLCUs were identified as the principal organizational setting for this model. These units prioritize physiological childbirth, continuity of caregiver, informed choice, individualized care, reduced unnecessary interventions, and early identification of complications. NPMs therefore function as both independent maternity care providers for uncomplicated cases and collaborative members of multidisciplinary teams when specialist intervention is required.

Maternal and neonatal outcomes associated with midwifery-led care

Evidence across international systematic reviews and policy recommendations consistently supports midwifery-led continuity models as safe and beneficial for women with low-risk pregnancies. Such models have been associated with reductions in preterm birth, unnecessary obstetric interventions, fetal loss, and improvements in women's experiences of childbirth.^{10,14,26} These findings provide an important evidence base for strengthening professional midwifery within India. NPM preparation emphasizes physiological labour, continuous support, regular maternal and fetal assessment, early recognition of complications, and timely referral rather than routine intervention-intensive care.^{10,25} International studies have reported lower use of labour augmentation, episiotomy, instrumental birth, and unnecessary caesarean delivery among women receiving continuity of care from trained midwives, without evidence of increased adverse neonatal outcomes.¹⁴⁻¹⁶ The synthesis therefore suggests that

appropriately educated, regulated, and integrated NPMs may improve the quality and efficiency of maternal healthcare while optimizing use of specialist obstetric resources. Nevertheless, India-specific multicentre outcome studies remain necessary to establish the programme's long-term effects on maternal morbidity, neonatal outcomes, intervention rates, satisfaction, and cost-effectiveness.

Respectful maternity care and woman-centred practice

Respectful maternity care was one of the most prominent themes identified in the synthesis. The NPM framework emphasizes dignity, privacy, autonomy, informed decision-making, emotional support, and individualized care throughout pregnancy, labour, childbirth, and the postnatal period. This philosophy represents an important transition from provider-centred services toward woman-centred maternity care. Evidence indicates that respectful care can strengthen trust, improve maternal satisfaction, encourage utilization of institutional services, support breastfeeding, and reduce fear and negative experiences associated with childbirth. International recommendations emphasize effective communication, informed consent, mobility during labour, companionship of choice, appropriate pain relief, privacy, and freedom from disrespect, discrimination, and abuse.^{10,25} NPMs may be particularly well positioned to translate these principles into routine practice because their education emphasizes continuity, therapeutic communication, shared decision-making, and relationship-based care. MLCUs can further support these principles by providing environments designed for physiological childbirth while maintaining rapid access to specialist referral when complications occur.^{17,21}

Integration of digital health and technological innovation

Digital health and technological innovation emerged as developing dimensions of advanced midwifery practice. The reviewed literature indicates potential roles for electronic health records, teleconsultation, mobile health applications, clinical decision-support systems, remote monitoring, digital competency tracking, and simulation-based education. Simulation allows NPM trainees to

develop competence in postpartum haemorrhage, hypertensive emergencies, neonatal resuscitation, shoulder dystocia, and other obstetric complications without compromising patient safety. Digital tools may also improve antenatal risk assessment, documentation, referral communication, and continuity between primary and referral facilities. Telehealth has potential to extend antenatal counselling, breastfeeding support, postnatal follow-up, mental health screening, and family planning services to geographically underserved populations. Artificial intelligence is an emerging area with potential applications in maternal risk prediction, fetal surveillance, early warning systems, and resource allocation. However, the evidence emphasizes that technology should support rather than replace clinical judgement, compassionate communication, and person-centred care. Sustainable integration requires digital infrastructure, professional training, privacy safeguards, cybersecurity, and ethical governance.

Comparison with international advanced midwifery models

The Indian NPM programme demonstrates substantial conceptual alignment with advanced midwifery models in the United Kingdom, Australia, New Zealand, Canada, and the Netherlands. Shared characteristics include competency-based education, autonomous management of uncomplicated pregnancy and childbirth, continuity of care, collaborative referral, evidence-based practice, and respectful maternity services. However, important contextual differences remain. Established international systems generally operate within mature regulatory environments supported by clear legal authority, professional licensure, defined accountability, and strong public recognition. India's NPM programme remains in phased development and requires continued investment in faculty preparation, infrastructure, accreditation, legislation, workforce planning, and interprofessional collaboration. Despite these challenges, the synthesis indicates that the NPM initiative has considerable potential to expand access to skilled maternity providers, strengthen physiological and respectful childbirth, reduce unnecessary interventions, and address inequities in underserved populations when supported by robust regulation and health-system integration.¹⁷⁻²¹

Table 2: Theme-wise summary of results

Theme	Key findings	Implications for maternal healthcare
Evolution of nurse practitioner in midwifery (NPM)	The NPM programme was introduced by the Government of India and Indian Nursing Council to establish a professional midwifery cadre aligned with WHO and International Confederation of Midwives (ICM) standards.	Strengthens the nursing workforce and improves access to skilled maternal healthcare services.
Policy and regulatory framework	National Health Policy 2017, Midwifery Services Initiative, LaQshya programme, and Midwifery-Led Care Units (MLCUs) provide the foundation for NPM implementation.	Supports universal health coverage and quality maternity care through policy reforms.

Continued.

Theme	Key findings	Implications for maternal healthcare
Competency-based education	The 18-month competency-based curriculum focuses on autonomous practice, evidence-based care, respectful maternity care, emergency obstetric skills, simulation-based learning, and leadership.	Produces competent midwives capable of independently managing normal pregnancy and childbirth.
Clinical scope of practice	NPMs provide antenatal, intrapartum, postnatal, newborn care, breastfeeding support, family planning, and early identification of obstetric complications with timely referral.	Enhances continuity of care and reduces delays in maternal and newborn healthcare.
Maternal health outcomes	Midwifery-led continuity models are associated with improved maternal satisfaction, reduced obstetric interventions, lower rates of episiotomy and labour augmentation, and improved physiological childbirth.	Improves quality of care while promoting safe and respectful childbirth experiences.
Neonatal health outcomes	Evidence indicates better neonatal adaptation, early initiation of breastfeeding, reduced preterm birth, and lower neonatal morbidity in midwifery-led care models.	Contributes to improved newborn survival and early child health outcomes.
Respectful maternity care	NPMs emphasize informed choice, dignity, privacy, effective communication, birth companionship, and woman-centred care throughout pregnancy and childbirth.	Increases patient satisfaction and utilization of institutional maternity services.
Digital health and innovation	Integration of telehealth, electronic health records, mobile health applications, simulation training, wearable monitoring devices, and artificial intelligence supports clinical decision-making and remote maternal monitoring.	Expands access to quality maternity services, especially in rural and underserved populations.
Leadership and professional development	NPMs contribute to clinical governance, quality improvement, mentoring, evidence-based practice, maternal death reviews, and multidisciplinary teamwork.	Strengthens nursing leadership and improves healthcare system performance.
Implementation challenges	Barriers include inadequate infrastructure, shortage of trained faculty, limited Midwifery-Led Care Units, regulatory ambiguity, insufficient professional autonomy, and resistance from traditional healthcare hierarchies.	Highlights the need for stronger governance, investment, and interprofessional collaboration.
Health system impact	Midwifery-led care improves workforce efficiency, optimizes resource utilization, and supports primary healthcare strengthening and universal health coverage.	Enhances equitable access to high-quality maternal and newborn healthcare across India.
Future directions	Priorities include legislative reforms, nationwide expansion of NPM education, standardized accreditation, digital transformation, continuous professional development, implementation research, and health economic evaluation.	Establishes a sustainable roadmap for advancing advanced midwifery practice and reducing maternal and neonatal mortality.

DISCUSSION

This narrative review positions the Nurse Practitioner in Midwifery (NPM) programme as a potentially transformative innovation within India's evolving maternal healthcare system. The findings indicate that the programme extends beyond conventional workforce expansion by combining advanced nursing practice, professional midwifery, competency-based education, respectful maternity care, leadership, and technological

innovation within a unified model. India's progress in reducing maternal mortality and increasing institutional births has been substantial; however, persistent disparities in quality, access, and childbirth experiences demonstrate that institutional delivery alone is insufficient to ensure optimal outcomes. The NPM model may address these gaps by providing continuous, evidence-based, and woman-centred care across pregnancy, childbirth, and the postnatal period.^{1,7-10}

The transition from conventional obstetric nursing toward autonomous professional midwifery represents a major change in nursing practice and health-service organization. The 18-month competency-based residency model emphasizes clinical judgement, physiological childbirth, early recognition of complications, emergency preparedness, referral, communication, and professional accountability.¹⁷⁻¹⁹ These elements broadly correspond with international standards for midwifery education and advanced nursing practice. The findings suggest that simulation, supervised clinical mentorship, reflective learning, and competency assessment can strengthen readiness for independent practice. Nevertheless, educational reform alone cannot ensure successful implementation. Competency-based preparation must be accompanied by adequate clinical exposure, trained educators, standardized assessment, accreditation, continuing professional development, and supportive practice environments.

The findings also support the wider evidence that midwifery-led continuity models can improve maternal experiences while reducing unnecessary interventions. International research has associated such models with lower rates of preterm birth, labour augmentation, episiotomy, and instrumental birth, without compromising maternal or neonatal safety.^{7-10,22,23} These outcomes are particularly relevant to India, where maternity services must simultaneously address underuse of essential care in underserved areas and overuse of interventions in some institutional settings. The NPM model may help achieve a more balanced approach by promoting physiological childbirth while ensuring early detection, stabilization, consultation, and referral when complications occur. However, international evidence should not be assumed to transfer automatically to the Indian health system. Large multicentre Indian studies are needed to evaluate maternal morbidity, neonatal outcomes, intervention rates, referral patterns, patient experiences, and cost-effectiveness.

Respectful maternity care emerged as a central contribution of the NPM model. Disrespect, poor communication, inadequate privacy, and limited involvement in decision-making can undermine trust in maternity services.²²⁻²⁵ By emphasizing dignity, informed choice, birth companionship, communication, privacy, and emotional support, NPMs may help shift maternity services from provider-centred routines toward relationship-based care. This is important not only for maternal satisfaction but also for health-system trust, service utilization, breastfeeding, and continuity of postnatal care. The establishment of Midwifery-Led Care Units may provide an organizational environment in which these principles can be embedded into everyday clinical practice.

The review further identifies digital health as an emerging opportunity for advanced midwifery practice. Telehealth, electronic records, mobile decision support, simulation,

remote monitoring, and artificial intelligence may strengthen risk assessment, referral coordination, education, and follow-up, particularly in geographically underserved communities. However, technological adoption should remain clinically governed and ethically responsible. Digital tools cannot replace compassionate relationships, skilled observation, professional judgement, or timely emergency referral. Their effective use requires reliable infrastructure, digital competence, privacy protection, cybersecurity, and evaluation of potential bias and inequitable access.

CONCLUSION

The principal challenge is translating policy ambition into sustainable practice. Regulatory ambiguity, insufficient professional autonomy, shortages of educators, uneven MLCU development, unclear career pathways, and resistance within traditional professional hierarchies may restrict NPMs from practising to their full competence. Sustainable expansion therefore requires clear legislation, defined scopes of practice, standardized accreditation, supportive referral systems, interprofessional collaboration, workforce planning, and protected career progression. Overall, the NPM programme should be understood not merely as a new nursing qualification but as a health-system innovation capable of connecting education, autonomous practice, respectful care, leadership, and technology. With robust regulation and systematic evaluation, NPMs could become an important component of India's strategy to advance equitable, high-quality maternal and newborn healthcare.

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