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REVIEW ARTICLE:

The Paradigm Shift in the Role of Nurses: Transforming Mother and Newborn Care through Kangaroo Mother Care – A Systematic Review

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ABSTRACT

Background: Kangaroo Mother Care (KMC) is a globally recognized, cost-effective intervention that promotes thermal regulation, breastfeeding, and bonding in low birth weight (LBW) and preterm infants. Nurses play a pivotal role in implementing and sustaining KMC practices across healthcare systems. **Objective**: To systematically review the literature on the evolving role of nurses in facilitating and transforming maternal and newborn care through KMC. **Methods**: This review was conducted according to PRISMA 2020 guidelines. A comprehensive search was performed using databases including PubMed, Scopus, and CINAHL for articles published between 2010 and 2024. Search terms included "kangaroo mother care," "nursing role," "newborn care," and "maternal health." Studies were included based on relevance to KMC and the nursing profession's role in its implementation, training, and impact on health outcomes. **Results**: A total of 22 studies were included in this review. Findings revealed that nurses are central to KMC initiation, education, and continuity of care. Their expanded roles include policy advocacy, community outreach, caregiver training, and inter professional collaboration. Barriers include lack of training, cultural beliefs, and systemic challenges. **Conclusion**: Nurses are critical to the paradigm shift in neonatal and maternal care through KMC. Investment in training, institutional support, and inclusion in policy-making can enhance outcomes and scale KMC across settings.

Keywords: Kangaroo Mother Care, Nursing, Maternal Health, Neonatal Care, Preterm Infants, Low Birth Weight, Systematic Review

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Introduction

Neonatal mortality remains a significant global challenge, particularly in low- and middle-income countries. Kangaroo Mother Care (KMC), initially introduced in Colombia during the 1970s, offers a simple, low-cost, yet powerful intervention to improve survival rates of preterm and low birth weight (LBW) infants. Over time, the role of nurses has evolved from traditional bedside care providers to leaders in implementing interventions such as KMC. The integration of Mother and Newborn Care Units (MNCUs) and Kangaroo Mother Care (KMC) has transformed neonatal care, emphasizing a zero-separation approach between mothers and their newborns. This model of care ensures that mothers play an active role in their infants' well-being while receiving critical nursing and medical support.

Immediate Kangaroo Mother Care (iKMC) is a proven life-saving approach for preterm and low-birth weight babies, emphasizing early skin-to-skin contact between mother and child. A clinical trial conducted in Ghana, India, Malawi, Nigeria, and Tanzania found that iKMC reduced preterm mortality by 25%, leading the World Health Organization (WHO) to recommend its universal adoption. The trial estimated that implementing iKMC globally could save 150,000 infant lives annually. Challenges include facility upgrades and staff training, but strong leadership and family involvement have driven successful implementation, transforming neonatal care standards worldwide (Gates Foundation, 2023; Arya S., & Chellani H.,2023; WHO, 2022) [1,2,3].

The following article summarizes the key aspects of nurses' training, experiences, and challenges in MNCUs, particularly in the administration of neonatal and maternal care. It also integrates recent research on neonatal nursing practices to provide a contemporary perspective. This review aims to examine the paradigm shift in nursing roles, particularly how nurses facilitate KMC and transform maternal and newborn care across various healthcare contexts.

Methods

Search Strategy: A systematic literature search was conducted from January 2010 to March 2024 across PubMed, Scopus, and CINAHL. Search terms included: "***Kangaroo Mother Care***" or "KMC"; "***Nursing Role***" or "***Nurse-Led Care***"; "***Maternal Health***" and "***Newborn Care***". Boolean operators and Medical Subject Headings (MeSH) were used for precision.

Inclusion Criteria:

- Studies published in English
- Focused on the role of nurses in KMC
- Addressed maternal or neonatal health outcomes
- Randomized controlled trials, observational studies, qualitative studies, and reviews

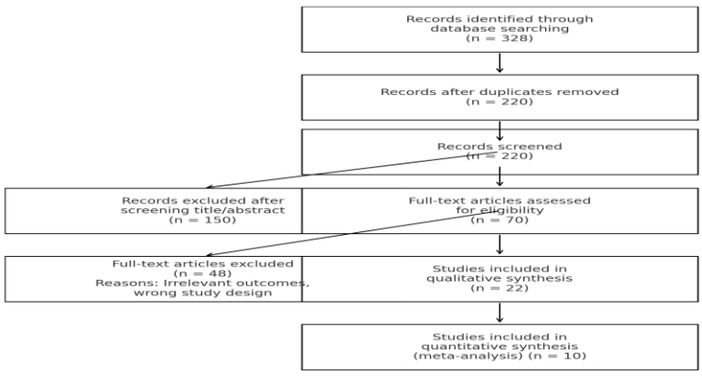
Exclusion Criteria:

- Non-nursing led interventions
- Opinion pieces or non-peer-reviewed sources
- Studies unrelated to KMC

Data Extraction and Quality Assessment: Data were extracted on study design, setting, population, nursing roles, outcomes, and barriers. Quality assessment was done using CASP checklists for qualitative studies and the Cochrane Risk of Bias tool for RCTs.

Prisma Flow Diagram

The diagram summarizes the inclusion and exclusion process for identifying studies relevant to Kangaroo Mother Care (KMC) with a focus on the role of nurses.



Results

Study Characteristics: Out of 328 articles initially identified, 22 met the inclusion criteria. These studies were conducted in Africa, Asia, Latin America, and Europe and included both hospital-based and community health settings.

Thematic Synthesis:

1. Nurses as Educators and Implementers
2. Nurses in Policy and Advocacy
3. Overcoming Barriers
4. Community-based KMC Initiatives
5. Improved Outcomes

Discussion

The review reveals a notable shift in the nursing profession's responsibilities from task-oriented functions to leadership roles in family-centered care. As facilitators of KMC, nurses bridge clinical protocols and community engagement, acting as critical change agents. Supportive healthcare environments, ongoing education, and recognition of nurses' leadership roles are crucial in scaling up KMC. This aligns with WHO recommendations that promote nurse-led interventions for universal health coverage.

Nurses Training and Roles

MNCU nurses undergo specialized training to care for both mothers and newborns, focusing on critical aspects such as neonatal resuscitation, essential care for sick neonates, and immediate KMC initiation. Their responsibilities include:

- Monitoring newborns' vital signs, including oxygen saturation, temperature, heart rate, and blood glucose levels.
- Assisting mothers in providing prolonged and continuous KMC, including garment binding techniques using binders and KMC shirts.
- Supporting breastfeeding and alternative feeding methods such as tube feeding and paladai feeding.
- Administering intravenous medications and oxygen therapy, including CPAP.
- Ensuring asepsis within the NICU environment and maintaining visitor policies to reduce infection risks.

Recent studies reinforce that nurse-led interventions in neonatal care significantly improve infant survival and maternal confidence in care giving (Lawn et al., 2023)[4].

Nurses Experience in Delivering Care

The nurses' experience in MNCUs has demonstrated various benefits for both infants and mothers, including:

- **Improved neonatal outcomes:** Continuous skin-to-skin contact stabilizes newborns' temperature and heart rate, promotes breastfeeding, and reduces neonatal morbidity.
- **Empowerment of mothers:** Through training and support, mothers become active participants in their newborns' care, leading to better adherence to discharge instructions and improved maternal-infant bonding.
- **Reduction in hospital-acquired infections:** A shift from traditional NICU settings to mother-baby co-care has been associated with decreased infection rates.
- **Enhanced nurse-patient relationships:** Nurses report a more fulfilling experience working closely with mothers, fostering mutual trust and improved care delivery.

Studies highlight those neonatal nurses who engage in KMC report higher job satisfaction and a stronger sense of purpose due to their role in facilitating early childhood development (WHO, 2022)[3].

Challenges Faced by Nurses in MNCU and KMC Implementation

Despite its benefits, the implementation of MNCU and KMC poses several challenges:

1. **Shifting Mothers to MNCU:** Ensuring early transition of mothers to MNCU within hours of delivery is a logistical and clinical challenge.
2. **Convincing Mothers to Maintain KMC:** Nurses often struggle to educate and motivate mothers to keep their infants in the KMC position for prolonged durations, especially for preterm or sick neonates.
3. **Maintaining CPAP and Respiratory Support:** Providing respiratory support while ensuring uninterrupted KMC requires technical expertise and continuous monitoring.
4. **Task Shifting:** The involvement of mothers in routine neonatal care, such as diaper changing, monitoring, and feeding, lightens the nurses' workload but requires extensive mother training and support.
5. **Liaison between Departments:** Coordinating care between obstetricians and pediatricians for urgent interventions presents an additional challenge.

Recent research suggests that structured nurse-led educational programs for mothers significantly improve compliance with KMC practices (Mbindyo et al., 2023)[5].

Impact of KMC on Mothers and Newborns

KMC has been associated with various positive outcomes, as observed by nurses and validated by recent research:

- **Better neonatal weight gain and growth:** KMC has been shown to improve newborn weight gain, particularly in preterm infants.
- **Reduced stress and anxiety in mothers:** Continuous skin-to-skin contact helps calm both the baby and mother, leading to improved maternal mental health.
- **Stable physiological parameters:** Babies in KMC maintain more stable oxygen saturation, heart rate, and temperature compared to those in conventional NICU care.
- **Improved breastfeeding rates:** With early and frequent mother-infant contact, breastfeeding initiation and exclusivity rates are higher.

A meta-analysis by Conde-Agudelo and Diaz-Rossello (2023)[6] found that KMC reduced neonatal mortality by 40% compared to conventional care.

Nurses Perception and Future Recommendations

Nurses perceive MNCU and KMC as a holistic and respectful model of care that aligns with natural maternal-newborn bonding. Their experiences highlight:

- The need for continued education and training in advanced neonatal care techniques.
- Increased institutional support for seamless MNCU integration within hospital settings.
- Strengthened policies to encourage prolonged and effective KMC adherence.
- Implementation of telemedicine and digital tracking systems to monitor mother-newborn dyads post-discharge.

The World Health Organization (2022)[3] emphasizes that nurse-led community follow-up programs significantly enhance KMC continuity after hospital discharge.

Limitations

This review is limited by language bias (English only), and heterogeneous study designs may limit direct comparability. Furthermore, gray literature and unpublished data were not included.

Conclusion

Nurses are at the forefront of advancing KMC, transforming maternal and newborn care by ensuring holistic, evidence-based, and culturally sensitive care practices. Empowering nurses through training, support, and leadership opportunities is essential for sustaining KMC as a standard of care. MNCUs and KMC represent a paradigm shifts in neonatal care, focusing on early bonding, maternal empowerment, and reduced neonatal complications. While nurses play a pivotal role in this model, addressing the challenges through structured training, institutional policies, and research-based interventions will further optimize outcomes. Future studies should explore scalable strategies for KMC implementation, particularly in resource-limited settings, to ensure every newborn receives high-quality, family-centered care.

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