

Cradle with Care – Building Safer Futures for Newborns: A Quality Improvement Initiative to Enhance Maternal Confidence and Reduce Lactation-Related Readmissions

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Abstract: Breastfeeding difficulties and low maternal confidence are major contributors to postnatal readmissions and high referrals to Lactation Management Centres (LMCs). These place avoidable strain on healthcare services. The structured, interactive antenatal education may enhance maternal preparedness, improve breastfeeding outcomes, and reduce postnatal healthcare burden.

The project objective was to evaluate the effectiveness of a multidisciplinary, interactive antenatal education program in improving maternal knowledge, confidence, and newborn care outcomes, while reducing lactation-related referrals and readmissions.

This quality improvement project was conducted at District General Hospital Nawalapitiya from April–July 2025, targeting mothers ≥ 36 weeks' gestation. Exclusions included mothers < 36 weeks, emergency admissions, and conditions requiring continuous monitoring. Interactive sessions were delivered by a multidisciplinary team, including medical officers, midwives, nursing officers from the LMC, and Quality Management Unit staff. Pre and post-session questionnaires assessed maternal knowledge and confidence, and monthly referral and readmission data were compared between pre- (Jan–Mar) and post-intervention (Apr–Jul) periods.

LMC referrals decreased from 54–70% pre-intervention to 35–49% post-intervention. Lactation-related readmissions dropped from 10 per month pre-intervention to 3–4 per month post-intervention (~60% reduction). Maternal knowledge and confidence improved significantly, and staff reported smoother postnatal workflow and enhanced maternal engagement.

Early, interactive, multidisciplinary antenatal education strengthens maternal confidence, improves breastfeeding outcomes, and reduces postnatal healthcare utilization. The Cradle with Care model provides a scalable framework for improving maternal-newborn care in hospital and community settings.

Keywords: Breastfeeding, Antenatal Education, Quality Improvement, Maternal Confidence, Lactation Management, Postnatal Readmissions.

1. INTRODUCTION

Breastfeeding is the gold standard for neonatal nutrition, offering optimal growth, immunological protection, and promotion of maternal-infant bonding [1,2,3]. Early initiation within the first hour of birth and exclusive breastfeeding for the first six months are recommended by the WHO and UNICEF to improve neonatal outcomes and reduce morbidity [1,4]

However, many mothers experience challenges that impede breastfeeding success, including poor latch, delayed lactogenesis, anxiety, and limited practical preparation [5]. Cultural myths and misinformation can further exacerbate these challenges [6].

At District General Hospital Nawalapitiya, routine postnatal support was insufficient, as reflected by persistently high referral rates to Lactation Management Centres (LMCs) and lactation-related readmissions. Informal interviews with mothers revealed common concerns: inadequate milk supply, fear of neonatal underfeeding, and low confidence in practical breastfeeding skills. Similar patterns have been observed globally, where inadequate antenatal education contributes to increased healthcare utilisation [7].

Staff feedback highlighted repeated urgent consultations, increased workload, and strain on postnatal care processes.

These observations underscored the need for a proactive, structured antenatal intervention to enhance maternal confidence, address myths, and reduce postnatal complications [8,9]. The Cradle with Care initiative was designed to deliver interactive, multidisciplinary antenatal education, promoting maternal self-efficacy and safer newborn care practices.

2. OBJECTIVES

The objectives of the project were:

To deliver interactive antenatal education to improve maternal knowledge and preparedness for breastfeeding.

To address prevalent myths and reduce maternal antenatal anxiety.

To reduce lactation-related referrals to the LMC and postnatal readmissions.

To evaluate the effectiveness of a multidisciplinary, preventive intervention in improving maternal confidence, newborn care outcomes, and postnatal service efficiency.

Methods

3. METHODOLOGY

Study Design

A pre-post quality improvement project was conducted over four months (April–July 2025), with baseline data collected from January to March 2025 [10].

Participants

- Inclusion Criteria:

Mothers admitted at ≥ 36 weeks' gestation for routine antenatal care or clinical monitoring (e.g., abnormal Doppler studies or biophysical scoring).

- Exclusion Criteria:

Mothers < 36 weeks' gestation.

Emergency admissions.

Mothers with conditions requiring continuous monitoring or intensive care.

Intervention

The Cradle with Care program comprised structured, interactive antenatal education sessions delivered by a multidisciplinary team, including:

Medical officers from the Quality Management and Planning Units

Nursing officers from the Quality Management Unit

Midwives from the maternity wards

Nursing officers from the Lactation Management Centre (LMC)

Key Features:

- Interactive Learning: Hands-on demonstrations using teaching dolls, visual aids, flip charts, and take-home printed materials.
- Comprehensive Curriculum: Breastfeeding techniques, maternal nutrition, first-response management of milk aspiration, essential newborn care (bathing, diapering), maternal wellbeing, and bonding promotion.
- Anxiety Reduction and Myth Dispelling: Evidence-based guidance addressed common misconceptions and reduced maternal stress.
- Small-Group Format: Groups of 5–8 mothers encouraged active participation and personalized feedback.
- Practical Skills Reinforcement: Sessions allowed mothers to practice and troubleshoot techniques prior to delivery.
- Sessions lasted 60–90 minutes, complementing standard lecture-based antenatal education programs by emphasizing hands-on, experiential learning.

Data Collection

Maternal Knowledge and Confidence: Pre- and post-session questionnaires were assessed to understand the breastfeeding, newborn care, and maternal self-efficacy.

Follow up survey was conducted in July 2025 to assess knowledge retention and satisfaction.

Healthcare Utilization: Monthly LMC referral and lactation-related readmission rates were collected from hospital records (Jan–Jul 2025).

Staff Feedback: Qualitative thematic analysis of perceptions regarding workflow efficiency, maternal engagement, and program impact.

Statistical Analysis:

Descriptive statistics for LMC referral and readmission rates.

Pre- and post-intervention questionnaire comparisons for knowledge and confidence.

Qualitative synthesis of staff feedback.

4. RESULTS

Maternal Demographics

- A total of 211 mothers participated during the intervention period.
- Mean maternal age: 28 ± 4.5 years
- Parity: 1–3
- Prior breastfeeding experience: 60%

Maternal Knowledge and Confidence

Pre-session assessments indicated low maternal confidence in latch, expressing milk, and recognizing signs of neonatal feeding difficulty. Post-session questionnaires revealed:

Correct latch technique: improved from 45% to 90%

Confidence managing breastfeeding challenges: 42% → 85%

Ability to identify insufficient intake: 38% → 80%

Knowledge of safe milk storage: 50% → 88%

Reduced anxiety levels: 35% → 82%

Table 1 Number of referrals to the Lactation Management Centre before the project

Month	Number of referrals
January	98
February	92
March	105

Table 2 Number of referrals to the Lactation Management Centre before the project

Month	Number of referrals
April	78
May	63
June	52

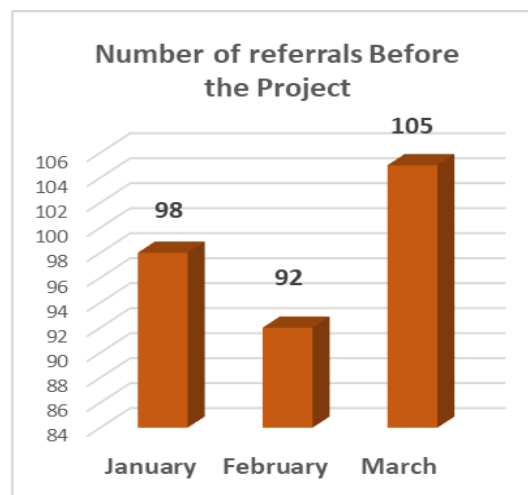


Figure 1 Number of referrals to the Lactation Management Centre before the project

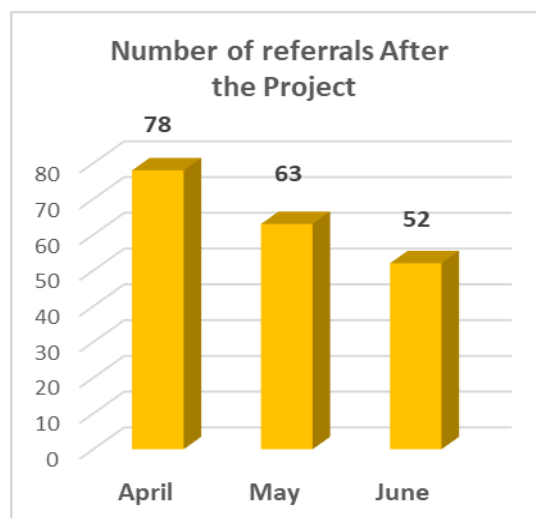


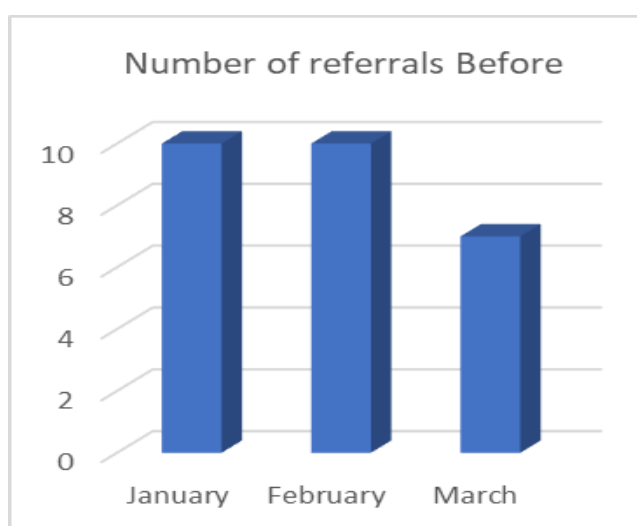
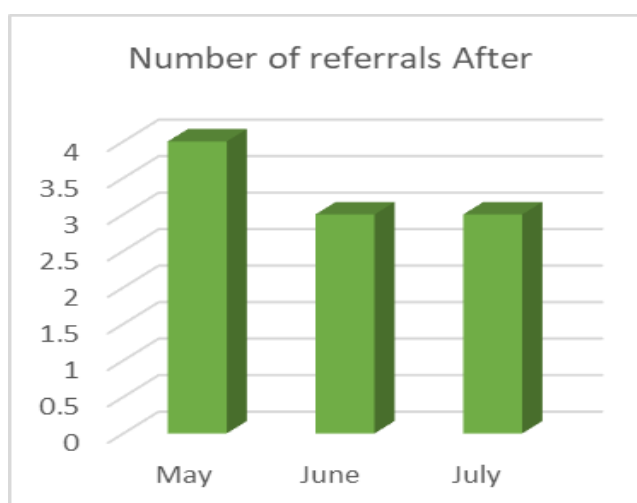
Figure 2 Number of referrals to the Lactation Management Centre after the project

Table 3 Number of readmissions before the project

Month	Number of referrals
January	10
February	10
March	07

Table 4 Number of readmissions before the project

Month	Number of referrals
May	4
June	3
July	3

**Figure 3 Number of readmissions before the project****Figure 4 Number of readmissions before the project**

These improvements align with studies demonstrating that antenatal education enhances maternal self-efficacy and breastfeeding success [6,8].

Staff Feedback

Staff reported:

- Smoother postnatal workflow with fewer urgent consultations
- Higher maternal engagement during postnatal rounds
- Increased maternal confidence reduced repeated LMC consultations
- Positive interdepartmental collaboration
- Interactive format more effective than lecture-only antenatal programs

These findings are consistent with quality improvement literature highlighting system level benefits of preventive interventions [11].

5. DISCUSSION

This study demonstrates that interactive, multidisciplinary antenatal education improves maternal confidence, reduces LMC referrals and readmissions, and enhances staff workflow. Key success factors included:

Multidisciplinary Collaboration: Medical officers, midwives, and LMC nursing officers provided comprehensive, practical guidance. **Interactive Learning:** Hands-on demonstrations reinforced skill acquisition better than lecture-based sessions alone [9]. **Anxiety Reduction:** Dispelling myths and providing anticipatory guidance reduced maternal stress [5]. **Early Intervention:** Antenatal preparation allowed immediate postnatal application, lowering readmissions [12,13,14]. **System-Level Benefits:** Reduced postnatal consultations and referrals eased staff workload and improved care efficiency [2,7].

6. LIMITATIONS

- Single-site design limits generalizability
- Short-term follow-up: long-term breastfeeding outcomes not assessed
- Reliance on self-reported maternal confidence may introduce reporting bias
- Resource-intensive sessions may challenge scalability in low-resource settings

7. CONCLUSION

Cradle with Care demonstrates that interactive, multidisciplinary antenatal education strengthens maternal confidence, reduces lactation-related referrals and readmissions, and improves postnatal workflow. Addressing myths, anxiety, and practical skills prior to delivery promotes maternal self-efficacy, neonatal safety, and sustainable postnatal care improvements.

This model is scalable and replicable, offering a framework for maternity units seeking to enhance maternal-newborn outcomes and postnatal service efficiency.

8. KEY MESSAGES

Interactive antenatal education empowers mothers and strengthens breastfeeding confidence.

Multidisciplinary collaboration ensures comprehensive guidance and skill transfer.

Preventive interventions reduce postnatal healthcare utilization and staff workload.

Cradle with Care provides a replicable model for improving maternal-newborn outcomes in hospital and community settings.

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