Promoting correct positioning and attachment in breastfeeding infants born by section cesarean in the La Fe Hospital in Spain: a best-practice implementation project

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ABSTRACT

Aim: The aim of this project was to assess compliance with evidence-based criteria that set out effective techniques for ensuring correct positioning and attachment in breastfeeding infants delivered by cesarean section in the La Fe University and Polytechnical Hospital of Valencia, Spain.

Methods: The current clinical pre/post audit was conducted in a convenience sample with no control group. First, five audit criteria from the JBI framework and Practical Application of Clinical Evidence System program were selected to assess correct positioning and attachment during breastfeeding. We then conducted a baseline audit to determine the degree of compliance with these criteria. Second, we used the Getting Research into Practice guidelines to help us identify obstacles to fulfillment of each criterion and to design and implement various strategies to improve compliance. Third, a follow-up audit was performed and the degree of compliance of each criterion was determined again. Finally, the barriers to implementation of the strategies were identified.

Results: Eighty-seven mothers and 20 midwives participated in the baseline audit and 93 mothers and 17 midwives took part in the follow-up audit. After implementation, the rates of compliance with the three maternal criteria (2, 3, and 4) significantly improved. These were guidance to women, breastfeeding support, and encouragement from families, which increased by 42, 49, and 51%, respectively. Furthermore, criterion 4 (professional training programs) reached 100% compliance. However, criterion 1 (skin-to-skin contact) only increased by 2%. Eight barriers were described, including a lack of knowledge of the skin-to-skin procedure, a hands-on approach to breastfeeding support, a lack of time or high workload, and differences in the breastfeeding support provided by different professionals. Implementing strategies such as assessment with the LATCH scale, continuing the support of breastfeeding mothers through working shift changes, and promoting the skin-to-skin procedure, proved to be effective.

Conclusion: The current audit project significantly improved all our evidence-based criteria used to promote correct positioning and attachment during breastfeeding in women who had given birth by cesarean section. We accomplished this goal by developing several strategies which were accepted and implemented by all the midwives involved. Early, adequate, and ongoing support for breastfeeding women during postpartum hospitalization was key to the success of this project. It will be important to improve the skin-to-skin parameter in the surgical block in the near future to further consolidate and improve these results.

Key words: attachment, best practice, clinical audit, effective breastfeeding, positioning

The WHO recommends breastfeeding exclusively. However, in Spain, only 73.9, 63.9, and 61% of children are exclusively breastfed for up to 6 weeks, 3 months, and 6 months, respectively.

In this regard, skin-to-skin contact and professional postnatal support are essential to ensure correct positioning and proper attachment. Women who have given birth by cesarean section need greater support for breastfeeding.

What does this article add?

- Unifying criteria to support breastfeeding in the postpartum hospitalization block (hands-off approach, continuity of breastfeeding support through different working shifts, and inclusion of the family in the provision of breastfeeding support) effectively improved breastfeeding criteria compliance. However, updating knowledge and improving skills and attitudes toward skin-to-skin contact were not effective enough to improve breastfeeding in the surgical block. Therefore, these strategies should be intensified and set out at higher management levels.

The LATCH feeding observation scale provides midwives with a systematic and normative method to assess, support, and record data about breastfeeding in patient clinical histories.

Background

Breastfeeding is the act of transferring milk from mother to child and is one of the best ways to ensure the healthy growth and development of children.1 The WHO recommends breastfeeding exclusively for the first 6 months of life and breastfeeding while also offering appropriate complementary foods for a total of 2 years or more. However, in Spain, only 73.9, 63.9, and 39.0% of children are exclusively breastfed for up to 6 weeks, 3 months, and 6 months, respectively.2

The promotion of correct positioning and proper attachment early in the process of adopting the breastfeeding habit, to ensure adequate milk transfer and prevent problems, plays a crucial role in establishing and maintaining the practice as a habit.3 Indeed, a review of randomized trials on breastfeeding techniques revealed that poor positioning and attachment during early feeds were associated with a low milk supply, nipple trauma, breast engorgement, and early weaning.4 Researchers have documented that approximately one-third of mothers have difficulty in positioning and attaching their infants to the breast during postpartum hospitalization.5,6 Thus, these are manual skills that should be acquired through education, observation, and practice.8

In this regard, skin-to-skin contact and professional postnatal support are essential to ensure correct positioning and proper attachment.8,9 Health professionals should possess the skills necessary to enable women to consistently and reliably achieve effective positioning and attachment by themselves. They must also be able to correct painful or ineffective techniques during the first postpartum days.10 In addition, given that there is evidence that women who have given birth by cesarean section need greater support for breastfeeding, these cases merit special attention.10,11 In Spain, cesarean deliveries account for 23% of all births.12 However, this delivery method has been shown to negatively impact both the onset and duration of lactation.13 In addition, the analgesia provided to women for postcesarean pain relief has been shown to affect the ability of infants to latch on and suck milk effectively.14

The La Fe University and Polymedical Hospital of Valencia (Spain) is an advanced, public, tertiary care hospital with 1000 beds. The hospital serves the residential community of the western area of the city of Valencia, which has a population of around 380,000 inhabitants. The maternity area employs 88 midwives and includes an emergency block (with three emergency rooms), a delivery block (eight delivery rooms), a postpartum hospitalization block (48 postpartum rooms/beds), and a surgical block (two obstetrics operating rooms and one postoperative recovery room with six beds). Midwives provide for women in all the blocks, except for the surgical block in which the surgical nurses provide the care. In 2018, there were 4632 deliveries, 26.6% of which were cesarean sections. Postpartum hospitalization normally lasts 48–72 h, depending on whether the patient had a vaginal or cesarean delivery, respectively.15

Given that the postpartum hospital admission is a crucial time for mothers to develop an effective breastfeeding technique; the promotion of correct positioning and proper attachment facilitates optimal establishment of uncomplicated breastfeeding; and women who give birth by cesarean section may have more difficulty in breastfeeding, our midwifery team were concerned with improving the support and education given to mothers about the signs of optimal positioning and attachment during breastfeeding. Consequently, we decided to undertake this project to help promote the application of best clinical practices for correct positioning and proper attachment in breastfeeding women who gave birth by cesarean section. To do this we used the audit and feedback criteria developed by the JBI.16

Objectives

The aim of this project was to assess compliance with evidence-based criteria, setting out effective techniques to ensure correct infant positioning and attachment during breastfeeding, among mothers who delivered via cesarean section at the La Fe University Hospital of Valencia. The specific objectives were as follows:

- To determine current compliance with evidence-based criteria which detail effective techniques for ensuring correct positioning and attachment in breastfeeding infants.
This project/C223/JBI Evidence Implementation recommendations for effective techniques to ensure compliance with best-practice collaborating centers. Table 1 shows the five audit criteria we used to evaluate compliance with best-practice the JBI-PACES program. Permission for our hospital to use the audit criteria was granted by JBI as one of its criteria. The evidence-based audit criteria were obtained from the JBI-PACES program and identifying audit Setting up the JBI Practical Application of Clinical Evidence System and identifying audit criteria, and duration of the work. Thus, a team with stakeholders (the midwives in that block) in a meeting, (project leader) presented the audit project to the key stakeholders (the midwives in that block) in a meeting, highlighting the rationale for completing this project, audit criteria, and duration of the work. Thus, a team with seven midwives who expressed interest in the project was established. Settings up the JBI Practical Application of Clinical Evidence System and identifying audit criteria

- To improve the use of evidence-based techniques to ensure correct positioning and attachment in breastfeeding infants.

Methods

The current evidence-implementation project used the JBI Practical Application of Clinical Evidence System (JBI-PACES) and the Getting Research into Practice (GRiP) audit and feedback tool. The online JBI-PACES program and GRiP framework for promoting evidence-based healthcare use a process of gap identification, action plan development, and reauditing as a means of improving the standards of clinical practice.17 This project comprised three phases implemented over an 8-month period from October 2018 to June 2019.

Phase 1: Stakeholder engagement and baseline audit

During phase 1 we assembled the project team, set up the JBI-PACES criteria, identified the audit criteria, established the setting and sample size, and executed a baseline audit.

Establishing the project team

The supervising postpartum hospitalization block nurse (project leader) presented the audit project to the key stakeholders (the midwives in that block) in a meeting, highlighting the rationale for completing this project, audit criteria, and duration of the work. Thus, a team with seven midwives who expressed interest in the project was established.

Setting up the JBI Practical Application of Clinical Evidence System and identifying audit criteria

The evidence-based audit criteria were obtained from the JBI-PACES program. Permission for our hospital to use the audit criteria was granted by JBI as one of its collaborating centers. Table 1 shows the five audit criteria we used to evaluate compliance with best-practice recommendations for effective techniques to ensure correct positioning and attachment in breastfeeding infants.

Identifying the setting and sample size

To assess the audit for criteria 1, 2, 3, and 5, we established the following study inclusion criteria to select the eligible population: women who had given birth to one healthy, full-term baby by cesarean section and who had been admitted to the postpartum hospitalization block at the La Fe Hospital of Valencia. Women who had been separated from their babies (e.g., because the newborn had been admitted to the neonatal ICU), who were not breastfeeding, aged under 18 years, or who did not speak or write Spanish were excluded. The daily average number of cesarean sections carried out at the hospital was $3.2 \pm 1.1$ and 378 cesarean sections were performed during the data collection period.

The midwives working in the La Fe Hospital of Valencia postpartum hospitalization block were considered eligible for completion of the criterion 4 assessment. Any midwives on sick leave or who had been working in the postpartum hospitalization block for less than 3 months were excluded. A total of 88 midwives were working in the hospital during the study period. The sample size was decided based on the requirements of the Joint International Commission which state that a cohort of 30–100 individuals is sufficient for an audit project like this one.18

Conducting the baseline audit

A baseline audit was conducted between October and December 2018 to collect information about compliance with the audit criteria before any interventions. A convenience sample of 87 women were contacted on the day of their hospital discharge (48–72 h postpartum) and invited to participate. Once their informed consent was obtained, the mothers were asked to complete a questionnaire developed by the project team which was used to assess audit criteria 1, 2, 3, and 5.

Formulated dichotomous (yes/no) questions were selected based on the evidence provided in the JBI-PACES program (Appendix I) to determine whether each criterion had been met. As a validation measure, the audit questionnaire was thoroughly examined and discussed by 10 health professionals with expertise in breastfeeding. Considering their suggestions, we made minor changes to the wording of the questions. No quantitative validity and reliability analyses were carried out. To assess criterion 4, the project leader interviewed and collected data from a convenience sample of 20 postpartum hospitalization block midwives after obtaining their informed consent. The compliance rates for
Table 1. Audit criteria, sample, and method employed to measure compliance with best practice recommendations regarding an effective technique to ensure correct positioning and attachment in breastfeeding infants

<table>
<thead>
<tr>
<th>Audit criterion</th>
<th>Sample</th>
<th>Method used to measure compliance with best practice</th>
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<tbody>
<tr>
<td>Skin-to-skin contact and postnatal support is facilitated by a midwife in the early period after birth</td>
<td>87 Women who had given birth by cesarean section for audit 1 and 93 for audit 2 (follow-up)</td>
<td>Interview using a maternal questionnaire: women were asked if they had skin-to-skin contact with their child immediately after birth and if they received breastfeeding support during this period. A positive answer was recorded if skin-to-skin occurred for 60 min or more without interruptions and if the midwife offered breastfeeding support. A negative answer was recorded if skin-to-skin occurred for less than 60 min, if there were interruptions, if it did not start immediately after delivery or if the midwife did not offer breastfeeding support.</td>
</tr>
<tr>
<td>The midwife provides guidance to women to position and attach their baby, rather than taking a physically hands-on approach</td>
<td>87 Women who had given birth by cesarean section for audit 1 and 93 for audit 2 (follow-up)</td>
<td>Interview using a maternal questionnaire: the women were asked if the midwife had provided guidance (no physical help) on breastfeeding positioning and attachment during postpartum hospitalization. A positive answer was recorded if they received guidance but no physical support to positioning and attachment during breastfeeding. A negative answer was recorded if the patient did not receive guidance or if they received physical support to position and attach their baby to the breast.</td>
</tr>
<tr>
<td>Women who have given birth by cesarean section or received a narcotic or general anesthetic have been provided with additional breastfeeding support</td>
<td>87 Women who had given birth by cesarean section for audit 1 and 93 for audit 2 (follow-up)</td>
<td>Interview using a maternal questionnaire: the women were asked if the midwives had provided guidance (no physical help) on breastfeeding positioning and attachment during postpartum hospitalization. ‘Yes’ was recorded if the woman answered yes. ‘No’ was recorded if the woman answered no.</td>
</tr>
<tr>
<td>Midwives have been provided with training programs in breastfeeding techniques to encourage correct positioning and attachment</td>
<td>20 Midwives from the obstetrician ward for audit 1 and 17 for audit 2 (follow-up)</td>
<td>Midwives were asked if they thought they had enough training in breastfeeding techniques to encourage correct positioning and attachment during their hospital admission. ‘Yes’ was recorded if the midwife answered yes. ‘No’ was recorded if the midwife answered no.</td>
</tr>
<tr>
<td>Families (e.g., partner, grandparent) are encouraged to provide support to women postpartum to facilitate breastfeeding practices</td>
<td>87 Women who had given birth by cesarean section for audit 1 and 93 for audit 2 (follow-up)</td>
<td>Interview using a maternal questionnaire: the women were asked if the midwives had encouraged their families to give them support during breastfeeding. ‘Yes’ was recorded if the woman answered yes. ‘No’ was recorded if the woman answered no.</td>
</tr>
</tbody>
</table>
Phase 2: Design and implementation of Getting Research into Practice strategies to improve practices
During this phase, completed between January and April 2019, the project team reflected upon the results of the baseline audit. Next, we used the GRiP framework to identify obstacles to compliance with the audit criteria experienced by women, that is, to compliance with the best-practice recommendations for ensuring correct positioning and attachment during breastfeeding. The project team then discussed and brainstormed strategies to overcome these obstacles and formulated an action plan to achieve these improvements. We carried out a follow-up audit to evaluate our chosen strategies.

Phase 3: Follow-up audit after the implementation of the compliance improvement strategy
We carried out the follow-up audit between April and June 2019 following the same methodology as the baseline audit in a similar sample size of 93 women and 17 midwives. The audit results were analyzed to assess the effectiveness of the implementation and then presented to the key stakeholders.

Ethical considerations
The project was registered as a quality improvement activity within the hospital and therefore did not require ethical approval.

Data analysis
The findings of the baseline and follow-up audits for the five criteria were analyzed descriptively and graphically using the JBI-PACES software (version 2, 2019) from the JBI, Adelaide, South Australia, Australia.

Results
Phase 1: Baseline audit
A sample of 87 women and 20 midwives was obtained. The baseline audit identified that only 11.2% of women that gave birth by cesarean section were able to have skin-to-skin contact with their baby in the early period after the delivery (criterion 1). For the maternal criteria (2, 3, and 5), compliance was between 32.2% for women who received an analgesic or general anesthetic and were provided with additional breastfeeding support and 46.0% for cases in which family members provided encouragement (i.e., a partner or grandparent provided postpartum support to these women to facilitate breastfeeding practices). Criterion 4, in which midwives underwent training in breastfeeding techniques that encourage correct positioning and attachment, achieved a 95% compliance rate. These data are presented in Fig. 1.

Phase 2: Strategies for Getting Research into Practice
A total of eight obstacles to compliance with best practices were identified and we implemented strategies to try to overcome all of them. Barriers related to criterion 1 were derived from the difficulty in implementing the skin-to-skin procedure in the surgical block. Barriers related to criteria 2, 3, and 5 stemmed from the types of breastfeeding support routinely offered in the postpartum hospitalization block, difficulty in changing habits, and a lack of time to allow midwives to promote breastfeeding.

The strategies implemented to address the barriers to criterion 1 included disseminating the best evidence available regarding skin-to-skin contact to staff in the surgical block. In 90% of cases this was through direct and spontaneous face-to-face interactions according to staff availability, thus allowing midwives to provide feedback and suggestions. Strategies related to criteria 2, 3, and 5 included informing midwives in the postpartum hospitalization block about the importance of the criteria and encouraging their feedback; 100% of the midwives were informed.

The LATCH breastfeeding assessment scale – a short and easy-to-apply tool – was also used to unify the evaluation criteria and protocolize and systematize the evaluations completed during each working shift (morning, afternoon, and evening), as well as to include a broader range of family members in the provision of breastfeeding support.\textsuperscript{19} Moreover, voluntary 1-h breastfeeding training workshops focusing on breastfeeding techniques (positioning and attachment) conducted by a midwife from the postpartum hospitalization block were offered to all the midwives. It took 2.5 months to develop and implement these strategies; the results of the GRiP process are presented in Table 2.

To comprehensively implement the LATCH scale, it was introduced into the patient electronic medical records so that the midwives could easily record their observations regarding lactation sessions and see their evolution. The other strategies involved minor changes, for example, midwives adopted a hands-off approach to support breastfeeding and to get family members involved in supporting breastfeeding. The skin-to-skin protocol was disseminated during staff meetings and
women were contacted on an individual basis to inform them about the importance of skin-to-skin contact with their babies.

Phase 3: Follow-up audits
A follow-up sample of 93 mothers and 17 midwives was obtained; the number of midwives decreased because some had gone on sick leave or had transferred to a different workplace. Data were collected between April and June 2019. During the follow-up, all the strategies decided upon in phase 2 continued to be implemented. No improvement in criterion 1 compliance was noted, likely because interventions in the surgical block involve many professionals and, thus, exceeded the reach of our project team alone. However, there was a substantial improvement in criteria 2, 3, and 5 after the LATCH scale had started to be used and midwives from the postpartum hospitalization block became involved in providing extra support to breastfeeding women who had given birth by cesarean section. Thus, with respect to the baseline, there was an increase from 41.4 to 83.6% compliance in the follow-up audit for criterion 2, from 32.2 to 79.8% for criterion 3, and from 46.0 to 97.7% for criterion 5. Moreover, 100% compliance was obtained in the follow-up for criterion 4. Figure 2 shows the changes in compliance between phase 1 and phase 2 audits for all the criteria.

Discussion
Proper compliance was achieved in this implementation project in four of the five audit criteria used to evaluate the correct infant positioning and attachment during breastfeeding in women who had given birth by cesarean section. Therefore, the compliance rates of these audit criteria can serve as useful key performance indicators. This topic is of great importance because mothers who experience problems with positioning and attachment during early postpartum are more likely to breastfeed nonexclusively and for less time overall.9

The compliance rate for audit criterion 1 (skin-to-skin contact and early postnatal support facilitated by a midwife) remained low after implementation of our strategies.

Criteria Legend
1 01. Skin-to-skin contact and postnatal support is facilitated by a midwife in the early period after birth. (87 of 87 samples taken)
2 02. The midwife provides guidance to women to position and attach their baby, rather than taking a physically hands-on approach. (87 of 87 samples taken)
3 03. Women who have given birth by cesarean section, or received a narcotic or general anesthetic have been provided with additional breastfeeding support. (87 of 87 samples taken)
4 04. Midwives have been provided with training programs in breastfeeding techniques, to encourage correct positioning and attachment. (20 of 20 samples taken)
5 05. Families (e.g. partner, grandparent) are encouraged to provide support to women postpartum to facilitate breastfeeding practices. (87 of 87 samples taken)

Figure 1. Baseline compliance with best practice for audit criteria (%): Breastfeeding: signs of correct positioning and attachment.
Informing staff about the skin-to-skin procedure and scientific evidence supporting it, and the provision of voluntary midwives to facilitate skin-to-skin contact after cesarean sections. This was because our project team belonged to the postpartum hospitalization block and did not have access to the surgical block to implement these modifications. Thus, this intervention strategy was insufficient to improve the compliance rates for this criterion.

Table 2. Getting Research into Practice matrix

<table>
<thead>
<tr>
<th>Barrier</th>
<th>Strategy</th>
<th>Resources</th>
<th>Outcomes</th>
</tr>
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<tbody>
<tr>
<td>Most surgical block staff are not aware of the skin-to-skin procedure during cesarean sections (criterion 1)</td>
<td>Professionals were taught about the skin-to-skin procedure and its scientific evidence</td>
<td>Procedure to ensure skin-to-skin contact</td>
<td>Team members hold meetings with staff to show them the scientific evidence for skin-to-skin contact</td>
</tr>
<tr>
<td>A midwife is needed to monitor the skin-to-skin process in the surgical block (criterion 1)</td>
<td>Whenever possible, a voluntary midwife will be available for skin-to-skin during cesarean sections</td>
<td>Midwives</td>
<td>Professionals mentioned the importance of skin-to-skin contact</td>
</tr>
<tr>
<td>Some professionals do not want skin-to-skin to be performed on the surgical block because they do not consider it to be safe (criterion 1)</td>
<td>Professionals were taught about the skin-to-skin procedure and its scientific evidence</td>
<td>Procedure to ensure skin-to-skin contact</td>
<td>Team members met with the midwives to request their collaboration in the surgical block</td>
</tr>
<tr>
<td>The midwife is accustomed to supporting breastfeeding through a physically hands-on approach (criterion 2); difficulty changing this habit</td>
<td>The midwife will guide the women so that they can position and attach their children correctly without physically helping her (hands-off)</td>
<td>Midwives</td>
<td>Midwives know that if a cesarean section is performed, if possible they will be called in to voluntarily assist in the skin-to-skin procedure</td>
</tr>
<tr>
<td>The midwives say that they do not have enough time to support mothers’ breastfeeding (criterion 3)</td>
<td>The midwife will try to ask women at least once a shift how they are doing with breastfeeding</td>
<td>Midwives</td>
<td>Team members met with staff to determine skin-to-skin risks in the surgical block</td>
</tr>
<tr>
<td>Each midwife supports mothers in a different way (criterion 3)</td>
<td>The LATCH scale will be used for everyone to assess breastfeeding in the same way</td>
<td>Midwives mentioned the importance of skin-to-skin safe relationship</td>
<td></td>
</tr>
<tr>
<td>Midwives need training programs in breastfeeding techniques to update their knowledge of correct placement and attachment (criterion 4)</td>
<td>The LATCH scale will be used for everyone to assess breastfeeding in the same way</td>
<td>Team members met with midwives to protocolize a program of ongoing support for the mother–baby day</td>
<td></td>
</tr>
<tr>
<td>Midwives are not accustomed to including the family in breastfeeding support (criterion 5)</td>
<td>One-hour breastfeeding workshops during working hours</td>
<td>Midwives mentioned the importance of continuous support</td>
<td></td>
</tr>
<tr>
<td></td>
<td>A midwife to give the training workshop</td>
<td>Midwives mentioned that with the scale the evaluation would be more homogeneous, quicker and would be recorded in each turn</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Midwives will include the family in supporting breastfeeding</td>
<td>The team members spoke with the midwives so that they would all offer similar support and have a similar discourse, issuing evidence-based recommendations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Midwives</td>
<td>Midwives will try to unify the criteria to support breastfeeding</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Midwives mentioned the importance of including the family in supporting breastfeeding</td>
<td></td>
</tr>
</tbody>
</table>
Breastfeeding: Signs of Correct Positioning and Attachment
2018
Midwives Unit

Criteria Legend
1 01. Skin-to-skin contact and postnatal support is facilitated by a midwife in the early period after birth. (93 of 93 samples taken)
2 02. The midwife provides guidance to women to position and attach their baby, rather than taking a physically hands-on approach. (93 of 93 samples taken)
3 03. Women who have given birth by cesarean section, or received a narcotic or general anesthetic have been provided with additional breastfeeding support. (93 of 93 samples taken)
4 04. Midwives have been provided with training programs in breastfeeding techniques, to encourage correct positioning and attachment. (17 of 17 samples taken)
5 05. Families (e.g. partner, grandparent) are encouraged to provide support to women postpartum to facilitate breastfeeding practices. (93 of 93 samples taken)

Figure 2. Compliance with best practice audit criteria in follow-up audit compared to baseline audit (%): Breastfeeding: signs of correct positioning and attachment.

The organizational characteristics and large number of personnel working in the surgical block mean that strategies designed to improve skin-to-skin contact must be more profound and target higher management levels. One factor that may play a crucial role after cesarean sections may be the involvement of anesthesiologists, obstetricians, neonatologists, and midwives in future hospital quality improvement initiatives designed to improve compliance with this criterion. Nonetheless, this project has served to update staff knowledge and improve skills and attitudes toward skin-to-skin contact between new mothers and their children.

Another benefit to this study was that it allowed us to identify the low prevalence of skin-to-skin contact among mothers who gave birth by cesarean. As also observed by Stevens et al., there are substantial challenges to implementing this practice after surgical deliveries. We noted that certain factors, such as low staffing levels or a lack of specific knowledge about the importance of skin-to-skin contact, were barriers to starting this practice after cesarean sections. One study, about the attitudes of staff toward skin-to-skin contact after a cesarean section, identified the operating room temperature, concerns about the baby falling, surgical delays, and the belief that this practice makes it difficult to monitor the mother as barriers. However, because the actions of health professionals are influenced by institutional regulations, protocolization of...
this procedure could help to increase skin-to-skin contact after cesarean sections. The so-called humanized or gentle cesarean section is an increasingly common procedure that involves early and continuous skin-to-skin contact without mother–baby separation in the operating room or in the postoperative recovery room. Thus, professionals must start to facilitate immediate skin-to-skin contact in cesarean deliveries because it has been shown to reduce the time taken for the first lactation and to increase the onset of breastfeeding.

The strategies we implemented to improve the support provided to breastfeeding mothers in the postpartum hospitalization block included a hands-off approach; continuance of direct and personalized support through each working shift; use of the LATCH scale to unify the evaluation criteria used and to note the support provided in patient clinical histories; and inclusion of family members in the provision of breastfeeding support. These strategies achieved compliance rates exceeding 80% for criteria 2, 3, and 5. The central focus of these strategies was midwives, who reorganized routine care for breastfeeding mothers and supported and promoted successful breastfeeding. Thus, the seven midwives who participated in this project team, and who monitored compliance with these criteria on a daily basis, were fundamental to achieving these high levels of compliance. Moreover, as noted elsewhere, establishing clear and straightforward objectives and action plans to improve practices is vital to achieving the desired results.

Implementation of the LATCH feeding observation scale also provided midwives with a systematic and normative method to assess, support, and record data in their patient clinical histories. In addition, systematically observing the breastfeeding process provided midwives with an additional opportunity to verify the actual needs of breastfeeding mothers and to provide education and support (with a hands-off approach) during breastfeeding. This study discovered that most women experienced some mismatch in the position and/or attachment of their baby during breastfeeding; we also observed that women’s skills in this respect improved from the first day of their admission to the time just before their discharge. This highlighted the importance of the availability of professionals with the right skills and knowledge to educate and help women overcome obstacles to successful breastfeeding throughout their admission.

Despite staff shortages (related to unfilled vacancies and staff on sick or maternity leave), the project team provided support to breastfeeding mothers during each shift which, initially, represented a work overload. This finding highlights the importance of the availability of sufficient midwives to provide adequate care for women during the breastfeeding process. Nevertheless, it is very likely we did not achieve 100% compliance for these three criteria because of the nature of the high-pressure care situations midwives must deal with. Significantly, we achieved 100% compliance for criterion 4 in which midwives were trained in breastfeeding techniques to encourage correct positioning and infant fixation. In this case, one midwife voluntarily provided these training sessions. In addition, all the midwives demonstrated that they were highly trained to be able to support the mothers.

The pragmatic nature of this project (focusing on cesarean sections), together with its duration (6 months), limited the sample size available to us and the period between implementation and reauditing. However, all the strategies we used to improve these criteria have now been integrated into our unit as part of the standard maternal care we provide. Despite this, periodic clinical audits must be conducted to ensure consistent quality of care and the sustainability of the results we report here.

Conclusion

The current audit project significantly improved the compliance rates with all five evidence-based criteria we used. These were designed to promote correct positioning and attachment during breastfeeding among women who had given birth by cesarean section. We achieved this improvement by developing several strategies, which were accepted and implemented by all the midwives involved in this study. Providing early, adequate, and ongoing support for breastfeeding women during their postpartum hospitalization was key to the success of this project. However, improvements in the skin-to-skin contact parameter in the surgical block will be required in the near future to consolidate and improve upon these results.

Acknowledgements

I would like to thank all the women who generously participated in this study, the adjunct midwife in the women’s area of the hospital, the nurse supervisor of the puerperium unit and all the midwives in the obstetrics unit. Special thanks also to the hospital’s subdirector for the invitation to participate in this Evidence-Based Clinical Fellowship program, and to Spanish Centre for Evidence-Based Nursing and Healthcare: A JBI Centre of Excellence.
Conflicts of interest
There are no conflicts of interest.

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References

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**Appendix I: Maternal questionnaire**

1. Were you able to do skin-to-skin immediately after childbirth and were you supported in doing so?
   - Yes □ No □
   If yes, were you able to do this continuously for 60 min or more and without interruption?
   - Yes □ No □

2. Do you think the midwives gave you enough guidance (no physical help) to position and attach your baby to the breast during your hospitalization?
   - Yes □ No □

3. Did you receive sufficient help with breastfeeding?
   - Yes □ No □
   If yes, did you receive support at least once every 8 h (in each work shift)?
   - Yes □ No □

4. Has your family received sufficient information to help you with breastfeeding?
   - Yes □ No □