

Research Article

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A comparative study to assess the effectiveness of education on breastfeeding with almond oil massage versus education on breast feeding on adequacy of breast feeding among postnatal mothers who have undergone LSCS in a selected hospital, Cuddalore, Tamil Nadu.

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ABSTRACT

Background: This study aimed to evaluate the effectiveness of education on breastfeeding combined with almond oil massage versus education alone on breastfeeding adequacy among postnatal mothers who underwent lower-segment caesarean section (LSCS).

Methods: A quasi-experimental design with pretest and post-test measures was employed, involving 40 post-LSCS mothers, divided into two groups. Group 1 received breastfeeding education along with almond oil massage, while Group 2 received only breastfeeding education. The pretest was done on 3rd postoperative day for both groups by using the checklist on knowledge on breastfeeding, breast milk adequacy observational checklist and LATCH Assessment Tool. On 3rd postoperative day, the subjects in group 1 received education on breastfeeding by using flash cards and almond oil massage on breasts was given for 10 minutes, 2 times a day for 3 consecutive days. The subjects in group 2 received only education on breastfeeding by using flashcards. Posttest was conducted on 3rd and 5th postoperative day by using the same data collection tools.

Results: The results demonstrated significant improvements in breastfeeding knowledge, milk adequacy, and latch scores in both groups. Group 1 showed more pronounced improvements: breastfeeding knowledge increased from a mean of 5.30 to 9.90, breast milk adequacy scores rose from 7.70 to 18.60, and latch scores improved from 4.15 to 9.40. Group 2 also showed improvements, with breastfeeding knowledge increasing from 5.80 to 9.55, milk adequacy from 7.85 to 14.50, and latch scores from 4.35 to 8.80.

Conclusion: The study concludes that education on breastfeeding with almond oil massage, acts as an effective alternative therapy without side effects & can be utilized as a non-pharmacological management in enhancing the breast milk adequacy.

Keywords: Oil massage, postnatal mothers, breast feeding

INTRODUCTION

Breastfeeding is essential for both infant health and maternal well-being, and its success can be significantly influenced by various interventions, especially for postnatal mothers who have undergone a lower segment caesarean section (LSCS). Research indicates that both physical interventions, such as massage therapies using almond oil, and educational approaches can enhance breastfeeding outcomes for these mothers.

The use of massage techniques, particularly oxytocin massage, has shown effectiveness in improving milk production among postpartum women. For example, studies have demonstrated that oxytocin massage can improve the secretion of prolactin and oxytocin, two hormones critical for milk production, thus facilitating smoother breastfeeding experiences (Julianti, 2023; Emilda & Juliastuti, 2020; Yorita et al., 2023).

In addition to this, the SPEOS method—which combines endorphin and oxytocin massage with positive affirmations—addresses the psychological aspects that influence breastfeeding. By creating a comfortable and relaxed environment for mothers, these methods can significantly improve breastfeeding outcomes (Julianti, 2023; Arsi et al., 2021).

Moreover, specific massage techniques, such as Oketani and Marmet massages, have been shown to increase the frequency of breastfeeding sessions, which not only supports physical breastfeeding abilities but also boosts mothers' confidence (Ramezani et al., 2023; Shahri et al., 2020; Mahdizadeh-Shahri et al., 2021). The combination of physical touch through massage strengthens maternal bonding, a crucial element in establishing a solid

breastfeeding routine, particularly after surgery like LSCS (Rahmawati, 2024; Susanti & Ekaningrum, 2023).

Educational programs also play a pivotal role in enhancing breastfeeding outcomes. Training sessions that focus on breastfeeding concepts and techniques have been linked with improved self-efficacy among mothers. Programs that educate mothers about the biology of lactation and practical breastfeeding skills have shown positive correlations with increased milk supply, thus enhancing overall breastfeeding success (Sandhi et al., 2020; Beggs et al., 2021).

These educational interventions empower mothers with both the knowledge and skills needed to create an environment conducive to breastfeeding, fostering support both psychologically and practically.

Furthermore, the combination of massage and education creates a comprehensive support system for mothers post-LSCS. While massages may directly improve milk flow and maternal comfort, education ensures that mothers understand the mechanics and benefits of breastfeeding, resulting in a synergistic effect on their breastfeeding experiences (Sandhi et al., 2020; Wulandhari, 2023). Additionally, involving family members—especially partners—through both educational and physical support methods can significantly enhance mothers' confidence and their ability to sustain breastfeeding (Yorita et al., 2023; Rahmawati, 2024).

By integrating both physical interventions like massage and educational programs, mothers post-LSCS can receive a well-rounded, supportive environment that promotes successful breastfeeding, benefiting both the infant and the mother's well-being.

METHODOLOGY

The study employed a quantitative research approach to evaluate the effectiveness of education on breastfeeding combined with almond oil massage versus education alone on breastfeeding adequacy among post-LSCS mothers. A quasi-experimental design with a pretest and post-test setup was used, involving two groups. The accessible population consisted of post-LSCS mothers admitted to the postnatal wards of GMCH, Cuddalore.

A purposive sampling method was used to select 40 mothers (20 in each group) based on specific inclusion criteria such as post-3rd-day LSCS, inadequate milk secretion, and willingness to participate. Exclusion criteria included mothers with abnormal deliveries, infectious diseases, or breastfeeding issues like sore nipples. Data collection included demographic and obstetric variables, a checklist on breastfeeding knowledge, an observational checklist for milk adequacy, and the LATCH assessment tool. Group 1 received breastfeeding education along with almond oil massage, while Group 2 only received education. Posttests were conducted on the 3rd and 5th postoperative days.

Ethical clearance was obtained from RMMCH's Institutional Ethical Committee, and informed written consent was collected from participants. The data were analyzed using descriptive and inferential statistics to assess the outcomes of the interventions.

RESULTS

The table 1 compares the knowledge scores of subjects in experimental groups 1 and 2 before and after the intervention. The experimental group 1 had significant increase in knowledge (pretest mean=5.30, posttest-II mean = 9.90) with a very high F-test value ($F = 96.46$, $p = 0.001$), indicating a

significant improvement. Similarly, experimental group 2 also showed significant improvement in breastfeeding knowledge (pretest mean = 5.80, posttest-II mean = 9.55) with an F-test value of 65.19 ($p = 0.001$). Both groups show statistically significant results ($p < 0.05$).

The table 2 compares the mean breast milk adequacy score between experimental group 1 and group 2 at pretest, posttest-I, and posttest-II. The experimental group 1 showed a substantial improvement in breast milk adequacy (pretest mean = 7.70, posttest-II mean = 18.60) with a significant F-test value of 140.39 ($p = 0.001$). Experimental group 2 also showed significant improvement (pretest mean = 7.85, posttest-II mean = 14.50) with a slightly lower F-test value of 115.66 ($p = 0.001$). Both groups show statistically significant results, indicating the positive impact of the intervention on breast milk adequacy.

The table 3 compares the mean latch scores between experimental groups 1 and 2 before and after the intervention. Experimental group 1 showed a significant increase in latch scores (pretest mean = 4.15, posttest-II mean = 9.40) with an F-test value of 141.41 ($p = 0.001$). Experimental group 2 also showed an increase (pretest mean = 4.35, posttest-II mean = 8.80) with a F-test value of 101.88 ($p = 0.001$). Both groups showed statistically significant improvements in latch scores, supporting the effectiveness of the interventions.

DISCUSSION

The findings from the study emphasize the effectiveness of educational interventions on breastfeeding, with the addition of almond oil massage significantly enhancing breastfeeding outcomes for mothers who underwent lower-segment cesarean sections (LSCS).

Table 1: Comparison of mean knowledge score on education on breastfeeding among the subjects between the experimental group 1 and 2 before and after the intervention. (N =40)

	Pretest		Posttest-I		Posttest-II		One way RM ANOVA F-test	P Value
	Mean	SD	Mean	SD	Mean	SD		
Experimental group 1	5.30	1.45	8.80	1.36	9.90	0.30	F=96.46	p=0.001*** (S)
Experimental group 2	5.80	1.28	8.50	1.32	9.55	1.10	F=65.19	p=0.001*** (S)

S=Significant p <0.05

Table 2: Comparison of experimental group 1 versus experimental group 2 on mean breast milk adequacy score among the subjects (N = 40)

	Pre-test		Post-test-I		Post-test-II		One way RM ANOVA F-test	P Value
	Mean	SD	Mean	SD	Mean	SD		
Experimental group 1	7.70	1.45	11.90	1.33	18.60	1.10	F=140.39	p=0.001*** (S)
Experimental group 2	7.85	.88	10.95	1.67	14.50	0.95	F=115.66	p=0.001*** (S)

Table 3: comparison of experimental group 1 versus experimental group 2 on mean latch score among the subjects. (N = 40)

	Pre-test		Post-test-I		Post-test-II		One way RM ANOVA F-test	P value
	Mean	SD	Mean	SD	Mean	SD		
Experimental group 1	4.15	0.99	6.80	1.11	9.40	0.94	F=141.41	p=0.001*** (S)
Experimental group 2	4.35	1.18	6.95	1.32	8.80	1.28	F=101.88	p=0.001*** (S)

The improvements observed in both groups, especially in Group 1, which incorporated the massage, suggest that a multifaceted approach is crucial for addressing the challenges new mothers face during the breastfeeding initiation phase.

In particular, the increase in knowledge scores—from 5.30 to 9.90 in Group 1 and from 5.80 to 9.55 in Group 2—demonstrates the significant impact of educational interventions on improving mothers' understanding of breastfeeding. This supports existing literature, which highlights the importance of education in successful breastfeeding (Zhao et al., 2021; Wagner et al., 2013; Pinho-Pompeu et al.,

2024). Increased knowledge not only boosts mothers' confidence in breastfeeding but also helps them effectively manage early postpartum challenges (Shetty & K., 2013; Gianni et al., 2019; Lok et al., 2020; Sandhi et al., 2020).

The breast milk adequacy scores also saw significant improvements, particularly in Group 1, where scores rose from 7.70 to 18.60, indicating a marked increase in perceived milk sufficiency. Research has shown that adequate education and physical support can significantly influence the perceived adequacy of breast milk, enhancing the overall breastfeeding experience (Sandhi et al., 2020; Shakya & Shakya,

2021). The almond oil massage, in particular, may have helped stimulate milk production by releasing prolactin and oxytocin, further supporting milk supply (Susanti & Ekaningrum, 2023; Zhao et al., 2021).

The increase in latch scores in both groups indicates improvements in breastfeeding technique and comfort. Group 1's score rose from 4.15 to 9.40, while Group 2's score increased to 8.80, emphasizing the value of practical skills training alongside educational support. This is consistent with research that suggests skill-based training and guidance significantly improve breastfeeding success and maternal satisfaction (Wambach et al., 2010; Kapur et al., 2017; Labarère et al., 2005).

While both interventions yielded positive results, the more pronounced improvements in Group 1 highlight the benefits of combining physical and psychological support. The enhanced outcomes in Group 1 are likely due to the synergistic effect of combining education with almond oil massage. Studies suggest that a combination of educational support, practical guidance, and emotional empowerment leads to better breastfeeding outcomes (Fu et al., 2014; Yusuff et al., 2015). The almond oil massage likely helped reduce physical discomfort, alleviating stress and anxiety, which can hinder milk production (Susanti & Ekaningrum, 2023; Olang et al., 2012; Chopel et al., 2018).

CONCLUSION

The study concludes that combining educational interventions with almond oil massage significantly improves breastfeeding outcomes for post-LSCS mothers. Group 1, which received both interventions, showed greater improvements in breastfeeding knowledge, milk adequacy, and latch scores. This highlights the importance of a holistic approach that addresses both physical and emotional aspects of

breastfeeding for better maternal and infant outcomes.

CONFLICTS OF INTEREST:

No conflicts of Interest.

FINANCIAL SUPPORT:

None

RECOMMENDATION:

Future research could replicate this study with randomization and a larger sample size for more robust results. Nurse researchers could also compare almond oil massage with other alternative therapies in promoting breast milk secretion. Additionally, studies could focus on comparing breast milk secretion between postnatal mothers in experimental groups 1 and 2. Further investigations on the effectiveness of almond oil massage in supporting breastfeeding for LSCS mothers could help establish alternative modalities for breastfeeding promotion in maternity care.

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