

Effectiveness of a Combined Back Massage and Affirmation-based Relaxation Intervention on Breastfeeding Outcomes among Post-Caesarean Section Mothers: A Quasi-Experimental Study

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ABSTRACT

Introduction: Breastfeeding adequacy following caesarean section is often compromised due to physiological and psychological stressors that disrupt early lactation. Conventional interventions primarily focus on technical and educational support, with limited attention to psychophysiological processes influencing milk ejection.

Aim: To assess the effectiveness of combined back massage and affirmation-based relaxation intervention on breastfeeding adequacy among post-caesarean mothers.

Materials and Methods: A quantitative evaluative approach using a quasi-experimental two-group pre-test-post-test design was employed to conduct the study in the Obstetrics and Gynaecology wards of a secondary-level hospital in Uttar Pradesh, India, from October 2022 to March 2023. Among 220 post-caesarean mothers in a secondary-level hospital in India. Post-caesarean (n=220) mothers were allocated to experimental (n=110) and control (n=110) groups. The intervention consisted of structured back massage combined with guided affirmation relaxation, administered four times daily over three days. Primary outcomes included let-down reflex and breast milk secretion, while secondary outcomes comprised proxy indicators of breastfeeding adequacy (urination, stool frequency, satiety,

and breastfeeding behaviour). Data were analysed using non parametric tests, ordinal logistic regression, and Analysis of Covariance (ANCOVA).

Results: The intervention group demonstrated substantially greater improvements in let-down reflex ($\Delta=2.60$ vs. 1.19) and breast milk secretion ($\Delta=5.81$ mL vs. 3.01 mL) compared to controls ($p<0.001$). Secondary outcomes also improved significantly, indicating enhanced feeding adequacy. Adjusted analyses (ordinal regression and ANCOVA) further strengthened these findings, supporting an association between the intervention and improved lactation outcomes beyond baseline differences. Improvements occurred concurrently across physiological and functional domains, supporting a psychophysiological pathway of lactation response. The overall pattern is consistent with a psychophysiological mechanism linking maternal stress modulation and lactation response.

Conclusion: A structured psychophysiological intervention is associated with improved breastfeeding adequacy among post-caesarean mothers, providing evidence for integrating psychophysiological approaches into postnatal lactation care. Its feasibility, low cost, and compatibility with nursing care highlight its potential for integration and scale-up in routine postnatal settings.

Keywords: Lactation, Maternal well-being, Milk ejection, Postpartum period, Oxytocin

INTRODUCTION

Caesarean Section (CS) rates have risen substantially over the past two decades, exceeding the optimal threshold recommended by the World Health Organisation in many settings. Recent estimates suggest that CS accounts for more than 21% of all births globally, with projections indicating further increases, particularly in middle-income countries such as India [1,2]. In India, Institutional delivery expansion and changing obstetric practices have contributed to a steady rise in CS rates, often accompanied by unintended consequences for early maternal and neonatal outcomes [3]. One such consequence is the disruption of early breastfeeding initiation and adequacy among post-caesarean mothers. Postoperative physiological and psychological factors play a critical role in shaping early lactation outcomes. Surgical pain, reduced mobility, and delayed mother-infant contact can interfere with effective breastfeeding initiation [4]. Elevated cortisol levels and sympathetic nervous system activation are known to suppress the oxytocin-mediated milk ejection reflex, thereby delaying or impairing milk let-down [4]. Pharmacological strategies, including the use of galactagogues, target milk production but do not adequately address the underlying

psychophysiological processes influencing milk ejection [5]. Similarly, lactation counselling and education interventions primarily emphasise positioning, attachment, and feeding techniques, often overlooking the role of maternal stress and relaxation in facilitating lactation [6]. This narrow focus has resulted in limited integration of psychophysiological interventions within routine postnatal care. Emerging evidence suggests that interventions targeting maternal relaxation- such as massage therapy and guided relaxation- may positively influence breastfeeding outcomes by modulating stress responses and enhancing hormonal pathways associated with lactation [7,8]. However, such approaches remain underexplored in structured clinical settings, particularly in low- and middle-income countries.

Breastfeeding is increasingly conceptualised as a biopsychosocial process, shaped by the dynamic interaction between physiological mechanisms, psychological states, and social context [9]. The stress-oxytocin pathway provides a key explanatory mechanism. Stress and anxiety inhibit oxytocin release through activation of the Hypothalamic-Pituitary-Adrenal (HPA) axis, thereby impairing the milk ejection reflex [4]. Conversely, relaxation and tactile stimulation-

such as back massage-can promote parasympathetic activation, facilitating oxytocin release and improving lactation responsiveness [10]. Affirmation-based relaxation techniques may further enhance this effect by reducing cognitive stress and promoting a positive emotional state, thereby supporting physiological readiness for breastfeeding. Interventions that simultaneously target physiological stimulation and psychological relaxation may be more effective than conventional approaches that focus primarily on technique or education. However, such integrated interventions remain underexplored in clinical settings [11,12]. The present study is grounded in the proposition that a structured psychophysiological intervention can improve breastfeeding adequacy by modifying maternal stress-lactation pathways during early post-caesarean recovery

Given these insights, there is a growing need to integrate non invasive, low-cost, and scalable psychophysiological interventions into postnatal care. Interventions that combine tactile stimulation with guided relaxation offer a promising approach, particularly in resource-constrained hospital settings where access to specialised lactation support may be limited. Importantly, such interventions can be delivered by trained nursing personnel, aligning with task-shifting strategies and strengthening the role of nurses in promoting maternal and neonatal health outcomes. However, empirical evidence on the effectiveness of combined interventions-such as back massage and affirmation relaxation-remains limited, especially in the context of post-caesarean mothers in India. Addressing this gap is essential for developing contextually appropriate, evidence-based strategies to improve breastfeeding adequacy. The present study aimed to assess the effectiveness of a combined back massage and affirmation relaxation intervention on breastfeeding adequacy among post-caesarean mothers.

MATERIALS AND METHODS

A quantitative evaluative approach using a quasi-experimental two-group pre-test-post-test design was employed to conduct the study in the Obstetrics and Gynaecology wards of a secondary-level hospital in Uttar Pradesh, India, from October 2022 to March 2023. Ethical approval was obtained from the Institutional Ethics Committee of Saveetha Medical College Hospital (IEC Approval No. 004/02/2022/IEC/SMCH, dated 14/02/2022), and formal administrative permission was obtained from the Medical Superintendent of the study hospital before data collection commenced. The study adhered to the principles of the Declaration of Helsinki. Written informed consent was obtained from all participants, and confidentiality was strictly maintained.

Inclusion criteria: Mothers who had undergone Lower Segment Caesarean Section (LSCS), delivered a single full-term neonate, were within 48-72 hours post-surgery, and had newborns with normal sucking, swallowing, and rooting reflexes were included.

Exclusion criteria: Mothers who were critically ill, had postoperative complications, breast or nipple anomalies, postpartum psychosis, or neonates with congenital anomalies were excluded.

Sample size calculation: The sample size was estimated for comparing the mean breastmilk production between two independent groups using the formula for comparison of two means described by Charan J and Biswas T (2013) [13].

$$n = \frac{2(Z_{1-\alpha/2} + Z_{1-\beta})^2 \sigma^2}{\delta^2}$$

where n is the required sample size per group, $Z_{1-\alpha/2} = 1.96$ for a two-sided 5% significance level, $Z_{1-\beta} = 1.28$ for 90% power, σ is the assumed standard deviation, and Δ is the minimum clinically important difference between groups. The calculation assumed a 10% difference in breast milk production between the intervention and control groups and a standard deviation of 20%, based on estimates obtained from the pilot study conducted prior to the

main trial. The initial calculation yielded a required sample size of approximately 92 participants per group (184 total). To compensate for an anticipated 20% loss to follow-up or incomplete data, the sample size was inflated to 110 participants per group, giving a final sample size of 220 mothers.

Study Procedure

A total of 220 eligible post-caesarean mothers were recruited using a non probability purposive sampling technique and allocated to the experimental (n=110) and control (n=110) groups. To minimise the risk of contamination and reduce potential bias, participants in the two groups were recruited from different postnatal wards. Mothers in the experimental group were selected from Ward B, whereas those in the control group were recruited from Wards C and E.

The intervention consisted of a structured combination of back massage and affirmation-based relaxation designed to address both the physiological and psychological determinants of lactation. The back massage protocol involved rhythmic stroking and gentle pressure over the thoracic and lumbar regions while the mother was seated comfortably with adequate incision support. Each session lasted approximately 10 minutes. Before the massage, mothers performed controlled breathing exercises to induce relaxation. During the massage, mothers were instructed to silently repeat positive affirmations such as "I am calm and relaxed," "My milk production is adequate," and "My baby is healthy and feeding well." The intervention was administered four times daily for three consecutive days. To ensure standardisation and reproducibility, all intervention sessions were delivered by four trained nursing personnel following a detailed Standard Operating Procedure (SOP). Before the commencement of the study, all intervention providers received uniform training and practical demonstrations under the supervision of the principal investigator, consistent with recommendations for intervention standardisation [14]. Competency was verified through supervised practice sessions before independent intervention delivery. Periodic supervision was undertaken throughout the study to ensure adherence to the intervention protocol. Intervention fidelity was assessed by evaluating inter-rater agreement in intervention delivery using the Intraclass Correlation Coefficient (ICC), which demonstrated good agreement among the intervention providers (ICC=0.84; 95% CI: 0.75-0.90). Caregivers were educated regarding the intervention before discharge and provided with written instructions for continuation at home. Participants in the control group received routine postnatal care, including standard clinical monitoring, breastfeeding education, and general maternal support, without receiving the structured intervention [6].

Data collection: Data were collected at two time points: baseline (third postoperative day) and post-intervention (sixth postoperative day). Validated investigator-developed tools were used to ensure consistency in outcome assessment. The let-down reflex was assessed using a structured questionnaire comprising two maternal-reported indicators: tingling sensation in the breast and sudden fullness of the breast. The tool was developed by the authors, using guidelines from a previous study [15]. Each item was scored on a four-point scale (0=nil, 1=mild, 2=moderate, and 3=strong), yielding a total score ranging from 0 to 6. Scores were interpreted as poor (0-2), good (3-5), and excellent (6) let-down reflex. The questionnaire was content validated by experts, and its test-retest reliability coefficient was 0.82. Baby weight was measured immediately before and after breastfeeding using a standardised electronic infant weighing scale. The difference in infant weight before and after feeding was used to estimate milk intake and converted to volume (mL) using the density of human milk (approximately 1.03 g/mL) [16]. Mothers were asked to note down the frequency of urination and stool by counting the number of times the baby passed urine and stool per day on the given format, and the researcher/trained staff collected the data next day following morning.

Satiety of the newborn during and after breastfeeding was assessed using a validated investigator-developed observation checklist comprising eight indicators: rhythmic sucking on both breasts, audible swallowing during breastfeeding, absence of irritability during feeding, spontaneous release of the breast after feeding, spontaneous turning away from the breast after 10-15 minutes of feeding, calm and relaxed behaviour after feeding, sleeping for ≥ 2 hours after feeding, and breastfeeding duration of ≥ 15 minutes. Each observed indicator was scored as 1 (present) or 0 (absent), yielding a total score ranging from 0 to 8. Scores were interpreted as poor satiety (0-2), average satiety (3-5), and good satiety (6-8). The checklist was developed following a review of the literature and expert consultation [17]. Content validity was established by experts in obstetrics and gynaecology, obstetrical and gynaecological nursing, paediatric nursing, and biostatistics, and inter-rater reliability was 0.75. The tool was pilot tested before commencement of the main study.

To assess newborn breastfeeding behaviour, the Infant Breast-Feeding Assessment Tool (IBFAT) was also used [18]. The total number of items in this tool is four. They are as follows: readiness to feed, rooting, latching and sucking. Each item is rated on a 0-3 rating scale. Demographic, obstetric, and neonatal variables were also collected. To ensure reliability, data collection procedures were standardised, and participants were oriented to the assessment process before data collection [14].

STATISTICAL ANALYSIS

Data were analysed using Statistical Package for Social Sciences (SPSS version 31.0). Descriptive statistics, including frequencies, percentages, means, and standard deviations, were used to summarise variables. Baseline comparability between groups was assessed using Chi-square and Independent t-tests. Normality was evaluated using Shapiro-Wilk tests and Q-Q plots. As let-down reflex scores were ordinal and non normally distributed, Wilcoxon signed-rank and Mann-Whitney U tests were used for within- and between-group comparisons, respectively. Post-intervention breast milk secretion was analysed using ANCOVA adjusted for baseline values. Ordinal logistic regression was performed to determine the independent effect of the intervention on post-intervention let-down reflex while adjusting for potential confounding variables. Predictor variables, including intervention group, baseline let-down reflex, maternal age, and type of LSCS, were selected a priori based on their clinical relevance and evidence from the literature regarding factors influencing lactation following caesarean section. Statistical significance was set at $p < 0.05$ [14,19].

RESULTS

The experimental and control groups were comparable with respect to socio-demographic, obstetric, and neonatal characteristics at baseline [Table/Fig-1]. No statistically significant differences were observed between the groups for any of the baseline variables (all $p > 0.05$). No statistically significant differences were observed between the groups for the measured baseline characteristics.

The subjective let-down reflex scores improved significantly following the intervention in both groups, with a substantially greater improvement observed in the experimental group than in the control group. The experimental group demonstrated a larger mean increase

Variables	Category	Experimental (n=110) n (%)	Control (n=110) n (%)	p-value
Age (years)	18-25	53 (48.2)	48 (43.6)	0.503
	26-30	43 (39.1)	46 (41.8)	
	31-35	14 (12.7)	14 (12.7)	
	≥ 36	0 (0.0)	2 (1.8)	
Type of family	Nuclear	60 (54.5)	65 (59.1)	0.496
	Joint	50 (45.5)	45 (40.9)	

Education	Primary	30 (27.3)	23 (20.9)	0.352
	Secondary	29 (26.4)	36 (32.7)	
	Higher secondary	37 (33.6)	31 (28.2)	
	Graduate+	14 (12.7)	20 (18.2)	
Parity	Primipara	67 (60.9)	70 (63.6)	0.676
	Multipara	43 (39.1)	40 (36.4)	
Type of LSCS	Elective	72 (65.5)	82 (74.5)	0.141
	Emergency	38 (34.5)	28 (25.5)	
Newborn gender	Male	65 (59.1)	56 (50.9)	0.313
	Female	45 (40.9)	54 (49.1)	
Birth weight (g)	2500–3000	81 (73.6)	87 (79.1)	0.461
	3001–3500	26 (23.6)	22 (20.0)	
	>3500	3 (2.7)	1 (0.9)	
Breastfeeding initiation	≤ 4 hours	9 (8.2)	12 (10.9)	0.397
	>4 hours	101 (91.8)	98 (89.1)	
Source of lactation information	Previous experience	16 (14.5)	18 (16.4)	0.496
	Antenatal classes	34 (30.9)	30 (27.3)	
	Family	31 (28.2)	30 (27.3)	
	Books/magazines	29 (26.4)	29 (26.4)	
	Mass media	0 (0.0)	3 (2.7)	

[Table/Fig-1]: Baseline socio-demographic, obstetric and neonatal characteristics of participants (N=220).

in let-down reflex scores compared with the control group. Both the within-group improvement and the post-intervention between-group difference were statistically significant ($p < 0.001$), indicating the effectiveness of the intervention [Table/Fig-2].

Outcomes	Groups	Before mean $\pm$ SD	After mean $\pm$ SD	Mean Change	Wilcoxon Z (p-value)	Mann-Whitney U Z (p-value)
Let-down reflex	Experimental	2.43 $\pm$ 1.24	5.03 $\pm$ 0.70	2.6	8.92 (<0.001)	9.26 (<0.001)
	Control	2.35 $\pm$ 1.20	3.54 $\pm$ 1.13	1.19	8.75 (<0.001)	

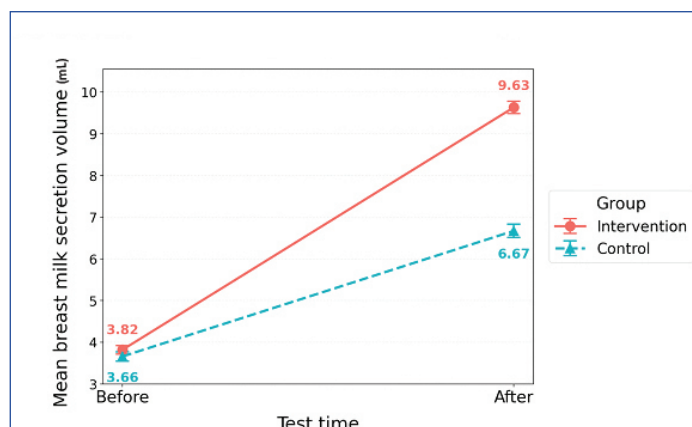
[Table/Fig-2]: Let-down reflex by experimental and control groups before and after intervention.

Breast milk secretion improved following the intervention in both groups, with a substantially greater improvement observed in the experimental group. Following the intervention, no mothers in the experimental group remained in the poor category, and a higher proportion achieved excellent breast milk secretion compared with the control group. These findings indicate that the combined back massage and affirmation-based relaxation intervention was associated with improved breast milk secretion among post-caesarean mothers [Table/Fig-3].

Groups	Poor n (%)	Good n (%)	Excellent n (%)
Experimental (pre-test)	56 (50.9)	54 (49.1)	0
Experimental (post-test)	0	82 (74.5)	28 (25.5)
Control (pre-test)	59 (53.6)	51 (46.4)	0
Control (post-test)	27 (24.5)	80 (72.7)	3 (2.7)

[Table/Fig-3]: Breast milk secretion by experimental and control groups before and after intervention.

Breast milk secretion increased in both groups following the intervention, with a markedly greater improvement observed in the experimental group than in the control group [Table/Fig-4]. Although baseline breast milk secretion was comparable between the groups, post-intervention values were significantly higher among mothers who received the combined back massage and affirmation-based



[Table/Fig-4]: Mean breast milk secretion before and after the intervention among mothers in the experimental and control groups.

relaxation intervention. Both the within-group improvement and the between-group difference at post-test were statistically significant ($p < 0.001$).

All secondary breastfeeding outcomes improved significantly following the intervention, with greater improvements observed in the experimental group than in the control group [Table/Fig-5]. Mothers in the experimental group demonstrated significantly better urination and stool frequency, neonatal satiety, and breastfeeding behaviour following the intervention. Both the within-group improvements and the between-group differences at post-test were statistically significant (all $p < 0.001$), indicating superior breastfeeding adequacy among mothers who received the combined back massage and affirmation-based relaxation intervention.

Outcomes	Groups	Before mean $\pm$ SD	After mean $\pm$ SD	Mean Change (Δ)	Wilcoxon Z (p-value)	Mann-Whitney U Z (p-value)
Breast milk secretion (mL)	Experimental	3.82 $\pm$ 1.08	9.63 $\pm$ 1.56	5.81	9.12 (<0.001)	10.25 (<0.001)
	Control	3.66 $\pm$ 1.13	6.67 $\pm$ 1.63	3.01	9.13 (<0.001)	
Urination and stool frequency	Experimental	2.26 $\pm$ 0.50	5.19 $\pm$ 0.52	2.93	9.41 (<0.001)	8.06 (<0.001)
	Control	2.29 $\pm$ 0.49	3.97 $\pm$ 1.15	1.68	8.70 (<0.001)	
Satiety	Experimental	2.31 $\pm$ 0.66	6.53 $\pm$ 0.89	4.22	9.19 (<0.001)	10.31 (<0.001)
	Control	2.33 $\pm$ 0.69	4.71 $\pm$ 1.05	2.38	9.16 (<0.001)	
Breastfeeding behaviour	Experimental	5.32 $\pm$ 0.90	10.29 $\pm$ 1.18	4.97	9.19 (<0.001)	8.93 (<0.001)
	Control	5.17 $\pm$ 0.73	8.60 $\pm$ 1.17	3.43	9.22 (<0.001)	

[Table/Fig-5]: Comparative effect of intervention on primary and secondary outcomes among post-caesarean mothers.

After adjusting for baseline let-down reflex, type of LSCS, and maternal age, the intervention remained a significant independent predictor of improved post-intervention let-down reflex ($p < 0.001$) [Table/Fig-6]. Baseline let-down reflex and type of LSCS were also significantly associated with the outcome, whereas maternal age was not. The ordinal logistic regression model demonstrated a good fit and confirmed that the intervention was independently associated with improved lactation outcomes after controlling for relevant clinical and demographic factors.

After adjusting for baseline breast milk secretion, the intervention remained a significant independent predictor of post-intervention breast milk secretion ($p < 0.001$) [Table/Fig-7]. Baseline breast milk secretion was also significantly associated with post-intervention values, whereas the group-by-baseline interaction was not significant, indicating that the assumption of homogeneity of

Predictors	B (SE)	Adjusted odds ratio (95% CI)	Wald χ^2	p-value
Intervention (Experimental vs Control)	3.216 (0.62)	24.9 (7.46-83.4)	27.32	<0.001
Baseline let-down reflex	1.733 (0.37)	5.65 (2.75-11.65)	22.05	<0.001
Type of LSCS (Emergency vs Elective)	0.762 (0.38)	2.14 (1.02-4.49)	4.06	0.044
Age (years)	-0.410 (0.237)	0.66 (0.42-1.06)	3	0.083

[Table/Fig-6]: Adjusted association between intervention and post-intervention let-down reflex among post-caesarean mothers (n=220).

Predictors	B (SE)	95% CI	p-value	Partial η^2
Intervention (Experimental vs Control)	4.05 (0.66)	2.74 to 5.35	<0.001	0.148
Baseline milk secretion (ml)	0.87 (0.12)	0.64 to 1.10	<0.001	0.202
Group $\times$ Baseline interaction	-0.32 (0.17)	-0.66 to 0.01	0.059	0.016

[Table/Fig-7]: Adjusted effect of intervention on post-intervention breast milk secretion among post-caesarean mothers.

F(3, 216)=108.61, $p < 0.001$; $R^2=0.601$ (Adjusted $R^2=0.596$); Residual mean square error=1.91; Analysis performed using analysis of covariance (ANCOVA), adjusting for baseline breast milk secretion. The interaction term between group and baseline was tested to assess the homogeneity of regression slopes assumption and was not statistically significant ($p=0.059$), indicating that the assumption was satisfied. Partial η^2 represents effect size

regression slopes was satisfied. The ANCOVA model demonstrated a good fit and confirmed a significant effect of the intervention on breast milk secretion after adjustment for baseline values.

DISCUSSION

The present study demonstrated that a structured combination of back massage and affirmation-based relaxation significantly improved both physiological and functional indicators of lactation among post-caesarean mothers. Compared with the control group, mothers receiving the intervention achieved a greater improvement in subjective let-down reflex and a greater increase in breast milk secretion, resulting in a significant between-group difference of 2.80 mL. Furthermore, mothers in the intervention group had 24.9-fold higher odds of achieving a better let-down reflex category and an adjusted increase in breast milk secretion after controlling for baseline values. These findings are consistent with Jogdeo BA, who reported a significant improvement in the let-down reflex following back massage among post-caesarean mothers in Pune, supporting the beneficial role of back massage in facilitating lactation [20].

The improvement in breast milk secretion is also supported by previous studies. Arumsari D et al., reported a significant increase in breast milk production following a combination of acupressure and affirmation relaxation [21]. Similarly, Sari L et al., found significantly higher milk production with oxytocin massage combined with hypno-breastfeeding compared with the control group [22]. Feher SD et al., further reported that a 20-minute audiotape on relaxation and visual imagery technique produced a greater milk volume for premature infants than a randomised control group mothers, suggesting that relaxation technique may enhance lactation [23].

The present study demonstrated significant improvements in breastfeeding-related outcomes following the combined intervention of back massage and affirmation relaxation. Greater improvements were observed in neonatal urination and stool frequency, satiety and breastfeeding behaviour. These findings suggest that the intervention may have enhanced overall breastfeeding effectiveness rather than merely increasing milk volume. The improvement in neonatal urination and stool frequency is consistent with findings reported by Patel U et al., who observed a significant effect of back massage among 220 postnatal mothers in Indore [24]. Similar significant improvements in neonatal urination and stool frequency following back massage were reported by Kushwaha DA et al., and Widiastuti NMR et al., [25,26]. These findings support the potential

role of back massage in promoting effective breastfeeding and adequate milk transfer.

Neonatal satiety also improved significantly in the present study, with a greater improvement in the intervention group. This finding is consistent with Jogdeo BA who reported a statistically significant improvement in neonatal satiety during and after breastfeeding following back massage [20]. Similar supportive findings were reported by Khanal TB et al., [27].

A substantial improvement was also observed in neonatal breastfeeding. This is supported by Dib S et al., who found beneficial effects of a breastfeeding relaxation intervention on infant outcomes, including weight-for-age and crying duration [7]. Likewise, Kutty RB et al., reported significantly better breastfeeding behaviour among newborns in the experimental group following early initiation of breastfeeding [28].

The strong adjusted association between the intervention and let-down reflex, together with the moderate-to-large adjusted effect on breast milk secretion, suggests that the intervention influenced lactation beyond the natural physiological progression observed during the early postpartum period, and the findings are compatible with the hypothesised psychophysiological mechanism; however, the underlying biological pathway was not directly assessed. The alignment between physiological and behavioural outcomes strengthens the plausibility of a psychophysiological mechanism, rather than a purely behavioural or technical effect.

Limitation(s)

The present study has several limitations. The quasi-experimental design may have introduced selection bias because participants were not randomly allocated to the study groups. In addition, the study was conducted at a single centre, which may limit the generalisability of the findings to other settings. Finally, hormonal markers such as oxytocin and cortisol were not directly measured; therefore, the proposed psychophysiological mechanism underlying the observed improvements remains inferential.

CONCLUSION(S)

The present quasi-experimental study suggests that the combined back massage and affirmation-based relaxation intervention was associated with improved breastfeeding-related outcomes among post-caesarean mothers. The findings should be interpreted cautiously because the study was non randomised and the proposed psychophysiological mechanisms were not directly measured.

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