

The Effect of Breastfeeding Relactation Intervention and Oxytocin Massage on Breastfeeding Self-Efficacy and Duration of Successful Breastfeeding Relactation: A Randomized Controlled Study

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KEYWORDS

Breastfeeding Relactation, Oxytocin Massage, Breastfeeding Self-Efficacy, Self Monitoring Journal.

ABSTRACT:

Introduction : One of the significant predictors of exclusive breastfeeding failure in Indonesia is low self-efficacy related to breastfeeding. Prior research conducted in India has indicated that breastfeeding relactation is an effective intervention to assist mothers in resuming breastfeeding. Additionally, oxytocin massage has proven effective in enhancing breast milk production. The objectives of this study are to evaluate the differences between breastfeeding relactation interventions and oxytocin massage concerning breastfeeding self-efficacy before and after the intervention and to assess the duration of successful breastfeeding relactation.

Methods: This study employed a pure pre-post test experimental design involving both an intervention group and a control group, conducted from June to December 2023. The intervention group comprised 40 mothers who desired to pursue relactation for breastfeeding. The sampling method utilized randomization through Microsoft Excel. Participants in the research were mothers who had ceased breastfeeding due to perceptions of insufficient breast milk, reliance on formula feeding, and issues related to nipple confusion and who sought to return to exclusive breastfeeding within Jember Regency, Indonesia. During the intervention phase, four midwives trained and supervised by International Board Certified Lactation Consultants (IBCLCs) facilitated relactation breastfeeding sessions. The relactation process for participants occurred across three health centre locations in Jember Regency. The mothers in the study received a relactation breastfeeding journal to monitor their progress, collected prospectively until the infant could breastfeed independently without needing relactation supplements or any food besides breast milk. To evaluate the intervention's effect, descriptive analysis and t-tests were conducted to assess differences in breastfeeding self-efficacy and the duration of successful lactation breastfeeding between the intervention and control groups.

Results : This study demonstrates a significant difference in breastfeeding self-efficacy and the duration of successful breastfeeding between the intervention group and the control group. The intervention methods, specifically relactation breastfeeding and oxytocin massage, are effective approaches for resuming breastfeeding after a cessation period.

Conclusion : Relactation interventions and oxytocin massage have been demonstrated to be effective strategies for facilitating the resumption of breastfeeding, enhancing breast milk production, and achieving successful exclusive breastfeeding for durations of up to six months or even two years or longer. Healthcare professionals must offer these interventions to mothers seeking to return to exclusive breastfeeding after a period of cessation. Additionally, implementing a self-monitoring journal for breastfeeding can be a valuable tool to improve breastfeeding self-efficacy among mothers.

1. Introduction

Breastfeeding relactation refers to the process whereby mothers who have temporarily ceased breastfeeding—whether for a few days, weeks, or months—seek to resume this practice. It also

applies to mothers who have not previously breastfed but wish to stimulate lactation (Lawrence, 2022). This relactation method is not a novel concept; it has been refined by breastfeeding practitioners over the past decade. Breast milk is recognized as the most suitable nutrition for infants, supporting their immunity and development from an evolutionary perspective to the present day (Neu, 2024). Furthermore, breast milk offers numerous health advantages for mothers and infants and economic benefits that extend to society (North et al., 2022). The relactation method significantly contributes to the promotion of exclusive breastfeeding.

Relactation represents an endeavour by mothers to cultivate a deeper bond and emotional connection with their infants through direct breastfeeding. Evidence suggests that direct breastfeeding enhances maternal-infant bonding and sensitivity more effectively than bottle feeding (Hahn-Holbrook et al., 2021).

Nonetheless, the global prevalence of exclusive breastfeeding remains alarmingly low. Currently, only 24.9% of infants worldwide are exclusively breastfed until the age of six months (Burton et al., 2022; Centers for Disease Control and Prevention., 2022; Ouyang et al., 2024). One in three infants is introduced to prenatal foods in low- and middle-income countries. A significant factor contributing to the early introduction of formula milk is the misinterpretation of inadequate breast milk supply, which parents and professionals often perpetuate in response to the infant's feeding behaviours, including fussiness (Burton et al., 2024; Pérez-Escamilla et al., 2023).

Several elements can lead mothers to discontinue exclusive breastfeeding. One key predictor is low breastfeeding self-efficacy, which often results in the early introduction of supplementary food, such as formula milk. Research conducted in Indonesia indicates that nearly fifty percent of breastfeeding mothers experience low self-efficacy and encounter challenges related to insufficient knowledge about breastfeeding (Titaley et al., 2021).

There remains a paucity of research concerning breastfeeding training about standard guidelines, training content, educator qualifications, and assessment strategies, which collectively impede the optimization of breastfeeding education and support for professional staff (Mulcahy et al., 2022). Additionally, there is limited exploration regarding the capacity of healthcare workers to facilitate breastfeeding relactation.

The breastfeeding relactation method serves as a practical approach for mothers who have ceased breastfeeding as well as for adoptive mothers wishing to begin breastfeeding. A study in India substantiates that breastfeeding lactation yields positive outcomes when accompanied by continuous support from family members and trained professional staff (Mehta et al., 2018). There is a corresponding necessity for experienced personnel with the requisite knowledge, skills, and clinical resources to provide appropriate guidance in breastfeeding relactation across various scenarios (Cazorla-Ortiz et al., 2020).

The theory of lactation physiology underpins breastfeeding relactation, which will likely succeed when nipple stimulation is effectively administered. This stimulation predominantly influences the release of hormones such as prolactin, oxytocin, estrogen, progesterone, and other hormones essential for breast milk production. The hypothalamic-pituitary axis regulates three primary hormones—prolactin (PRL), growth hormone (GH), and estrogen (E) (Dumas, 1999; Ni et al., 2021). Furthermore, oxytocin massage may enhance breast milk production, contingent upon the frequency and duration of breastfeeding (Triansyah et al., 2021).

The oxytocin hormone significantly affects the myoepithelial cells surrounding the mammary alveoli, facilitating their contraction and the subsequent release of breast milk from the mammary glands. The mother's psychological state notably influences the oxytocin reflex; feelings of anxiety, stress, uncertainty, and diminished self-confidence may inhibit the release of breast milk. Therefore, one strategic approach to sustaining oxytocin levels involves administering back massages to promote relactation and comfort for the mother (Triansyah et al., 2021). To date, there has been a lack of research addressing the intersection of breastfeeding

lactation and oxytocin massage about breastfeeding self-efficacy, rendering this inquiry a novel contribution to the field.

2. Objectives

The breastfeeding relactation and oxytocin massage intervention aims to analyse the effects of the intervention group compared to the control group on breastfeeding self-efficacy and the duration of successful breastfeeding relactation.

3. Methods

3.1 Population and sample of the research

The study was conducted from June to December 2023 utilizing a proper experimental design characterized by a pre-test and post-test with a control group. The primary objective of the first phase was to compare breastfeeding self-efficacy between the intervention group and the control group before and after the breastfeeding relactation intervention. The second phase evaluated the intervention and control groups' mean duration of successful breastfeeding relactation.

Setting

The number of mothers not engaging in exclusive breastfeeding lacks sufficient explanatory data. Nearly half of breastfeeding mothers report low self-efficacy, which significantly affects their ability to provide exclusive breastfeeding, particularly during the initial postpartum period (Titaley et al., 2021). In a study conducted from June to December 2023, 284 postpartum mothers with infants aged 0-2 months were recruited from three health centres in Balung, Klatakan, and Sabrang in Jember Regency, Indonesia. Recruitment of participants for the relactation breastfeeding intervention was facilitated by local Village Midwives and health cadres in these areas.

The participant population consisted of mothers with infants aged between 1 week and 2 months. The inclusion criteria for subjects required that mothers were unemployed, were willing to refrain from using bottles during the intervention, had infants with a birth weight of at least 2500 grams, had full-term births, and had healthy infants. Additionally, mothers needed to perceive their breast milk supply as inadequate, having resorted to giving formula milk and halting breastfeeding within several days, weeks, or months. The exclusion criteria encompassed mothers or infants suffering from illness during the intervention, mothers experiencing hormonal disorders affecting breastfeeding, and infants diagnosed with tongue ties.

The respondents willing to participate in the study were allocated into intervention and control groups through randomization executed via the Excel program. The intervention group received relactation breastfeeding support and oxytocin massage therapy, while the control group was provided only with relactation breastfeeding support. During the study, two mothers from the intervention group and three from the control group withdrew from the relactation breastfeeding intervention due to infant distress and family objections. Mothers who obtain health support from their families are likely to exhibit higher levels of self-efficacy than those who do not receive such support (Kumboyono et al., 2020).

Sample size determination was conducted using G*Power software, establishing parameters of a 95% confidence interval, an alpha level of 0.05, and an effect size of 0.5703. The minimum sample size required was 41 participants, aiming for a statistical power of 0.80. To account for potential follow-ups and attrition, the sample size was adjusted by an increase of 10%, resulting in a total sample size of 45. Following the data collection phase, recalculations using G*Power software indicated an alpha level of 0.05, with an effect size of 0.5 and a post-hoc power 1.00. Ultimately, the intervention group included 20 participants, with an equal number in the control group.

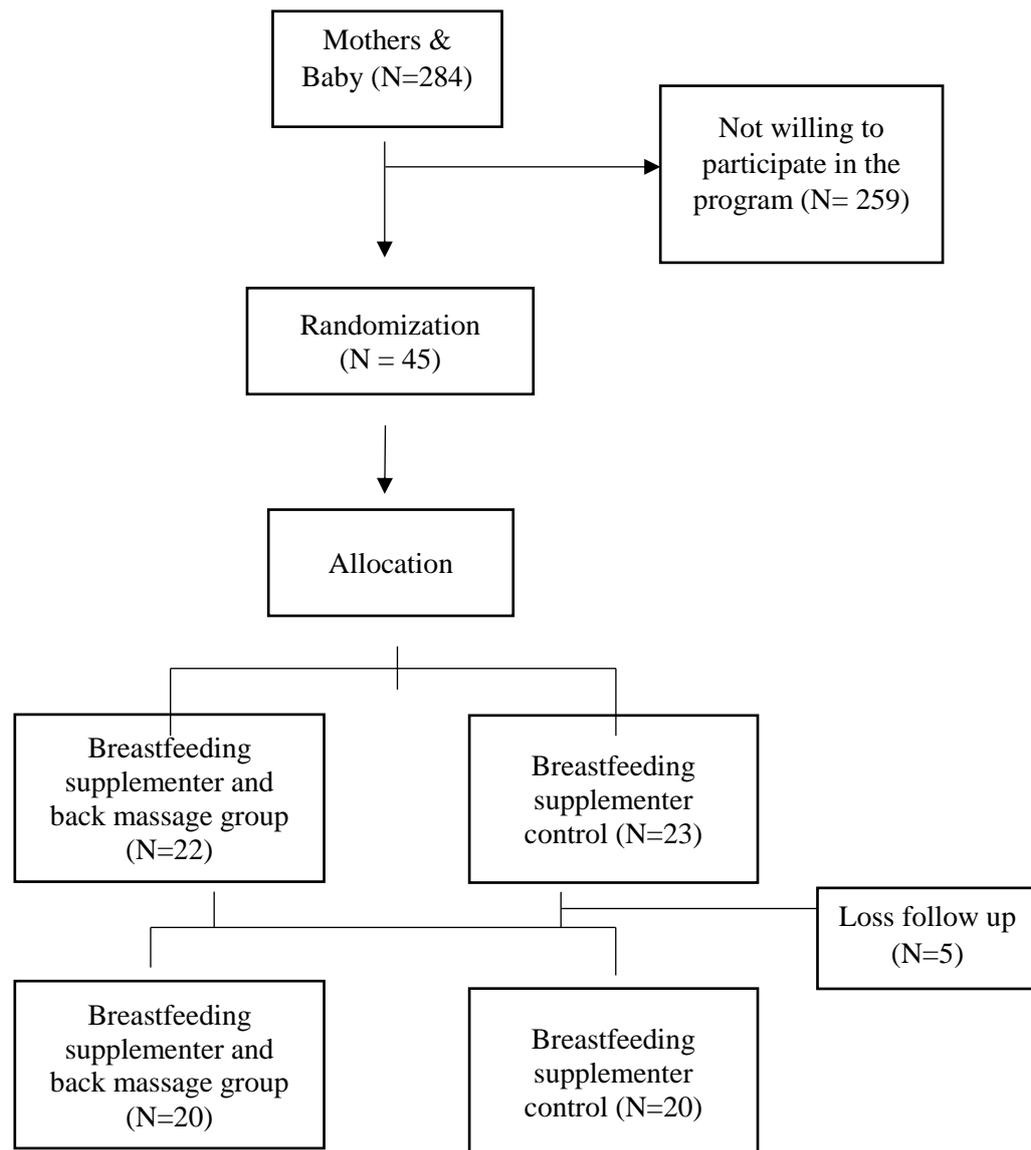


Figure 1. CONSORT diagram demonstrating the flow of participants in this study

3.2 Data collection

Breastfeeding Relactation intervention

In the Intervention group, a breastfeeding relactation method combined with oxytocin massage was administered for 15 minutes once daily until participants successfully achieved exclusive breastfeeding. In contrast, the Control group was provided with the breastfeeding relactation method alone, without the addition of oxytocin massage.

This study was conducted by four midwives who received specialized training from a paediatrician certified as an International Board Certified Lactation Consultant (IBCLC). The training included a one-day session on the breastfeeding relactation method and oxytocin massage, comprising 60 minutes of theoretical knowledge over two meetings and four hours of practical skills focused on the installation of breastfeeding supplements. Pre- and post-tests were conducted to determine the eligibility of the midwives as breastfeeding relactation enumerators for the study.

Research assistants conducted daily home visits at mutually agreed-upon times with the participants. Activities during these home visits included: 1) Obtaining informed consent; 2) Measuring maternal breastfeeding self-efficacy prior to the intervention; 3) Assessing the conditions of both the mother and infant in accordance with the established inclusion criteria; 4) Measuring the infant's weight and calculating the infant's daily nutritional requirements until

exclusive breastfeeding was achieved; 5) Providing comprehensive education on breastfeeding relaxation, encompassing its benefits for both mothers and infants, the mechanisms involved, detailed practices, proper latching techniques via video and printed materials, instruction on the use of supplementary relaxation, and evaluating the success of the relaxation process through a dedicated journal, alongside guidance on recognizing issues during breastfeeding relaxation and the importance of contacting a midwifery counselor promptly; 6) Administering the 15-minute oxytocin massage specifically for the intervention group; and 7) Measuring the duration of success associated with the breastfeeding relaxation method and reassessing breastfeeding self-efficacy following the completion of the relaxation process.

1.2.1 Data Collection Tool

Quantitative data were collected using questionnaires, namely:

1. The demographic data collected included the mother's age, parity, level of education, mode of delivery, the infant's age, and the infant's gender.
2. Oxytocin was massaged on the mother's back (Kilci Erciyas & Kavlak, 2024).

The oxytocin massage technique administered by the enumerator is conducted as follows:

- a. The oxytocin massage should be performed with the mother seated comfortably on a bed or chair in a relaxed posture.
- b. Olive oil is to be applied to the mother's back, initiating the massage at the scapula bones on both sides of the spine.
- c. A firm pressure is applied using a fist to create small circular friction movements with the thumb.



Figure 2. Back Massage Technique (WHO, 2009)

3. The research on pre and post-intervention lactation breastfeeding seeks to evaluate breastfeeding self-efficacy before and after implementing the relaxation intervention. Data collection was conducted utilizing short questionnaires based on Dennis's breastfeeding self-efficacy scale, comprising 14 items (Amini et al., 2019; Piro & Ahmed, 2020). The statements employed a Likert scale informed by Bandura's theory of self-efficacy. All affirmative items initiated with the phrase "I am always sure / can," using a 5-point Likert scale, while negative items commenced with a score of 1, indicating "not sure / cannot at all." The breastfeeding self-efficacy scores ranged from 14 to 70, with higher scores denoting elevated breastfeeding self-efficacy and lower scores indicating the opposite.

4. The training of mothers on proper breastfeeding positioning and attachment involved the use of pictorial references from the publication "Mother's Guide to Breastfeeding: Prenatal Curriculum from The New York City" (page 23) (Farley & Bloomberg, 2024; Gallagher, 2019) and instructional videos demonstrating correct attachment techniques <https://globalhealthmedia.org/videos/breastfeeding-attachment/>, alongside practical simulations utilizing dolls to illustrate various breastfeeding positions.
5. Preparation for relactation breastfeeding involved the provision of a breastfeeding observation sheet to respondents. This tool was utilized to log breastfeeding or formula feeding by calculating the infant's weight in grams multiplied by 150, then dividing by 8 or 12, corresponding to the number of feedings within 24 hours. For example, an infant weighing 3000 grams would require 450,000 grams of intake across eight feeds daily, equating to 56 cc per feeding, with subsequent daily reductions of 10 cc until adequate breast milk production was achieved. Observations for supplementary relactation included monitoring the infant's urination frequency, which should exceed six times daily, and assessing urine colour and volume via diapers. The implementation of supplementary relactation strategies was closely monitored through daily home visits by healthcare professionals. Additionally, infants exhibiting nipple confusion were trained to consume milk or formula via a cup feeder. In such cases, nursing mothers could apply a 40 cm Fr.5 feeding tube on their index finger as a supplementary method until the infant successfully transitions to direct breastfeeding. Nursing mothers were also encouraged to regularly express breast milk, irrespective of the quantity produced, to stimulate the hormones prolactin and oxytocin. This supplementary relactation approach commenced on the first day of intervention. It continued until the infant could latch and suckle independently, allowing mothers to breastfeed for a maximum of two hours or as frequently as desired without restrictions on duration or frequency. It is essential that mothers refrain from using artificial feeding methods or providing any food or drink other than breast milk or formula milk to the infant (Dumas, 1999). The effectiveness of relactation breastfeeding could be assessed by monitoring the correctness of breastfeeding position and attachment, the frequency of breastfeeding (8-12 times per day), infant urination (at least six times per day), stool assessments, and the infant's weight gain. Supplementation may be discontinued when the infant demonstrates signs of effective breastfeeding; however, mothers are still advised to continue direct breastfeeding at the stated frequency of 8-12 times per day (Hackney et al., 2013).

Setting Supplementary Relactation

The following steps implemented the supplementary relactation method (Dumas, 1999; Hackney et al., 2013):

- a. Install a nasogastric tube (NGT) or an appropriate plastic tubing and a cup designated for holding donor breast milk or formula.
- b. Create a small aperture on one side of the tubing, positioned near the base that leads to the infant's mouth. This aperture facilitates the drainage of breast milk.
- c. Prepare the milk and measure an adequate quantity into the cup, sufficient for the infant's needs during a single feeding.
- d. Position the base of the tubing adjacent to the nipple, enabling the infant to suck from both the nipple and the tubing simultaneously. Secure the tubing to the breast using duct tape.
- e. Direct the opposite end of the tubing into the cup containing breast milk.
- f. Employ a tying mechanism, such as a paperclip or hose clamp, to regulate the flow of breast milk, ensuring that the infant does not consume excessively.
- g. Monitor the flow of breast milk so that the infant can suck for approximately 30 minutes during each feeding session. Elevating the cup will increase the flow rate while lowering the flow rate.
- h. Allow the infant to suck as desired, even when supplementation is not being utilized.

- i. After each use, thoroughly clean and sterilize the supplementary tubing and the breast milk cup.

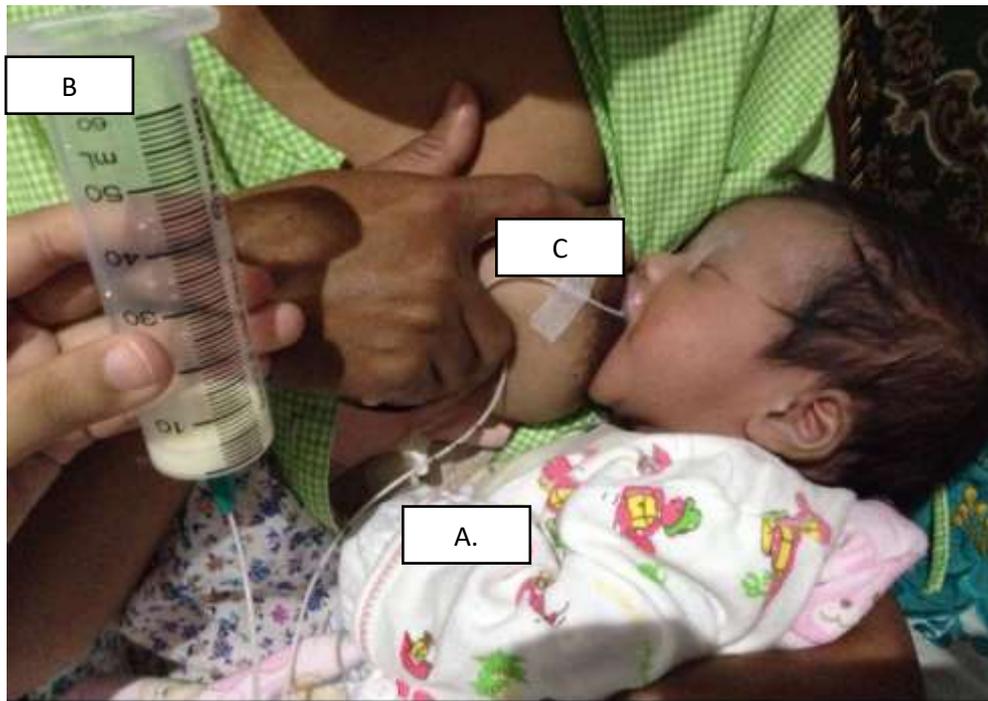


Figure 3. Using a breastfeeding supplementer (A. 40-inch #5 French feeding tube; B. 50 ml syringe for Supplement fluid expressed breast milk (EBM) or Artificial Baby Milk (ABM); C. Tape; D. Small syringe for cleaning the tube after each Feeding; E. Scissors)

6. It is recommended that supplementary relactation journals be provided to mothers to facilitate the documentation of their breastfeeding relactation activities. These journals will assist in identifying obstacles encountered during the relocation process and will enable the provision of consultations through WhatsApp and video calls.

Schedule supplementary relactation

Baby Name :
 Baby Weight :
 Date/Day :

Observation	Time: 06.00A M	Time: 09.00A M	Time: 12.00A M	Time: 03.00P M	Time: 06.00P M	Time: 09.00P M	Time: 00.00P M	Time: 03.00A M
Breastfeeding Duration								
Latching								
Infant state								
Type supplementation								
Drinking frequency								
Urinary output								
Stool Output								
Infant state								

Note :

Breastfeeding duration	Latching	Infant state
a. 1-2 minutes Expressed milk	Not at all latch correctly	Difficult to awake
b. 3-4 minutes Pasteurized human milk	Slipping off the breast	Drowsy (semi- dozing)
c. 5-10 minutes Formula	Latch with nipple shield	Quite alert
d. 10-15 minutes	Latch correctly Crying	Active alert

Supplementation Method	Urine Output	Stool Output
Supplemental set	Slightly wet	Seedy/lose
Cuffeder	Moderately wet	Formed
Pipet	Heavily wet	Watery

Maternal Breastfeeding Problems

Breast tissue is soft/no milk coming in
Sore nipples
Flat/inverted nipple
Engorgement
Mastitis

Figure 4. Supplementary Relactation Self-Monitoring Journal (Ahmed & Ouzzani, 2013)

7. The objective of the post-breastfeeding relactation intervention study is to evaluate breastfeeding self-efficacy after the intervention is completed.

3.3 Data evaluation

Data were analyzed using SPSS version 30 on a MacBook Air. Descriptive statistics were presented as frequencies. The comparison between independent groups was conducted using the t-test, with a p-value of less than 0.05 deemed statistically significant. The data exhibited a normal distribution, and no outliers were identified.

3.4 Ethical dimension of the research

The research conformed rigorously to the guidelines set forth by the Health Research Ethics Commission of the Faculty of Medicine at Brawijaya University, under study protocol number 637/UN 10.F08.11.31/PP/2023. Before the commencement of data collection, respondents were provided with comprehensive information regarding the research's objectives, methodologies, and the voluntary and confidential nature of their participation. All respondents provided written informed consent before their involvement in the study.

4. Results

Table 1. Characteristics of Mother and Baby

Categories	Intervention Group	Control Group	P-value
Mother's age	21-35 years old	20 (55.6%)	0.053
	> 35 years old	4 (100%)	
Parity	Primiparous	10 (50%)	0.624
	Multiparous	10 (50%)	
Education Level	Elementary	4 (66.7%)	0.332
	Junior High School	2 (100%)	

	High School	14 (53.8%)	12 (46.2%)	
	Diploma	2 (333.3%)	4 (66.7%)	
Birth Type	Vaginal birth	6 (40%)	9 (60%)	0.257
	Cesarean section	14 (56%)	11 (44%)	
Baby's Age	1-4 week old	4 (23.5%)	13 (76.5%)	0.005
	5-8 week old	16 (69.5%)	7 (30.4%)	
Baby's gender	Boy	10 (55.6%)	8 (44.4%)	0.376
	Girl	10 (45.5%)	12 (54.5%)	

a Fisher's exact test.

Tabel 2. Results of Mothers' Self-efficacy and Duration Relactation Scores Mean Before Intervention in Two Groups (95% confidence interval)

	Intervention = 20	Control= 20	p-value
Breastfeeding Self Efficacy	33.40	29.40	0.01
The mean breastfeeding self-efficacy scores before the intervention in two groups (with a 95% confidence interval) are presented.			
Breastfeeding Self Efficacy	57.60	42.25	0.01
The mean breastfeeding self-efficacy scores after the intervention in two groups (with a 95% confidence interval) are presented.			
Relactation duration	7.45	15.80	0.01
Results of the mean score for relactation duration of breastfeeding after the intervention in two groups (95% confidence interval).			

Independent t-test

A study conducted from June 2023 to December 2023 involved 40 pairs of mother and infant participants. In both the treatment and control groups, the participants received breastfeeding relactation and oxytocin massage interventions. The socio-demographic characteristics of the participants showed no significant differences between the intervention and control groups, except for the variable about the age of the infants, which exhibited a vital difference, evidenced by a p-value of 0.05.

The effect of breastfeeding relactation and oxytocin massage interventions on breastfeeding self-efficacy was assessed. The pre-test scores analyzed using the t-independent test demonstrated a statistically significant difference ($p = 0.01$), with the intervention group achieving a mean score of 33.40 compared to the control group's mean of 29.40. Similarly, the post-test scores for breastfeeding self-efficacy, also analyzed via the t-independent test, revealed a significant difference ($p = 0.01$), with the intervention group attaining a mean score of 57.60, in contrast to the control group's mean of 42.25. Moreover, the duration of relactation in the intervention group was notably shorter, with a mean of 7.45 days compared to the control group's 15.80 days.

5. Discussion

The Effect of Breastfeeding Lactation Interventions and Oxytocin Massage on Breastfeeding Self-Efficacy and The Duration of Exclusive Breastfeeding Success

The statistical analysis conducted in this study yielded a p-value of 0.01, indicating a significant effect of lactation breastfeeding and oxytocin massage on breastfeeding self-efficacy. The intervention group exhibited an average breastfeeding self-efficacy score of 57.60, notably higher than the control group's average score of 42.25. Relactation breastfeeding refers to the process in which a mother either desires to resume breastfeeding after cessation or has never initiated breastfeeding, necessitating stimulation to induce lactation (Lawrence, 2022). Back

massage has been identified as a straightforward and effective method for stimulating the let-down reflex, thereby enhancing breast milk production and promoting the release of oxytocin (Hanum et al., 2015; Kilci Erciyas & Kavlak, 2024). Furthermore, oxytocin massage facilitates relactation, reduces swelling, and alleviates blockages in breast milk (Kilci Erciyas & Kavlak, 2024; Wulandari et al., 2016). Inadequate and sluggish breast milk production can lead to insufficient nourishment for infants. Prolactin is the primary hormone influencing breast milk production, while oxytocin, released from the posterior pituitary gland in response to nipple stimulation, is also crucial. Oxytocin acts on the myoepithelial cells surrounding the mammary alveoli, causing them to contract and release milk stored within the mammary glands. The oxytocin reflex is subject to psychological influences; factors such as anxiety, stress, doubt, and lack of confidence in the mother may impede milk release. A back massage can help sustain oxytocin levels, promoting relactation and comfort for the mother (Triansyah et al., 2021).

Breastfeeding self-efficacy encompasses an individual's confidence in their ability to breastfeed their infant successfully (Dennis, 1999; Piro & Ahmed, 2020). It serves as a significant predictor of exclusive breastfeeding outcomes, which include: 1) the maternal choice to utilize breast milk as the primary form of nourishment for their child; 2) the efforts undertaken to facilitate breastfeeding; 3) persistence in achieving breast milk provision; 4) a mindset conducive to personal development or potentially detrimental to breastfeeding; and 5) the capability to manage emotional responses when confronting breastfeeding challenges (Dennis, 1999; Piro & Ahmed, 2020). Currently, there is a lack of research exploring the relationship between relactation breastfeeding, oxytocin massage, and breastfeeding self-efficacy. A systematic review and meta-analysis demonstrated that breastfeeding education and support interventions significantly improved breastfeeding self-efficacy over two months and enhanced exclusive breastfeeding success rates (Wong et al., 2021). Furthermore, a study conducted in India indicated that successful lactation breastfeeding could be achieved at 100% with continuous support from trained healthcare workers and family members, combined with appropriate counselling and positive reinforcement to bolster the mother's confidence in breastfeeding (Mehta et al., 2018).

The statistical analysis conducted in this study yielded a p-value of 0.01, indicating a significant effect of breastfeeding relactation coupled with oxytocin massage on the duration of successful breastfeeding relactation. The intervention group's average duration of breastfeeding relactation was 7.45 days, considerably shorter than the control group's average duration of 15.80 days. Prior research indicates that the typical duration for successful breastfeeding lactation ranges between 15 and 20 days (De et al., 2002; Mehta et al., 2018; Rogers, 1997; Tomar, 2016).

Furthermore, this study identified that the infant's age significantly influences the duration of successful breastfeeding relactation. Specifically, the findings suggest that younger infants exhibit more rapid success in relocation efforts. The average duration for relactation in healthy infants is approximately 7 days. In contrast, infants requiring intravenous fluids due to health complications and unable to suckle effectively demonstrated an average relactation duration of 17 days. Additionally, bottle-fed infants experienced the most extended relactation duration, relactation, and 29 days, whereas cup-fed infants took an average of 21 days to achieve successful relactation (Mehta et al., 2018).

Limitation

This study focused specifically on mothers who experienced difficulties with insufficient milk production, excluding those who had never breastfed. Future research should include a broader range of participants, such as adoptive mothers or those who are ill but wish to breastfeed again. Additionally, this study utilized a small sample size, which may limit the generalizability of the findings and fail to capture a variety of perspectives or experiences. This study's respondents were limited to mothers who had problems with insufficient milk production but not mothers who had never breastfed. Future research is expected to prevent relocation from being carried out on adoptive mothers or mothers who are sick, breastfeeding, and want to

breastfeed again. The small sample size limits the generalizability of the results and may not represent diverse perspectives.

Conclusion

The study's findings indicated that interventions focused on breastfeeding relactation and applying oxytocin massage significantly enhanced breastfeeding self-efficacy. Furthermore, these interventions demonstrated a shorter average duration to achieve successful breastfeeding relactation compared to the absence of oxytocin massage in Jember Regency, Indonesia. It is anticipated that midwives, nurses, and physicians will actively encourage and support mothers desiring to relocate. Additionally, healthcare professionals should consider administering oxytocin massage to lactating mothers to promote breast milk production, thereby facilitating successful breastfeeding relactation and ultimately achieving exclusive breastfeeding.

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Conflicting Interest

Nothing to declare

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