

Effect of Hand Expression and Lactation Support on Self-Efficacy of Primiparous Mothers and Quality of Breast-feeding

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Abstract

Background: Any woman who wants to breastfeed her child may benefit from Hand Expression and breastmilk storage, until recently, hand expressions with breastfeeding assistance were only indicated for women, who were at high risk for breastfeeding issues. **Aim:** to evaluate the effect of hand expression and lactation support on self-efficacy of primiparous mothers and quality of breastfeeding. **Design:** A quasi-experimental one-group (pre-posttest) research design was utilized. **Setting:** The study was conducted at the General Health Insurance-affiliated to specialist Hospital for Obstetrics and Gynecology in Port Said governorate. **Sample:** A total of 100 women who underwent immediate vaginal or cesarean deliveries at the specialized obstetrics and gynecology facility during the study period were included in the study population. **Tools:** Three tools were used for data collection namely, A structured interviewing questionnaire, Breastfeeding Self-Efficacy Scale- Short Form, and LATCH (latching, audible swallowing sounds, nipple type, comfort, and holding) score instrument. **Results:** Before and during the testing period, the study sample's overall self-efficacy lactation scale significantly increased. **Conclusion.** The intervention had successfully achieved its goal of improving overall self-efficacy and overall lactation scales among the examined sample. **Recommendations:** To enhance or sustain self-efficacy and subsequently enhance breastfeeding, healthcare providers and lactation consultants should offer lactation support to the new mothers.

Keywords: Hand Expression, Lactation Support, Self-Efficacy, Breastfeeding Quality.

Introduction

Breast milk is the best diet for infants, breastfeeding has several long-term health advantages for mothers and their children. In addition to being a matter of personal decision, nursing is also a matter of public health, according to the Centers for Disease Control

and Prevention (CDC,2013). Breastfeeding could lower the risk of postpartum depression and make it easier for women to get back to their pre-pregnancy weight. Additionally, it lowers the risk of several types of cancers and long-term metabolic syndrome (WHO, 2022). Furthermore, breastfeeding provides the mothers with some protection from infection,

lowers the likelihood of neonatal jaundice, helps to regulate blood sugar levels, boosts the immune system, and lowers the likelihood of developing type 1 diabetes (**Ansong-Assoku, Shah, Adnan and Ankola, 2022**).

In order to develop policies that protect, support, and promote breastfeeding into practice, WHO and UNICEF established the Baby-Friendly Hospitals Initiative (BFHI) in 1991. The initiative hospitals offer a framework for managing the baby-friendly through "10 stages to effective breastfeeding." This is the community facilities version of the Seven Point Plan. High levels of breastfeeding education and assistance are offered to women and their newborns in hospitals that have earned the baby-friendly certification (**WHO, 2022**). In this regard, expanding maternal support networks, especially after discharge, could be considered an efficient option. So, it is essential to have a caregiver who can support the mother in breastfeeding their babies, taking care of her parenting requirements before and after birth, and providing follow-up after discharge (**Moradi et al., 2019**).

Lactation support is defined as any breastfeeding aid given to a lactating mother by a layperson or health professional, in order to encourage infants to continue breastfeeding for extended lengths of time. When performed within the first 1 to 3 hours after birth, and often thereafter until mature breast milk is produced, manual expressing is a practice that stimulates high milk production. For mothers who struggle with nursing, manual breast compression is also advised (**Renfrew, McCormick, Wade, Quinn, and Dowswell, 2012**).

Self-efficacy is defined as a person's belief in their capacity to accomplish specific goals. Outcome expectations (belief in the likelihood that a particular activity will result in a particular outcome). Self-efficacy expectations are the confidence that a person could perform a task at a certain level to achieve the desired outcome. People who have high levels of self-efficacy in competence do not perceive challenges as risks that should be avoided; rather, they concentrate on completing challenging activities and establishing goals.

Such group of people are also able to bounce back fast from setbacks or barriers as they have persistence mindset that may get them over challenging issues (**Xiao, 2021**).

In line with this idea, it has been determined that self-efficacy is an important psychological element in enhancing breastfeeding results. A woman's self-assurance has been defined as her capacity to breastfeed her infant. The four antecedent variables makeup self-efficacy is a coping experience, social beliefs, as well a physiological and emotional states (**Xiao, 2021**).

The Breast Milk Hand Expressing (BMHE) technique is a breast massaging to encourage the releasing of breast milk from the mammary glands. Hand squeezing may also be advised throughout the pregnancy period to boost a woman's confidence in nursing prior to delivery and to collect milk shortly for infant feeding after delivery. Prenatal colostrum collection has been recommended for diabetic women in low-risk pregnancies to assist in breastfeeding in the early hours and days following delivery, as it prevents neonatal hypoglycemia, and lessen infant need for formula (**Alibhai et al., 2022**).

In recent years, BMHE has been promoted as beneficial for breast milk production in women who belong to other high-risk groups, with certain conditions (eg, mammary gland hypoplasia, hyperandrogenism, and multiple sclerosis). However, this evidence did not extend to healthy women with low-risk pregnancies, such as women without gestational diabetes or a history of cesarean delivery. In general, numerous investigations had emphasized on the following advantages of BMHE and breast milk: quicker lactation, increased self-assurance while manually pumping before the baby is born, acquaintance with one's breasts, and increased preparedness and confidence for breastfeeding (**Alibhai et al., 2022**).

In the first few days following hospital release, most women seek out the emotional, practical, and verbal support of family and friends to get through breastfeeding issues,

while one woman found family counsel to be distressing, out-of-date, and useless. A protective element in developing resilience is asking for assistance. Family members are ready to give support if they share the mother's values. If moms have access to relevant information and effective support from their family, friends, the healthcare system, and society as a whole, all moms could effectively breastfeed their babies (<http://www.who.int/topics/breastfeeding/en/>, 2019).

Significance of the study:

Pregnant women who have trouble lactation, use a breast pump, have huge breasts, or have blocked ducts may find it is beneficial to learn all about the common problems of breastfeeding early in the postpartum period. Researchers have also discovered that promoting nursing and hand expression through prenatal activity aids mothers in coping with challenges related to early feeding. Breastfeeding outcomes may also include maternal self-efficacy and confidence when prenatal preparation also includes expressing breast milk to improve a woman's confidence in her capacity to perform that according to the **WHO, 2022**. Therefore, the purpose of this study was to evaluate the effect of hand expression and lactation support on self-efficacy of primiparous mothers and quality of breastfeeding. following vaginal delivery and first-time mother-infant twins after cesarean section.

Aim of the study:

The aim of this study was to evaluate the effect of hand expression and lactation support on self-efficacy of primiparous mothers and quality of breastfeeding.

Research Hypothesis:

There is a positive relationship between hand expression and lactation support & self-efficacy of primiparous mothers and quality of breastfeeding.

Subjects And Method

A. Technical design

The technical design for the study includes four main categories, study design, setting, subjects and tools for data collection.

Design:

A quasi-experimental one-group (pre-post-test) research design was utilized.

Setting:

The current study conducted at The General Health Insurance of Port Said's governorate which affiliated to the Specialist Hospital for Obstetrics and Gynecology & outpatient clinic. The hospital includes 79 beds, two operating rooms, 15 newborn wards, 8 critical care units, 6 intermediate wards, 2 departments for natural childbirth, sonar, and X-ray departments.

Study Sample

A purposive sample including all women and their neonates, who immediately gave birth via vaginal delivery or cesarean section in the above-mentioned facility during the study period.

Women were eligible for the study upon fulfilling the following criteria.

▪ Inclusion criteria:

- ✓ Primigravida women.
- ✓ First-time pregnant women between 19 and 35 years old
- ✓ Gestational age 37 weeks or more.
- ✓ Singleton pregnancy.
- ✓ Had the intention to breastfeed.

▪ Exclusion criteria:

- ✓ History of medical or surgical problems.
- ✓ Mothers with breast or nipple anomalies.
- ✓ Mental problems.
- ✓ Neonates With any problems interfering with breast feeding.

Sampling Technique

A convenience sampling method was utilized to select the subjects for the study.

Sample Size:

The total flow rate of admission women for cesarean section (with spinal anesthesia) and normal labor regarding the first six months of 2021 is obtained from patients' affairs of Specialized Women and Obstetrics hospital was three hundred and fifty (350) women. Considering level of significance of 5%, and power of study of 80%, A sample size of one hundred (100) parturient women was selected according to Krejcie and Morgan's formula for determining sample size for a definite population (Krejcie & Morgan, 1970).

Instruments for data collection

Three tools were used to collect the relevant data. Tool's reliability and validity should be tested before data collection:

Tool (I) A structured Interviewing Questionnaire:

The researchers developed the tool to collect data about the demographic characteristics of the mothers, including age, location, educational level, marital status and length of the marriage, employment status, income, and crowding index.

Tool (II) The Breastfeeding Self-Efficacy Scale- Short Form (BSES- SF):

It was developed by Dennis (1999) and used to assess the self-efficacy of mothers. The BSES-SF is a Likert scale with a total score of 70 that ranges from 1 (not at all confident) to 5 (extremely confident) about breastfeeding. The participant's overall score will be used to determine their level of self-efficacy, with higher breastfeeding scores suggesting better levels of self-efficacy (Awano & Shimada, 2010). According to Awano and Shimada (2010), the scale's Cronbach alpha is 0.90, which is below a desirable high level (Frankfort-Nachmias and Nachmias, 2008).

Tool (III) The LATCH score instrument

It is a standardized scale called the LATCH score evaluates how well mothers and babies succeed when breastfeeding, it measures and predict breastfeeding duration (Kumar, Mooney, Weiser, & Havstad, 2016). Based on the attachment devices of the tool, the following indicators used to measure and predict breastfeeding quality (latching, audible swallowing sounds, nipple type, comfort, and support quality). LATCH ratings vary from 0 to 10, with 0 denoting low performance and 10 denoting the best performance (Adams & Hewell, 1997). An average LATCH score of 8 to 10 suggests successful breastfeeding, which indicates a successful breastfeeding experience (Kumar, Mooney, Weiser & Havstad, 2016). Mothers are more likely to nurse their babies for up to six months when breastfeeding is going well because it boosts maternal self-efficacy (Meedya et al., 2010).

Validity and reliability

- The validity of the study tool's content was evaluated by five specialists in the disciplines of obstetrics and home care, and any necessary changes were made in response to their recommendations. High validity was indicated by the validity score of 0.892.

- Cronbach's alpha coefficient, which was 0.87, was used to assess the internal consistency and reliability of the developed tools.

The pilot study.

The pilot study performed on 10 mothers (10% of the subjects), randomly chosen in order to assess the tool's clarity, feasibility, and usefulness. Also, to estimate the time needed to fill in the study tools. Mothers of the pilot study are not included in the total number of the study samples. Accordingly, all essential modifications had been done.

B. Operational design:

Procedures for Planning, Participation, and Data Collection

Provision of informed consent

Before obtaining the informed consent from the studied mothers, an explanation of the study was given to them to get their potential volunteers. The study's aim, the advantages of participating, and any risk factors are all thoroughly stated. The right to withdraw from the study at any time was also stated clearly to the prospective participants. They are given the assurance that their data would be kept private. The meeting ended by giving the participants the researcher phone to communicate under any circumstances.

Planning procedure

If the pregnant woman displays interest to participate in the study, the researcher went over the study's procedure and address any questions she might have. Then, the researcher has the prospective subject sign on the informed consent form after finished data collection. During prenatal and perinatal education, baseline information for the Breastfeeding Self-Efficacy Scale-Short Form (BSESSF) was gathered. Then, between one- and three-hours following birth, LATCH scores were acquired (if participants were eligible and accept to participate on the study).

Data collection procedure

Breast hand expression and lactation support were two interventions on the study's independent variable, which had two other factors as dependent variables (i.e., breastfeeding self-efficacy and breastfeeding duration). In this study, the mother's level of self-efficacy before the intervention was assessed (pre-test self-efficacy) (ie, hand expression instruction). The participant's name, date of birth, work status, income, and status regarding alcohol use and smoking, as well as the name of the person who assist and support the mother was documented. All the previous data were recorded as the mother's demographic data (ie, spouse, partner, family member, or friend). A five-minute film (found at <http://www.bfmedneo.com>) describing and demonstrating the manual breast compression delivery and demonstrating the correct placement and locking of the newborns was

shown to all mothers and their peers (Witt & Bolman, 2013).

The website where the accessible film was made to the participants so they could watch it at home and learn more about the baby's prenatal hand expressions, latching, and correct placement (or position). All mothers and their companions receive instructions on how to make breast hand expressions, latch properly, and baby position using dummies and demo breasts. Let moms know the advantages of nursing for themselves, their children, and society. The women were informed throughout the training that breastfeeding support was available, if they encountered any difficulties. They also received normal care and instruction on breastfeeding. All participants (mother and child) who met the inclusion requirements continued the trial as soon as they were born. When the mother and infant are stable and within the first hour of birth, interventional care is given. The following are examples of care:

- Skin-to-skin contact (placing the baby on the mother's bare chest)
- When both mother and baby are stabilized, lactation support enables the woman to breastfeed and place the baby.
- Perform breast hand expression

First data collection point. After participants gave their informed consent, baseline data from the BSES-SF was gathered at the perinatal education facility prior to delivery. Participants filled out a baseline survey for the LATCH rating scale, that was included in the enrollment package one to three hours following delivery. Mothers were given care right away following the collection of LATCH scores (i.e., hand expressions). The handprints were made by either the participant or her spouse. Mothers and their caregivers continued to express milk and nurse their infants when prompted 8 to 12 or more times in 24 hours, with no more than 3 hours between feedings. Participants watch a video showing how to practice good hand milking without supervision after receiving training at the Perinatal Training Center with their colleagues.

Second data collection point. Data on the BSES-SF and LATCH rating scale questionnaires will be gathered at discharge or two days after delivery (post-intervention) to see if there are any differences in the comments made on the BSES-SF and LATCH outcomes.

Third/Forth data collection point. Data were collected over the phone with a stamp on the BSES-SF and LATCH scoring questionnaires, 2–6 weeks after delivery.

According to studies, mothers who breastfeed during the first six weeks after giving birth are more likely to continue doing so at six months (Meedya et al., 2010).

Phone calls: the researcher asked each participant if they had watched the movies of breast hand expressions at home before the delivery so they are familiar with the hand expression that will occur. It was planned to call each participant at four days, two weeks, and six weeks following birth, to ask if they had any questions and/or problems facing them during applications of the procedures, they could receive answers or an encouragement to bring the child to the hospital for follow-up session with a breastfeeding consultant. Furthermore, plan with the mothers to contact for discussing breastfeeding issues and offer support at 4 days, 2 weeks, and 6 weeks after delivery. These postpartum phases, when breast milk is produced and moms and newborns are learning to suckle, also happen to be the times of the greatest risk because of psychological and physical pressures, so supporting the mother during this period is very important (Riordan, Miller, and Rawlins, 2001).

Ethical Considerations:

- An informed verbal consent was obtained from each participant after explaining the study aim.

- Participation in the study was voluntary and each participant had the right to withdraw from the study at any time without any consequences.

- Ensuring the confidentiality of the information collected and anonymity is guaranteed.

- The process of data collection will not disturb the harmony of the work of the above-mentioned setting.

C. Administrative design

Data Analysis

Using the SPSS software, data were pre-sorted, tabulated, and statistically examined. Calculate the range, mean, and standard deviation for numerical data. Quantitative and percentage distributions were computed for qualitative data. To see if there were any changes in mothers' stated knowledge and practice before and after the educational program, statistical t-tests and McNemar's were utilized. Human and Spearman correlations were used to assess the strength of the linear relationship between the qualitative and quantitative characteristics (r). The final cutoff for significance was set at $p < 0.05$.

Results

Table 1 displayed the examined sample's self-efficacy. The table shows that the research samples' overall self-efficacy significantly increased after the test period (34.5506.305, 53.6908.974, 50.4657.125, and 48.7658.456 respectively). On the total efficacy scale, there was also a significant change between the pre-test phase and the post-test phase, where $p = 0.000^{**}$.

Table 2 shows a considerable increase in the total milk production among the studied samples (4.610 0.694, 8.320 1.221, 8.280 1.567, and 8.170 1.765 respectively). Additionally, there was a statistically significant relation between the total lactation scale and the pre-and post-test phases ($p = 0.000^{**}$).

Table 3 shows that there is no statistically significant relation between pre-and post-LATCH, pre-self-efficacy, or pre-and post-post-LATCH.

Table 4 demonstrates that the employment and crowding indices were the greatest predictors of the research sample's overall self-efficacy in the pre-test phase ($p = 0.049^*$ and 0.013^* , respectively). In the study sample during the post-test period, the husband's education was the most accurate predictor of overall self-efficacy.

Table 5 clarifies the husband's age is the most significant predictor of the complete lactation scale of the tested sample at the prediction stage, with a p -value = 0.007. The biggest predictors of the total lactation scale in the study sample throughout the post-test period were education, husband's age, and residency

Table 1 Distribution of the studied sample according to their total breastfeeding self-efficacy score (N=100)

LATCH score	Pretest	Posttest 1	Posttest 2	Posttest 3
Mean ± SD	4.610 ± 0.694	8.320 ± 1.221	8.280 ± 1.567	8.170 ± 1.765
Significance	$p=0.000^{**}$		$p=0.0001^*$	$p=0.0001^*$

Table 2 Distribution of the studied sample according to their total LATCH score (N=100)

BSES- SF	Pretest	Posttest 1	Posttest 2	Posttest 3
Mean ± SD	34.550 ± 6.305	53.690 ± 8.974	50.465 ± 7.125	48.765 ± 8.456
Significance		$p= 0.000^{**}$	$p= 0.0001^*$	$p= 0.0001^*$

Table 3 Correlation matrix between self-efficacy & LATCH score

Variables	Significance	Self-efficacy post	LATCH pre	LATCH post
Self-efficacy pre	r	.157	-.119-	.019
	p	.118	.239	.852
Self-efficacy post	r		-.169-	.054
	p		.094	.592
LATCH pre	r			.053
	p			.598
LATCH post	r			
	p			

Table 4 Multi-linear regression (relation) between demographic characteristics & self-efficacy.

Items	Pretest					Posttest				
	B	Std. Error	Beta	t	Sig.	B	Std. Error	Beta	t	Sig.
Age	-	1.818	-.104	-.742-	.460	-3.789	2.704	-.206	-1.328-	.189
Education	-	1.387	-.181	-1.299-	.198	-3.374	2.062	-.337	-1.686-	.096
Occupation	-	1.612	-.182	-1.846-	.049*	1.116	2.397	.053	.324	.747
Husband age	-.098	1.779	-.007	1.102	.274	.014	2.645	.001	.909	.366
Husband education	.194	1.244	.028	1.029	.307	3.376	1.850	.324	1.970	.043*
Husband occupation	-	4.663	-.145	-1.562-	.123	4.894	6.934	.081	.497	.620
Marital status	-.096	3.188	-.004	-.077-	.939	-3.277	4.740	-.085	-.854-	.396
Duration of marriage	.409	.886	.057	.587	.559	2.844	1.317	.262	2.165	.034
Residence	-	1.935	-.108	-1.068-	.289	2.743	2.877	.123	.565	.574
Family income	.755	1.903	.054	-.246-	.807	-1.394	2.831	-.066	-.827-	.411
Crowding index	-	1.648	-.228	-2.525-	0.013*	-2.691	2.451	-.146	0.429	.669
	2.780									

Table 5 Multi-linear regression (relation) between demographic characteristics & LATCH scale.

Items	Pretest					Posttest				
	B	Std. Error	Beta	t	Sig.	B	Std. Error	Beta	t	Sig.
Age	-.115	.215	-.079	.266	.791	.000	.343	.000	.047	.963
Education	-.214	.164	-.272	.450	.654	.106	.262	.084	1.688	.036*
Occupation	.265	.191	.161	1.480	.143	.601	.304	.229	2.176	.033*
Husband age	-.381	.210	-.241	-2.790-	.007*	-.105	.336	-.042	-2.304-	.024*
Husband education	.217	.147	.265	-.796-	.429	.207	.235	.159	-.973-	.334
Husband occupation	.014	.551	.003	.118	.907	.569	.880	.075	.874	.385
Marital status	-.336	.377	-.110	-.056-	.956	-1.004	.602	-.206	-.900-	.371
Duration of marriage	-.080	.105	-.093	-.914-	.364	.238	.167	.175	1.384	.171
Residence	-.251	.229	-.143	-.799-	.427	-.662	.365	-.236	-1.707-	.029*
Family income	.173	.225	.103	.767	.446	-.262	.359	-.098	-.414-	.680
Crowding index	.284	.195	.195	0.848	.399	.382	.311	.164	0.537	.593

Discussion

The difficulties faced by breastfeeding mothers might have a detrimental impact on them and lead them to discontinue nursing, which can affect the child's health in the future. In order to promote activities that enhance breastfeeding, the study then sought to determine how breastfeeding mothers' self-efficacy and LATCH scores in first-time mother-child pairs were affected by breast hand expression while receiving lactation support.

Breastfeeding self-efficacy influenced by a variety of social and personal circumstances, it is defined as a person's beliefs and confidence in their capacity to show healthy breastfeeding behaviors (Amini et al., 2019). In this regard, expanding maternal support networks, especially after discharge, could be considered an efficient option. Having a caregiver who can support the mother in breastfeeding their babies, take care of her parenting requirements before and after birth, and provide follow-up after discharge is essential (Moradi et al., 2019). Evidence suggests that women frequently cannot attend a face-to-face session because of the state of their newborns. Software, messengers, and telephones could be incorporated into post-discharge maternal service packages because they are practical, accessible, interactive, and reliable (Meedya et al, 2021).

There was a noticeable increase in overall self-efficacy in the study population before and after the testing period for breastfeeding moms. On the total efficacy scale, there was also a positive significant difference between the pre-test and post-test phases, with $p = 0.000^{**}$. Similar to this, Jang and Ju (2020) showed that parental confidence and exclusive breastfeeding rates improved with face-to-face training during hospitalization and ongoing telephone support counseling every 15 days to 6 months postpartum.

Similar findings were reported by Bostanabad et al. (2019) who valued the post-discharge counseling in enhancing newborn outcomes whereas health planners and policymakers can take into consideration. In a contrasting study, Chan, Ip and Choi (2016) showed that individual breastfeeding coaching throughout the third trimester and counseling in the first week following delivery improved breastfeeding self-efficacy in the short run. The diverse nature of the intervention techniques may be the cause of this improvement.

The overall lactation scale of the analyzed samples improved significantly between the pre-and post-test periods, according to the current study's LATCH scores improved all over the study phases. Additionally, there was a statistically significant relation between the pre and post-test periods and the total lactation scale ($p = 0.000^{**}$). Participants were more likely to breastfeed for up to six months

given that all participants indicated that nursing went well and that they desired to breastfeed their infants for as long as possible, which may be related to the improvement of the mother self-efficacy. According to the study findings, a mother is more likely to continue breastfeeding until six months if she begins to breastfeed her child six weeks after giving birth.

This was in accordance with the findings of **Raghavan V, Bharti B, Kumar P (2014)**, who found that women who continued breastfeeding past the six week had higher LATCH scores than those who discontinued. The mothers who were passive and unsupported had low LATCH ratings. Infants with high LATCH scores were more likely to be exclusively breastfed at 6 weeks post-delivery, according to **Raghavan et al (2014)** observation. The LATCH score could be used as an indicator to identify mothers who need intervention to keep breastfeeding going because they are likely to stop it too soon.

The study of **Essa and Ismail (2015)** indicated that the chart system for latched breastfeeding scored higher in their study group compared to the control group, which is consistent with the current study findings on enhanced latching. In order to prevent future breastfeeding issues, healthy infants need to stay in close contact with their mothers both right away after birth and during the postpartum period. This guarantees that the infant could be nursed after the reflex has been fully established, as it significantly affects breastfeeding outcomes by enhancing breastfeeding initiation.

Also, this agreed with **Moore et al. (2016)**, who found that breastfeeding assistance increased the length of breastfeeding period by three months in a favorable way. This can be explained that breastfeeding within the first two hours of baby's life considerably boost breastfeeding to start and continue. This was supported by **Reshma, Sulochana, K., Jessy & P. S. (2020)** who clarified that women got the intervention were more likely to begin nursing within an hour after giving birth, which had a positive effect on the length of breastfeeding period.

The current study showed that there was no statistically significant difference between pre-, post-, or LATCH- score related connections of any of these variables. This was in accordance with **Pound et al. (2015)** who found no statistically significant difference between the pre/post groups among women who exclusively nursed during the first three months after giving birth. Also, **Souza and Fernandes (2014)** supported this finding and reported that increasing self-efficacy scores did not reflected on more time spent in breastfeeding. However, finding of the current study were odds with previous research done by **(Meedya et al., 2010)** who suggests longer nursing sessions are associated with higher levels of self-efficacy.

According to the current study, the strongest predictors of overall self-efficacy in the pre-test phase were employment and crowding indices, while the best predictor of overall self-efficacy in the post-test phase was the husband's education. The study also clarified that residence, education, and husband age were the three factors that had the greatest predictive power for the total lactation scale in the study sample during the pretest period. Meanwhile, numerous elements linked to the length of breastfeeding's, such as demographics characteristics, milk production, and psychological elements (**Chan, Ip and Choi, 2016**).

Hand expression combined with lactation support may improve women's self-efficacy both during breastfeeding and for some time afterward. The current study findings demonstrated that hand expression during breastfeeding aid in increased women's perceptions of their ability to breastfeed for a longer period. Encouraging breast expression, facilitating breastfeeding, and demonstrating proper positioning and latching with a waiter's assistance, play a significant role in improving postpartum care, encourage healthy attachment, extend the duration of breastfeeding, raise the rate of breastfeeding initiation, and advocate for exclusive breastfeeding.

Conclusion:

Before and during the testing period, the study sample's overall self-efficacy significantly increased. On the same line, the overall efficacy scale showed a significant difference between the pre-test and post-test phases as well. The study sample's overall lactation scale significantly improved during the pre-and post-test periods. Additionally, for the entire lactation scale, there was a statistically extremely significant association between the pre and post-test phases. Additionally, there was no statistically significant link between LATCH before and LATCH post, or between self-efficacies prior or after LATCH.

Recommendations:

Based on the results of the current study, it is recommended that ;

- To ensure that the content is educational, the language should be clear, and the complete resource satisfies the needs of the intended audience, breastfeeding materials should be created in partnership with lactation professionals and patient partners and assessed by various patient groups .

- Women's self-efficacy and breastfeeding duration should be increased through policy making so that society, mothers, and infants could benefit most from nursing .

- Enhance the availability of standardize prenatal breastfeeding education programs.

- Future research should be done aiming to evaluate the efficacy and cost-effectiveness of employing an online method with a continuous consultation strategy and regular consultation, nevertheless, due to the diversity of protocols and the potential expenses of buying or installing software and accessing social networks.

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