The Breastfeeding Self-Efficacy Enhancement Program with LINE Application among Mothers with Cesarean Section: A Quasi-Experimental Study

Chanida Chuektong, Mayuree Nirattharadorn, Natthapat Buaboon*

Abstract: Exclusive breastfeeding has been shown to promote health outcomes for infants and mothers. Mothers with cesarean section may have reduced confidence in their ability to breastfeed exclusively, especially during the first month postpartum. This quasi-experimental study examined the effects of the Breastfeeding Self-Efficacy Enhancement Program with LINE Application on breastfeeding self-efficacy and exclusive breastfeeding four weeks after childbirth among mothers with a cesarean section. Fifty-two pregnant women prepared for cesarean section at a university hospital in central Thailand were divided into the experimental (n = 26) and control groups (n = 26). The experimental group received the program and usual care. The control group received only usual care. The instruments used for data collection consisted of the Demographic Characteristics Form, the Breast Feeding Self-efficacy Scale-short form, and the Infant Feeding Forms. Descriptive statistics, t-test and Fisher's exact test were applied for data analysis.

Results demonstrated that after participating in the intervention program for four weeks, the experimental group had higher mean scores of breastfeeding self-efficacy and rates of exclusive breastfeeding than those in the control group. The Breastfeeding Self-Efficacy Enhancement Program with LINE Application contributed to higher breastfeeding self-efficacy and rates of exclusive breastfeeding for mothers with cesarean section. Nurse midwives can use this program in practice. However, the program needs to be further tested and content may need to be modified before being widely used.

Keywords: Breastfeeding self-efficacy, Cesarean section, Exclusive breastfeeding, LINE application, Postpartum

Received 12 April 2023; Revised 7 July 2023; Accepted 12 July 2023

***Chanida Chuektong**, RN, MNS (Community Nurse Practitioner), Faculty of Nursing, Thammasat University, Thailand. E-mail: chanida.02am@gmail.com*
***Correspondence to: Mayuree Nirattharadorn**,* RN, PhD, Assistant Professor, Faculty of Nursing, Thammasat University, Thailand.*
E-mail: nmayuree@hotmail.com
***Natthapat Buaboon**, RN, PhD, Assistant Professor, Faculty of Nursing, Thammasat University, Thailand. E-mail: dbuaboon@hotmail.com*

Introduction

Breastfeeding is one of the most effective ways to ensure a child's health. Breast milk is the most suitable food for infants. It is safe, clean and contains the necessary nutrients that promote children's healthy growth and development.[1-2] The World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) recommend that "all infants should be started breastfeeding within one hour after delivery, then exclusively breastfed to six months, and continue breastfeeding for at least two years of age with appropriate complementary feeding."[2]

Exclusive breastfeeding (EBF) is defined as infant feeding by breast milk only, with no other food,

DOI:10.60099/prijnr.2023.262349

even water, except medically necessary drugs.[2] In 2030, the targets for initiation breastfeeding in the first hour and exclusive breastfeeding were set as 70% and 80%, respectively.[2-3] The global target to increase the EBF rate at six months after birth was 50% or more in 2025.[2] The first week and month postpartum is the most critical period for mothers to adapt to breastfeeding exclusively because they must simultaneously adapt to maternal roles.[3]

Although the benefits of EBF are widely recognized, breastfeeding rates globally remain lower than necessary to protect the health of women and their children. Contrary to WHO recommendations, about 48% of newborns begin breastfeeding within one hour. Currently, the EBF rate of infants under six months of age is only 44% worldwide.[1,4] In Thailand, only 14% of mothers demonstrated six-month EBF in 2019, which dropped from 23.1% in 2015.[4] The early initiation breastfeeding rate also declined from 49.6% to 34% from 2006 to 2019, respectively.[3] These low capabilities interrupt the success of global postpartum targets by 2030. However, EBF continuously through six months is crucial for new mothers, especially mothers with cesarean sections, both initiation and duration. Mothers having a cesarean section may adversely affect breastfeeding initiation, lower rates,[5-6] and a shorter period of EBF compared with mothers who gave birth with vaginal deliveries.[7-8]

Mothers with cesarean section generally delay the beginning of breastfeeding due to discomforts such as post-operative pain and fatigue.[8] Mothers with cesarean section can sometimes not initially control early and frequent breastfeeding because infants are usually separated from mothers after birth.[9-10] Physically, mothers who have experienced a cesarean section may have maternal stress,[11] resulting in impaired hormone pathways to stimulate lactogenesis.[11-12] Early breastfeeding can promote the baby to suckle breast milk, increasing important hormones, oxytocin and prolactin, for milk ejection.[11-12] Training to breastfeed proceeds practice and requires support, dedication, and patience on the mother's part.[12]

Since 2019, the COVID-19 pandemic has made new challenges for EBF implementation, particularly during the first few days at the hospital and the month at home. Breastfeeding mothers need continuity support. A LINE application is an alternate way to use as a combination with the intervention for enhancing self-efficacy. Smartphone applications can also create familiarity and sharing experiences among group members through two-way communication and can be applied anywhere and anytime.[13]

Thus, mothers with cesarean section may have low self-confidence to breastfeed initially and need to develop a program for enhancing breastfeeding self-efficacy (BSE) intervention early breastfeeding and sustainability over time, particularly during the first month throughout the EBF. Mothers with forceful breastfeeding motivations and competence in breastfeeding tend to prioritize breastfeeding and encounter well with unforeseen breastfeeding challenges.[6,14] Mothers who succeed in early and exclusively breastfeeding can breastfeed successfully for at least six months as per the global target.[15]

Conceptual Framework and Literature Review

This study's conceptual framework was based on Bandura's Social Cognitive Theory-Self-Efficacy Theory[16-17] to guide intervention. Bandura's theory, "self-efficacy is a cognitive process of individuals' confidence in their ability to regulate their motivation through the process, emotional states, and social environment in performing a specific behavior."[16-17]

In the proposed model, personal efficacy is derived from four dominant sources of information: 1) Enactive mastery experience: mastery experience is the most immediate and powerful of all sources. Successful performance increases self-efficacy, considering repeated failures diminish it;[16] 2) Vicarious experience: observational

learning can also has a powerful impact on perceived self-efficacy, especially the absence of previous experience. This source of information provides information on skill and ability; 3)Verbal persuasion: providing verbal persuasion can affect perceptions of self-efficacy. The impact of verbal persuasion is that individuals accept the appraisals of their abilities from others; and 4)Physiological and affective states: individuals use this source to perform a behavior by interpreting their abilities from emotional arousal or other physiologic cues. Promoting a positive interpretation of arousal enhances self-efficacy, while a negative interpretation reduces self-efficacy. However, perceived self-efficacy is not only based on the outcome of the performance but also on limited factors such as the complexity of roles and the needs and support that may impair a specific performance. BSE illustrates a major role in the performance of confidence in EBF behaviors. Supporting the mother to overcome breastfeeding problems in this period also builds up the mother's confidence to breastfeed continuously.[17]

Previous studies found that one of the factors associated with early breastfeeding, EBF, and continuation of breastfeeding is perceived self-efficacy.[18] Maternal breastfeeding education,[19] and breastfeeding knowledge[18] were associated with a high rate of EBF.[18] A qualitative study in Thailand also recommended that the interventions develop mothers' self-efficacy for breastfeeding and prepare mothers to manipulate common breastfeeding challenges.[20]

A theory-based education on BSE and EBF has shown that the breastfeeding program based on self-efficacy theory affected higher scores of BSE in 1-2 months postpartum.[21-22] Previous research conducted in Thailand also indicated that interventions for promoting BSE had a positive outcome on EBF.[23]

Previous studies on developing models for promoting breastfeeding among mothers with a cesarean section focused on promoting perceived benefits and BSE in the hospital.[9] However, enhancing self-efficacy can help mothers with cesarean section to breastfeed exclusively during the few days in the hospital seems to be a success, but the rates of EBF at six months can still be low.[5] Although a mother with a cesarean section has performed an ability and perceived BSE before hospital discharge, new problems related to breastfeeding might occur in the first few weeks and cause low self-efficacy.[22] In addition, the intervention had the greatest domination on breastfeeding outcomes in that 10% of intervention groups were increased EBF at one and two months postpartum in full-term mothers.[22] Over the last decade, considerable technologies have mingled in mobile devices. Mobile devices and applications are increasing and are being adopted at an impressive rate; smartphone apps were the most preferred breastfeeding resource at six weeks.[13] A LINE application can be used as a combination with the intervention to maintain perceived self-efficacy. Using LINE applications with interesting stickers and content related to target behaviors helps promote the perception of four sources of self-efficacy.[13] This can also maintain the confidence to practice behaviors continuously.

Intervention studies to date have focused on promoting BSE at six weeks, some studies measure at one or two months, but in full-term mothers with vaginal delivery.[23] In Thailand, no studies aiming to enhance self-efficacy in breastfeeding in the early weeks and in a month have been reported. Thus, this study aimed to examine the effects of the Breastfeeding Self-Efficacy Enhancement Program (BSEP) in combination with a LINE application for BSE and EBF at four weeks after childbirth.

Method

Design: This was a quasi-experimental study with a two-group posttest-only design. The Transparent Reporting of Evaluations with Non-randomized Designs (TREND) checklist was used as a guideline for this report.

Sample and Setting: The population was mothers with 37-40 weeks gestational age who were scheduled by an obstetrician for a cesarean section at a university

hospital in central Thailand. In this study, mothers were approached before cesarean section within 48 hours after birth until one month postpartum. The inclusion criteria were: 1) mothers with first-time pregnancy, and 2) having normal breasts and nipples. The exclusion criteria were: 1) mothers who had severe complications or restrictions against breastfeeding, diagnosed by the obstetrician; 2) they gave birth to a baby with an anomaly that could not breastfeed; or 3) the baby was separated from the mother for more than 48 hours after birth.

The sample size was calculated using a power analysis from similar studies[24] on the effect of self-efficacy promotion on success in EBF of mothers undergoing cesarean section. Chi-square [Mean: Goodness-of-fit-test: Contingency tables] was used. The power of the test was set at 0.9, the statistical significance level was at .05, and the medium effect size was set to .5. Calculated with program G*Power version 3.1.9.7, it required 21 mothers with a cesarean section per group. Assuming a 20% attrition rate a total of 52 mothers who met the inclusion criteria and gave informed consent to participate were recruited, 26 for both the control and experimental groups.

To avoid the contamination of the intervention, alternate weeks of the month were randomly assigned. The primary investigator (PI) put four labels, two of the controls and two experiments, in a box. After that, the four labels of groups were raffled in weeks 1 to 4 of the month in the order given. The control group was recruited in the month's first and second weeks, and the experimental group was selected in the third and fourth weeks of the month. None of the intervention or control group participants declined to participate in this study. All participants in both groups were asked to complete the infant feeding form at four weeks postpartum.

Ethical Considerations: The Institutional Review Board of Thammasat University, Department of Science, approved this study (COA NO. 081/2564: 043/2564). After IRB approval, the primary investigator (PI) clarified the objectives and process of the study and the protection of participants' rights. The participants could leave the study at any time with no adverse consequences. They were ensured anonymity using number coding. Personal information was kept confidential and securely stored. Finally, the results of the study were presented in groups.

Instruments: Instruments for this study comprised two parts: instruments for collecting the data and the intervention program.

A Demographic Data Record was developed by the primary investigator (PI), including age, occupation, monthly family income, educational level, length of maternity leave, and intention to EBF.

The Interview Form on Infant Feeding, developed by Wongpinit et al.,[25] was used to assess feeds given to infants during the first four weeks of age. Participants were asked to record feeding given to infants to determine EBF. Mothers who breastfed infants under four weeks without giving water or other food were considered to have EBF infants.

The Thai version of the Breastfeeding Self-Efficacy Scale-Short Form (BSES-SF) Questionnaire. The BSES English version was developed by Dennis[26] based on Bandura's theory and used in this study with permission from the author. The BSES-SF was translated into Thai using a back-translation process by Benjamat and Tatsanasupap.[27] The BSES-SF is a 14-item self-report instrument that measures breastfeeding confidence with a 5-point Likert scale. All items are preceded by the phrase, "I can always" with 1 = not at all confident and 5 = always confident. All items are summed to produce scores ranging from 14 to 70, with higher scores indicating higher levels of BSF. The scores were divided into categories: mild confidence (scores 14-32), moderate confidence (scores 33-51), and high confidence (scores 52-70). The Cronbach's alpha coefficient of the Thai version of BSES-SF was .84. In this study, before implementation, the instrument was tested with 30 mothers who met the same criteria as the study, Cronbach's alpha coefficient was .89. In the main study, the SES-SF was tested with 52 mothers, and Cronbach's alpha coefficient was .93.

The BSEP with LINE Application

The PI developed this program based on Bandura's Self-Efficacy Theory,[16-17,28] using four sources to enhance EBF self-efficacy in combination with a LINE application among mothers with cesarean section. Three experts approved the program, and it comprised four sessions as follows:

Session 1: On the day before the cesarean section, enactive mastery experience was applied by the PI providing knowledge about breastfeeding and breastfeeding skills with baby manikins. Verbal persuasion: The PI helped mothers with cesarean section improve conviction by talking, persuading, and encouraging breastfeeding at 37-40 weeks of pregnancy. This session took 30 minutes.

Session 2: Within 48 hours after birth, enactive mastery experience was applied congruent with the real situation. This session provided practicing breastfeeding skills and watching the video. The PI demonstrated and presented the model from the video clip "Easy Breastfeeding in the Style of Mothers Who Gave Birth by C-Section." In this study, mothers with first-time pregnancies could return-demonstrate. Verbal persuasion: The PI helped mothers with cesarean sections improve their self-confidence by discussing, persuading, and encouraging breastfeeding. This session took one hour. The PI facilitated a positive interpretation of arousal by allowing postpartum mothers to discuss their difficulties. LINE Application was used for communicating to promote positive inferences about their abilities.

Session 3: 1-3 weeks postpartum enactive mastery experience was applied using the LINE application to assess and assist if mothers had problems breastfeeding at home. Postpartum mothers could share their breastfeeding experiences and discuss their success during the first three weeks. The application with updated contents was applied. Mothers were encouraged continuously via the application with messages, pictures, and stickers. The PI facilitated a positive interpretation of breastfeeding arousal by allowing postpartum mothers to discuss their difficulties. Again, the application was used to promote positive inferences about their abilities. This session took 15 minutes.

Session 4: Four weeks postpartum enactive mastery experience was again applied, encouraging the mothers to discuss their difficulties and promoting their abilities positively. As this was the last session, mothers were encouraged to consult a nurse at the clinic regarding breastfeeding at any time. This session took 20 minutes.

LINE Application: The Thai Breastfeeding Center Foundation uses this application to provide information and frequently encountered problems in breastfeeding, including solutions for interested mothers.[29] Breastfeeding LINE groups were developed by Health Center 12 in Yala for postpartum mothers to share their breastfeeding experience, discuss problems, and solve basic childcare problems, including breastfeeding issues.[30]

Usual Care

Usual care was standard nursing care for all postpartum mothers provided by nurses in the postpartum ward. This included health education regarding breastfeeding, infant bathing, early ambulation, and discharge planning, consisting of drug use, wound care, and making an appointment for a postpartum checkup at the family planning clinic. A telephone call was used sometimes while postpartum mothers were at home, not at regular or specific times and issues.

Data Collection: The PI collected data from October 2021 to February 2022, after training a research assistant (RA) who worked in the postpartum unit regarding approaching and recruiting participants. Then the PI requested the participants to sign a consent form, and complete the characteristic demographic questionnaire and the SEBF-SF in both groups. The PI delivered the BSEP to the experimental group after they completed the questionnaires. The RA assisted the participants in practicing breastfeeding skills. At week four postpartum, the participants completed the SEBF-SF again. Then the PI and RA interviewed the participants using the

Form on Infant Feeding to determine whether the participant breastfed the infant exclusively without giving water or other food from the time of hospital discharge.

Data Analysis: Descriptive statistics were used for analyzing personal demographic data. The chi-square and independent tests were used to examine the differences in sample characteristics between the groups according to the level of measurement. Independent t-test and Fisher's Exact Test statistics were used to compare BSE scores and EBF rates between the two groups. The statistical significance level was set at .05.

Results

Participants' Characteristics

All participants in both groups remained in the study till the completion of the program. The averages in the age of the participants in the experiment and the control group were 31.81 (SD = .79) and 32.88 (SD = 1.13) years old, respectively. More than half of all participants intended to EBF for over three months. Other characteristics of each group are shown in **Table 1**. There were no significant differences in all demographic characteristics between the two groups.

Table 1. Group comparison of demographic characteristics (n = 52)

Demographic characteristics	Treatment		p-value
	Intervention (n = 26) n (%)	Control (n = 26) n (%)	
Age (years)	31.81 (SD = .79) (min = 24, max = 38)	M = 32.88 (SD = 1.13) (min = 21, max = 40)	.44[a]
Occupation			.09[b]
Government service/	12 (46.2)	4 (15.4)	
An employee for a private company	7 (26.9)	13 (50.0)	
Employee for non-company	2 (7.7)	4 (15.4)	
Personal business	5 (19.2)	5 (19.2)	
Monthly family income (Baht/ USD) (Exchange rate 34.18USD)	48,524.23 Baht/month (SD = 27,696) (min = 18,000, max = 150,000) (1,419.48 USD/month) (SD = 810.30) (min = 526.62, max = 2,925.68)	48,480.77 Baht/month (SD = 27,387.76) (min = 4,000, max = 100,000) (1,419.40 USD/month) (SD = 810.28) (min = 117.03, max = 2,925,69)	1.0[a]
Educational level			1.0[b]
Secondary school	6 (23.1)	7 (27.0)	
Undergraduate degree	16 (61.5)	16 (61.5)	
Postgraduate degree	4 (15.4)	3 (11.5)	
Length of maternity leave			.34[b]
less than 3 months	21 (80.8)	18 (69.2)	
3 or more months	5 (19.2)	8 (30.8)	
Intention to exclusive breastfeeding			.26[b]
less than 3 months	9 (34.6)	13 (50.0)	
3 or more months	17 (65.4)	13 (50.0)	

Note: [a] = Independent Sample t-test, [b] = Chi-square test

Effectiveness of the BSEP with LINE Application

When comparing the rates of EBF, the result showed a difference in both groups at four weeks postpartum. Mothers in an experimental group who received the BSEP with the LINE Application care had higher mean scores of BSE (mean = 66.08, SD = 3.67) than the control group (mean = 48.35, SD = 10.72) ($p < .001$) **(Table 2).**

Table 2. Comparison of perceived breastfeeding self-efficacy scores between the experimental and control groups

Perceived breastfeeding self-efficacy scores	Experimental group (n = 26)		Control group (n = 26)		df	t
	M	SD	M	SD		
Before intervention	47.92 (moderate confidence)	7.17	49.15 (moderate confidence)	9.36	50	.53
Post-intervention (4 weeks)	66.08 (high confidence)	3.67	48.35 (moderate confidence)	10.72	50	7.98***

Note: *** $p < .001$

Mothers in an experimental group who received the BSEP with the LINE Application care were found to be able to breastfeed exclusively (92.3%) throughout four weeks at a significantly higher rate than mothers in the control group (15.4%) who received only usual care. ($p < .001$) **(Table 3).**

Table 3. Comparison of rates (percentages) of exclusive breastfeeding in the first 4 weeks between the experimental and control groups

	Experimental group (n = 26)		Control group (n = 26)		Fisher's exact test	p-value
	n	%	n	%		
Yes	24	92.3	4	15.4	32.48	.001
No	2	3.8	22	84.6		

Discussion

The results of this study demonstrated the increasing BSE and success rates of EBF at four weeks postpartum in mothers with cesarean section. Mothers who received the BSEP program with the LINE applications had a significantly higher BSE and rate of EBF than the mothers who received only usual care alone. This finding supports Bandura's Self-Efficacy Theory[16-17] in those activities in the BSEP supported mothers with cesarean section to have perceived BSE, which created an enactive mastery experience by providing knowledge and skills in breastfeeding before cesarean section and within the first 48 hours postpartum through to four weeks postpartum. The result was also supported by the previous studies that an enactive mastery experience could build through other activities, such as skills training and support programs which can enhance BSE scores. [21,31]

In addition, relying on Bandura's self-efficacy theory, vicarious experience had a powerful impact on perceived self-efficacy in the lack of experience.[16-17,28] In this study, the PI used observational learning to support and enhance first-time mothers' self-efficacy. Learning from the model of mothers with cesarean section who was successful in breastfeeding helped mothers feel confident and succeed if mothers made an effort without giving up like the model. Model mothers saw the video clip "Easy Breastfeeding in the Style of Mothers Who Gave Birth by C-Section" at the hospital, along with the breastfeeding LINE app.[29] The Breastfeeding LINE App[29] also provides breastfeeding knowledge and helps mothers access information for solving breastfeeding problems.

In addition, the success of this BSEP was also due to verbal persuasion to encourage mothers to believe in their capabilities and make more efforts to breastfeed infants through recommendations, conversations,

persuasion, and encouragement while in the hospital. In addition, images and content on breastfeeding and LINE stickers that relate meanings such as praise and encouragement were continually used via the App after mothers returned home. In addition, activities that stimulated physiological and affective states through conversations and recommendations about potential symptoms after giving birth by cesarean section, such as pain at surgical wounds, fatigue, and infants' crying. Continuing support was carried out to reduce anxiety and promote positive emotions about breastfeeding, support physical and emotional relaxation, and allow mothers to deal with problems and negative feelings postpartum.

Reminders about breastfeeding continued via the LINE App after mothers returned home also helped to promote sources of self-efficacy and to maintain the confidence to practice EBF.[13] In this study, stickers created by the PI were timely sent to the participant to improve perceived sources of self-efficacy. This was consistent with the previous studies[31-33] providing health information with simple messages and interesting stickers. Also, a previous study found that mothers with cesarean section accessing a channel for postpartum mothers to share their childcare and breastfeeding problems could help to solve basic childcare problems, including breastfeeding issues, and finally, mothers had more confidence to care for their infants and breastfeed exclusively during the first months. [30]

A study of mothers who experienced cesarean section and were able to breastfeed infants exclusively for four weeks successfully was found to have been able to continue breastfeeding for up to six months.[21] As a result, the present study found that intervention had a significant effect on maternal BSE and short-term EBF outcomes. Therefore, continued follow-up, support, and encouragement to breastfeed, particularly after returning home, built BSF, enabling mothers to breastfeed successfully.

Limitations

The current study is limited in generalizability because participants were recruited only from one university hospital in central Thailand. In addition, mothers were not randomized to experimental or control groups, although they were assigned by week; thus, the threat to internal validity could not be avoided. Moreover, the sample size was relatively small to compare exclusive breastfeeding rates and only four weeks after birth. A further study with a randomized controlled trial, larger sample size, and outcomes over an extended six-month period is needed before it can be used nationwide. Technology is advancing, and using LINE and other appropriate applications must be considered. The form of application and related content to help promote sources of self-efficacy related to EBF is suggested to be widely used.

Conclusions and Implications for Nursing Practice

This study demonstrated that the BSEP effectively increased BSE and EBF rates for mothers with cesarean section. Furthermore, the BSEP and LINE Applications demonstrated a meaningful approach to improving breastfeeding support through the first month. Nurse midwives can use this program to support mothers with a caesarian section to breastfeed exclusively.

Acknowledgments

Grateful appreciation is expressed to all participants and the healthcare teams at the hospitals. The publication of this study was supported by the 1st International Conference in Palliative Care and Family Health Nursing, June 26-27, 2023, Faculty of Nursing, Thammasat University.

References

1. Centers for Disease Control and Prevention. Breastfeeding benefits both the baby and the mom [Internet]. 2021 July 27 [cited 2022 Jan 4]. Available from: https://www.cdc.gov/nccdphp/dnpao/features/breastfeeding-benefits/index.html

2. World Health Organization. Breastfeeding [Internet]. 2023 [cited 2023 Mar 2]. Available from: https://www.who.int/health-topics/breastfeeding#tab=tab_1
3. Topathai C, Tangcharoensathien V. Achieving global targets on breastfeeding in Thailand: gap analysis and solutions. Int Breastfeed J. 2021;16:38. doi:10.1186/s13006-021-00386-0.
4. National Statistical Office, Unicef. The 2022 situation survey of children and women in Thailand [Internet]. 2020 Aug. [cited 2023 May 2]. Available from: http://www.nso.go.th/sites/2014/DocLib13
5. Hobbs AJ, Mannion CA, McDonald SW, Brockway M, Tough SC. The impact of caesarean section on breastfeeding initiation, duration and difficulties in the first four months postpartum. BMC Pregnancy Childbirth. 2016;16:90. doi:10.1186/s12884-016-0876-1.
6. Agampodi TC, Dharmasoma NK, Koralagedara IS, Dissanayaka T, Warnasekara J, Agampodi SB, et al. Barriers for early initiation and exclusive breastfeeding up to six months in predominantly rural Sri Lanka: a need to strengthen policy implementation. Int Breastfeed J. 2021;16:32. doi:10. 1186/s13006-021-00378-0.
7. Li L, Wan W, Zhu C. Breastfeeding after a cesarean section: a literature review. Midwifery. 2021;103:103117. doi:10.1016/j.midw.2021.103117.
8. Ulfa Y, Maruyama N, Igarashi Y, Horiuchi S. Early initiation of breastfeeding up to six months among mothers after cesarean section or vaginal birth: a scoping review. Heliyon. 2023;9(6): e16235. doi:10.1016/j.heliyon.2023.e16235.
9. Sinsuksai N, Nuampa S, Chanprapaph P. Factors predicting 6-month-exclusive breastfeeding in mothers with cesarean section. Nurs Sci J Thail. 2017;35(1):14-22 (in Thai).
10. World Health Organization, UNICEF. Global breastfeeding scorecard, 2018: enabling women breastfeed through better policies and programmes [Internet]. 2018 July 8 [cited 2022 Jan 4]. Available from: https://www.who.int/publications/m/item/global-breastfeeding-scorecard-2018-enabling-women-to-breastfeed-through-better-policies-and-programmes
11. Ricci AC. Essentials of maternity newborn. 5th ed. Philadelphia: Wolters Kluwer; 2021.
12. Lowdermilk DL, Perry SE, Cashion K, Alden KR, Olshansky E. Maternity women's health care. 12th ed. Missouri: Elsevier; 2020.
13. Griffin LB, LÓpez JD, Ranney ML, Macones AG, Cahil AG, Lewkowitz AK. Effect of novel breastfeeding smartphone applications on breastfeeding rates. Breastfeeding Med. 2021;16:614-23.
14. Topothai C, Topothai T, Suphanchaimat R, Waleewong O, Putthasri W, Patcharanarumol W, et al. Exclusive breastfeeding experience of Thai mothers in Metropolitan Bangkok. Int J Womens Health. 2022;14:155-66. doi:10.2147/IJWH.S344389.
15. Elgzar WT, Al-Thubaity DD, Alshahrani MA, Essa RM, Ibrahim HA. The relationship between maternal ideation and exclusive breastfeeding practice among Saudi nursing mothers: a cross-sectional study. Nutrients. 2023;15(7): 1719. doi:10.3390/nu15071719.
16. Bandura A. Self-efficacy: toward a unifying theory of behavioral change. Psych Rev 1978;1: 139-61. doi:10.1016/0146-6402(78)90002-4.
17. Bandura A. Social foundation of thought and action: a social cognitive theory. NJ: Prentice-Hall; 1986.
18. Zhang Z, Zhu Y, Zhang L, Wan H. What factors influence exclusive breastfeeding based on the theory of planned behavior. Midwifery. 2018;62:177-82. doi: 10.1016.j.midw.2018.04.006.
19. Cohen SS, Alexander DD, Krebs NF, Young BE, Cabana MD, Erdmann P, et al. Factors associated with breastfeeding initiation and continuation: a meta-analysis. J Pediatr. 2018;203:190-6.e21. doi:10.1016/j.jpeds.2018.08.008.
20. Ngo LTH, Chou HF, Gau ML, Liu CY. Breastfeeding self-efficacy and related factors in postpartum Vietnamese women. Midwifery. 2019;70:84-91. doi:10.1016/j.midw.2018.12.014.
21. Chipojola R, Chiu HY, Huda MH, Lin YM, Kuo SY. Effectiveness of theory-based educational interventions on breastfeeding self-efficacy and exclusive breastfeeding: a systematic review and meta-analysis. Int J Nurs Stud. 2020;109:103675. doi: 10.1016/j.ijnurstu.2020.103675.
22. Brockway M, Benzies K, Hayden K. Interventions to improve breastfeeding self-efficacy and resultant breastfeeding rates: a systematic review and meta-analysis. J Hum Lact. 2017;33(3): 486-99. doi:10.1177/089033441770795.
23. Prasopkittkun T, Sangperm P. Self-efficacy promoting interventions for breastfeeding outcomes: an integrative review of research conducted in Thailand. Pacific Rim Int J Nurs Res. 2017;21(1):44-58.

24. Budsaengdee B, Kantaruksa K, Chareonsanti J. Effects of self-efficacy promotion on success in exclusive breastfeeding among cesarean section mothers. Nursing J. 2013;40(3): 1-10 (in Thai).
25. Wongphinit U, Sinsuksai N, Yusamran C. Personal factors, social support and effective suckling at discharge in predicting exclusive breastfeeding at one month among first-time mothers. JRTAN. 2016;17(1):88-95 (in Thai).
26. Dennis CL. The Breastfeeding Self-Efficacy Scale: psychometric assessment of the short form. J Obstet Gynecol Neonatal Nurs. 2003;32(6):734-44. doi: 10.1177/0884217503258459.
27. Thussanasupap B. The effects of a systematic instructional program on breastfeeding self-efficacy, nipple pain, nipple skin changes and incision pain of cesarean mothers [master's thesis]. [Bangkok]: Mahidol University; 2548.
28. Buran G, Ozyazicioglu N, Aydin AI, Atak M. Evaluation of breastfeeding success and self-efficacy in mothers giving birth via vaginal delivery or cesarean section: a cross-sectional study. Women Health. 2022;62(9-10):788-98. doi: 10.1080/ 03630242.2022.2146832.
29. Thai Breastfeeding Center Foundation. Breastfeeding application [Internet]. 2017 Dec 3. [cited 2019 Dec 3]. Available from: https://thaibf.com/แอปพลิเคชันเลี้ยงลูกด้วยนมแม่/
30. Jarernwai T. Family line breastfeeding [Internet]. 2015 [cited 2020 Jan]. Available from: https://oec.anamai.moph.go.th/th/more-news-php-cid-108-filename-index/download/?did=
31. Prasitwattanaseree P, Sinsuksai N, Prasopkittikun T, Viwatwongkasem C. Effectiveness of breastfeeding skills training and support program among first-time mothers: a randomized Control trial. Pacific Rim Int J Nurs Res. 2019;23(3):258-70.
32. Kruekanjana P. The association of emergency medicine outlines cartoon stickers "Healthy Rabbit" [Internet]. 2017 Aug 6 [cited 2020 Jan 12]. Available from: https://www.hfocus.org/content/2017/08/14345
33. Schindler-Ruwisch JM, Roess A, Robert RC, Napolitano MA, Chiang S. Social support for breastfeeding in the era of mHealth: a content analysis. J Hum Lact. 2018;34(3):543-55. doi:10.1177/0890334418773302.

โปรแกรมเสริมสร้างความเชื่อมั่นในสมรรถนะการเลี้ยงลูกด้วยนมแม่ร่วมกับไลน์แอปพลิเคชันในแม่ที่ผ่าตัดคลอด: การวิจัยกึ่งทดลอง

ชนิดา เชือกทอง มยุรี นิรัตธราดร ณัฐพัชร์ บัวบุญ*

บทคัดย่อ: นมแม่เป็นอาหารที่ดีที่สุดและเหมาะสมสำหรับทารก การผ่าตัดคลอดบุตรขัดขวางความเชื่อมั่นในความสามารถของตนเองในการเลี้ยงลูกด้วยนมแม่ แม่ที่มีสมรรถนะแห่งตนในการเลี้ยงลูกด้วยนมแม่ต่ำอาจทำให้ไม่ประสบความสำเร็จในการเลี้ยงลูกด้วยนมแม่ วัตถุประสงค์ของการวิจัยนี้เพื่อศึกษาผลของโปรแกรมเสริมสร้างความเชื่อมั่นในสมรรถนะการเลี้ยงลูกด้วยนมแม่ร่วมกับไลน์แอปพลิเคชันต่อความเชื่อมั่นในความสามารถของตนเองในการให้นมบุตร และ การเลี้ยงลูกด้วยนมแม่อย่างเดียว ในแม่ที่ผ่าตัดคลอดบุตร 4 สัปดาห์หลังคลอด พัฒนาโปรแกรมโดยประยุกต์ใช้กรอบแนวคิดทฤษฎีสมรรถนะในตนเองร่วมกับไลน์แอปพลิเคชัน การวิจัยครั้งนี้เป็นการวิจัยกึ่งทดลอง วัดผลหลังการทดลองของกลุ่มทดลองและกลุ่มควบคุม กลุ่มตัวอย่างคือ หญิงตั้งครรภ์อายุตั้งแต่ 20 ปีขึ้นไป ที่มารับการเตรียมผ่าตัดคลอดบุตรที่โรงพยาบาลมหาวิทยาลัยแห่งหนึ่ง ของจังหวัดในภาคกลาง จำนวน 52 ราย และติดตามระยะแรกคลอดถึง 4 สัปดาห์ หลังคลอด แบ่งเป็นกลุ่มทดลองและกลุ่มควบคุม กลุ่มละ 26 ราย กลุ่มทดลองได้รับโปรแกรมเสริมสร้างความเชื่อมั่นในสมรรถนะการเลี้ยงลูกด้วยนมแม่ร่วมกับไลน์แอปพลิเคชัน กลุ่มควบคุมได้รับการพยาบาลตามปกติ เก็บรวบรวมข้อมูลโดยใช้แบบสอบถาม 2 ส่วน ดังนี้ 1) แบบสอบถามในการรวบรวมข้อมูล ประกอบด้วย แบบสอบถามข้อมูลส่วนบุคคล แบบสอบถามความเชื่อมั่นในความสามารถของตนเองในการให้นมบุตร และ แบบบันทึกการให้อาหารทารก 2) เครื่องมือที่ใช้ทดลอง คือ โปรแกรมการสร้างเสริมความเชื่อมั่นในสมรรถนะการเลี้ยงลูกด้วยนมแม่ร่วมกับไลน์แอปพลิเคชัน วิเคราะห์ข้อมูลโดยใช้สถิติเชิงพรรณนา เปรียบเทียบความเชื่อมั่นในความสามารถของตนเองในการให้นมบุตร และอัตราการเลี้ยงลูกด้วยนมแม่อย่างเดียว 4 สัปดาห์หลังคลอด โดยใช้สถิติ t-test และการทดสอบของฟิชเชอร์ (Fisher's exact test) ตามลำดับ

ผลการศึกษาพบว่า ความเชื่อมั่นในความสามารถของตนเองในการให้นมบุตร และ อัตราการเลี้ยงลูกด้วยนมแม่อย่างเดียว 4 สัปดาห์หลังคลอด ในแม่กลุ่มทดลอง สูงกว่าแม่ในกลุ่มควบคุม อย่างมีนัยสำคัญทางสถิติ โดยสรุป โปรแกรมเสริมสร้างความเชื่อมั่นในสมรรถนะการเลี้ยงลูกด้วยนมแม่ร่วมกับไลน์แอปพลิเคชันสามารถเพิ่มเชื่อมั่นในความสามารถของตนเองในการให้นมบุตร และ เพิ่มอัตราการเลี้ยงลูกด้วยนมแม่อย่างเดียว 4 สัปดาห์ ในแม่ที่ผ่าตัดคลอดบุตรได้ พยาบาลสามารถใช้โปรแกรมนี้เพื่อเพิ่มอัตราการเลี้ยงลูกด้วยนมแม่อย่างเดียวในระยะ 4 สัปดาห์หลังคลอดได้ อย่างไรก็ตามมีข้อเสนอแนะ ให้ทำการศึกษาระยะยาวถึง 6 เดือนหลังคลอด และพัฒนาเนื้อหาที่ใช้ในไลน์แอปพลิเคชันให้สอดคล้องกับการพัฒนาแหล่งเรียนรู้ให้เกิดการรับรู้สมรรถนะในการเลี้ยงลูกด้วยนมแม่ที่เหมาะสมยิ่งขึ้น

Pacific Rim Int J Nurs Res 2023; 27(4) 711-721

คำสำคัญ: สมรรถนะการเลี้ยงลูกด้วยนม การผ่าตัดคลอดบุตรทางหน้าท้อง การเลี้ยงลูกด้วยนมแม่อย่างเดียว 4 สัปดาห์ ไลน์แอปพลิเคชัน หลังคลอด

ชนิดา เชือกทอง *นักศึกษาหลักสูตรพยาบาลศาสตรมหาบัณฑิต (สาขาวิชาการพยาบาลเวชปฏิบัติชุมชน) คณะพยาบาลศาสตร์ มหาวิทยาลัยธรรมศาสตร์ E-mail: chanida.02am@gmail.com*

ติดต่อที่: มยุรี นิรัตธราดร* *ผู้ช่วยศาสตราจารย์ คณะพยาบาลศาสตร์ มหาวิทยาลัยธรรมศาสตร์ E-mail: nmayuree@hotmail.com*

ณัฐพัชร์ บัวบุญ *ผู้ช่วยศาสตราจารย์ คณะพยาบาลศาสตร์ มหาวิทยาลัยธรรมศาสตร์ E-mail: dbuaboon@hotmail.com*