Effects of the Community-Based Breastfeeding Promotion Program for Working Mothers: A Quasi-experimental Study

Benjamas Thussanasupap, Punyarat Lapvongwatana, Surintorn Kalampakorn, Diane Lynn Spatz

Abstract: This quasi-experimental study tested the effectiveness of the Community-based Breastfeeding Promotion Program for working mothers. The purposive sample of 52 working mothers living in Chonburi Province, Thailand were divided into comparison and intervention groups. Before implementing the Program, the first 26 dyads were assigned to the comparison group and received the usual activity. Seven months later, the Program was implemented in the district and another 26 dyads were assigned to the intervention groups. The Program was developed from the situation analysis phase, a literature review, and self-efficacy theory. Its effectiveness was measured and breastfeeding knowledge, breastfeeding self-efficacy, perceived breastfeeding support from family, and breastfeeding behavior of the intervention group were significantly higher than in the comparison group. The exclusive breastfeeding duration of the intervention group was significantly longer than the comparison group. Further, 69.23% of the intervention group exclusively breastfed for 6 months and 53.85% continued to breastfeed for 1 year whereas none of the participant of the comparison group exclusively breastfed for 6 months and continued to breastfeed for 1 year. It can be concluded that this Program bridged the gap of breastfeeding support in the health care system to encourage working mothers to continue breastfeeding after hospital discharge.

Pacific Rim Int J Nurs Res 2016; 20(3) 196-209

Keywords: Breastfeeding; Breastfeeding Program; Exclusive Breastfeeding; Self-efficacy theory

Introduction

"Breastfeeding is the cornerstone of childhood nutrition,"[1] and is a key global public health issue.[2] The advantages of breastfeeding for the family, the economy, national health care costs, employers' costs, and also environmental benefits have been described explicitly.[2-5] The benefits of breastfeeding and the risks of not breastfeeding are well documented.[4-5] An estimated 1.30-1.45 million child deaths could be prevented each year with improved breastfeeding practices.[6] Global efforts have focused on increasing breastfeeding initiation and duration to reach the

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Millennium Development Goal (MDG), which aims to reduce mortality among children under five by two-thirds.[7] Despite the fact that World Health Organization (WHO) and the American Academy of Pediatrics (AAP) have recommended that mothers exclusively breastfeed for 6 months, and continue breastfeeding for at least one year or longer,[4,8] breastfeeding rates in Thailand and worldwide are of concern.

In Thailand, a national target has been set for 30% of infants to be exclusively breastfed for six months. In 2006, a national survey found that only 5.4 % of Thai children were exclusively breastfed at the first six months after birth.[9] Thailand has one of the lowest national rates of exclusive breastfeeding in the world.[10] To address this crisis issue, the Family Bonding with Love Project has been developed to raise awareness of breastfeeding promotion across the country, and also emphasize healthy childhood development.[11] This effort led to an increase in exclusive breastfeeding rate at six months of 12.3 % in 2012; however, still well below the national target.[12]

The influence of maternal employment on breastfeeding is a public health and global health issue. The proportion of working women with young children has increased in several countries of the world. Continuing breastfeeding after returning to work is challenging.[18] The barriers related to early weaning among working mothers include low milk supply, insufficient information on breastmilk expression method and feeding, lack of preparation for breastfeeding after returning to work, struggling to maintain milk supply, regarding breastfeeding support in the workplace, and lack of support from family members.[18,27,39] Some evidence suggested heath care providers in communities should provide breastfeeding support continuously and follow up working mothers especially from 2-4 weeks before returning to work and from 2-4 weeks after returning to work, until 6 months after delivery or longer.[27]

Therefore, the Community-based Breastfeeding Promotion Program (CBPP) for working mothers was developed from the earlier situation analysis phase, literature review, and self-efficacy theory to be beneficial. This study aimed to examine the effectiveness of the CBPP regarding breastfeeding knowledge, breastfeeding self-efficacy, perceived breastfeeding support from family, breastfeeding behavior and breastfeeding duration.

Review of Literature

Many factors influence women choosing not to breastfeed or stop breastfeeding too early. Research has indicated that "return to work" strongly affects breastfeeding duration – an earlier return to work results in a shorter breastfeeding duration.[16-18] The balance between employment and breastfeeding is often perceived as incompatible; the workplace may not accommodate the needs of breastfeeding mothers.[20] Most workplaces in Thailand do not have breastfeeding facilities to support mothers who have returned to work (inflexible work hours, no clean and safe child care, no breaks to express milk, and no breastfeeding room/space).[21-22]

Besides lack of breastfeeding support in the workplace, breastfeeding is usually promoted only in the short period during hospital stay after delivery. This is the salient gap of breastfeeding support service. Breastfeeding mothers then have to sustain breastfeeding by themselves at home. Thai working mothers plan in advance to stop breastfeeding and bring their baby to be cared for by someone else at another place rather than learn about how to combine breastfeeding and working.[22] Maternal breastfeeding intention and knowledge alone are not sufficient to overcome breastfeeding barriers and difficulties; therefore, efforts at promoting breastfeeding must go beyond the individual level to the family and community levels. Involving family members, community leaders, social support networks, the health sector, and community members in breastfeeding promotion can be justified on the grounds not only of effective breastfeeding behavior change, but also of women's empowerment and community development.[23-24]

The majority of the studies from our literature review revealed significant differences in duration rate of mothers receiving a variety of interventions ranging from prenatal lactation education, in-hospital support, postpartum home visits by professionals, and peer support.[13-15] However, few intervention studies achieved significant differences of the exclusive

breastfeeding rate for 6 months. Despite the fact that working mothers are less likely to continue breastfeeding,[16-18] few intervention studies focused only on working mothers. In addition, little research has been directly focused on breastfeeding promotion in the community, especially in Thailand. Breastfeeding promotion must move beyond the short period during hospital stay after delivery to after discharge/home/community environment.[19] Therefore, the CBPP for working mothers may bridge the gap of breastfeeding support following hospital discharge. This Program involved the stakeholders, the community members to collaboratively provide breastfeeding support in the communities.

Method

Design: A quasi-experimental was employed in this study.

Ethical Considerations: Approval was obtained from the Ethical Committee of Mahidol University, before data collection. Informed consent was obtained from all participants. Participants were given written information explaining the purpose of the study, procedures, confidentiality and anonymity preserved. They were also informed about their right to withdraw from the study at any time without losing any benefits of their health care service.

Setting and sample: The study was conducted in a community unit in a hospital and the mothers' homes in Chonburi Province, Thailand from March 2013 to January 2015. The sample size calculation according to Twisk[25], suggested that when the significant criterion is .05 with the power of 80%, the sample size should comprise at least 20 cases. The principal researcher considered using 26 dyads for the comparison group and 26 dyads for the intervention group as the sample size in this study. The extra 6 participants of each group (30% of the total subjects) were added to offset any missing subjects. All participants meeting the inclusion criteria were included and while others were excluded following the exclusion criteria. For each group, after completely enrolling 26 participants, the researcher stopped immediately to prevent selection bias. The inclusion criteria were: (1) age >18 years, (2) intention to breastfeed their infant, (3) no factor that could significantly interfere with breastfeeding and (4) able to be contacted by telephone. Exclusion criteria were (1) during the study both mother and infant had a complication that could be contraindication to breastfeed the infant and (2) planning to send her infant to be cared for by someone else in another province before 1 month after delivery.

Procedure and Data Collection:

The results presenting in this study comprise 3 phases: (1) situation analysis, (2) model preparation and development, and (3) model implementation and evaluation. Before implementing the CBPP, the first 26 dyads were assigned to the comparison group and received the usual activities/services of public health nurses. In general, they received single home visits within 1-2 weeks after delivery without specific breastfeeding knowledge/support for working mothers. The researcher recruited the participants following the inclusion criteria and collected data while they visited the community medical unit. Seven months later, the CBPP was implemented in the district (the duration of phase 1 and 2 was 7 months) and another 26 dyads were assigned to the intervention group. Therefore, the comparison and intervention groups were not contaminated.

The Community-based Breastfeeding Promotion Program (CBPP) for Working Mothers

Preparing Working Mother and Family (0 - 7 days after delivery).

The CBPP (Figure 1), delivered by health volunteers and public health nurses as the breastfeeding support team in the communities, aimed to increase the breastfeeding self-efficacy of working mothers. The Program of 90 minutes was developed based on literature review, information from the situation analysis phase, and the 4 primary sources of information of Bandura's self-efficacy theory including (1) enactive mastery experiences, (2) vicarious experiences, (3) verbal persuasions, and (4) physiological and affective states. The content validity of the program was examined

by 5 experts. Contents of the CBPP are listed in Table 1. The breastfeeding support team used the breastfeeding kit including (1) a flip chart for teaching mothers and family, (2) a baby doll, (3) a set for demonstrating how to hold the baby to latch on, (4) an artificial breast, (5) and breastmilk bag and bottle for demonstrating how to keep breastmilk safely and (6) a cup for teaching cup-feeding technique. Further, the participants received a handbook of breastfeeding for working mothers. This handbook included the content of a CBPP for working mothers in brief. All contents and photographs in a handbook were congruent with the program and the flip chart, used by the breastfeeding support team for easy memorization and review.

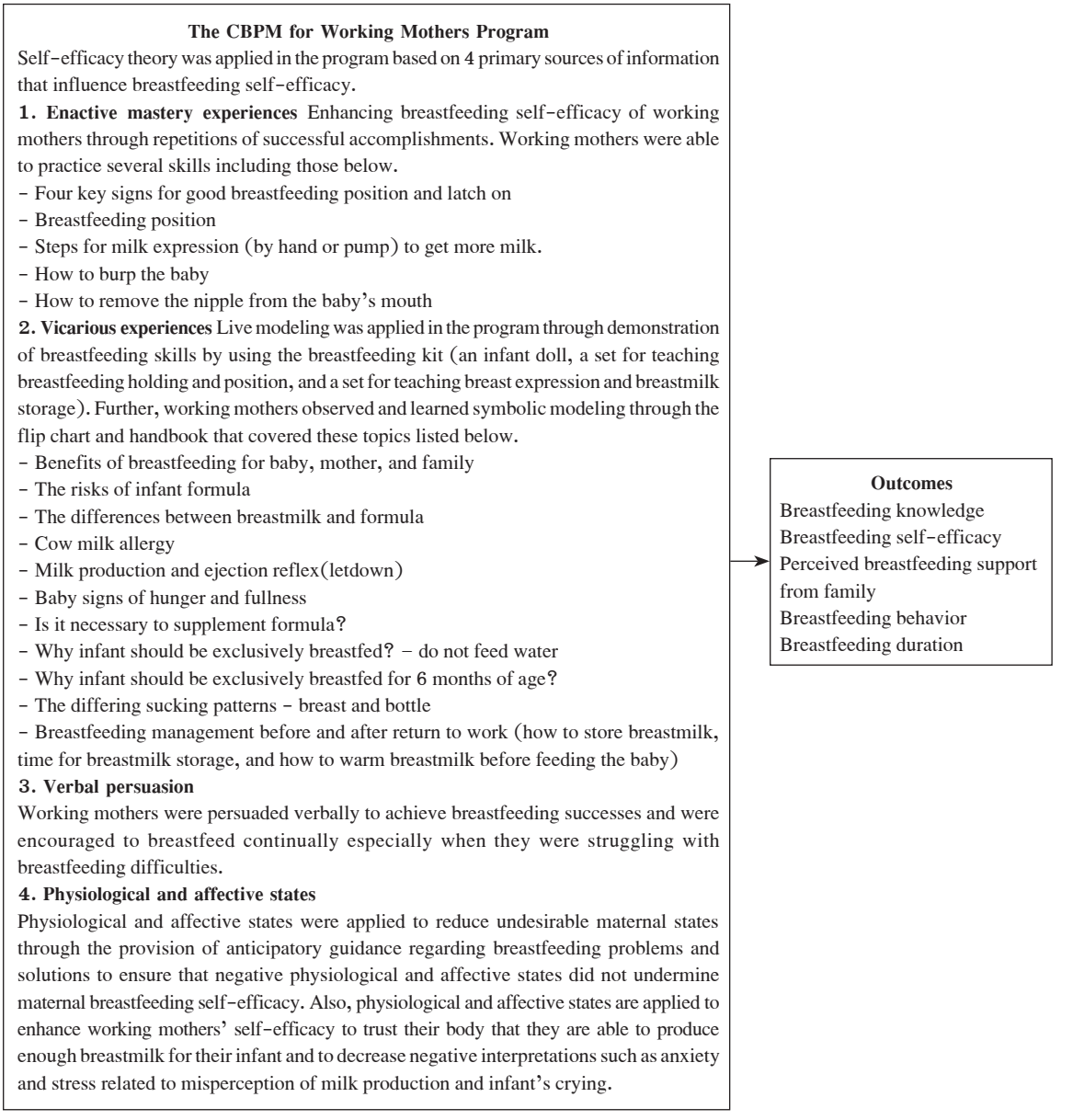

Figure 1 Conceptualization of the CBPP for Working Mothers Program

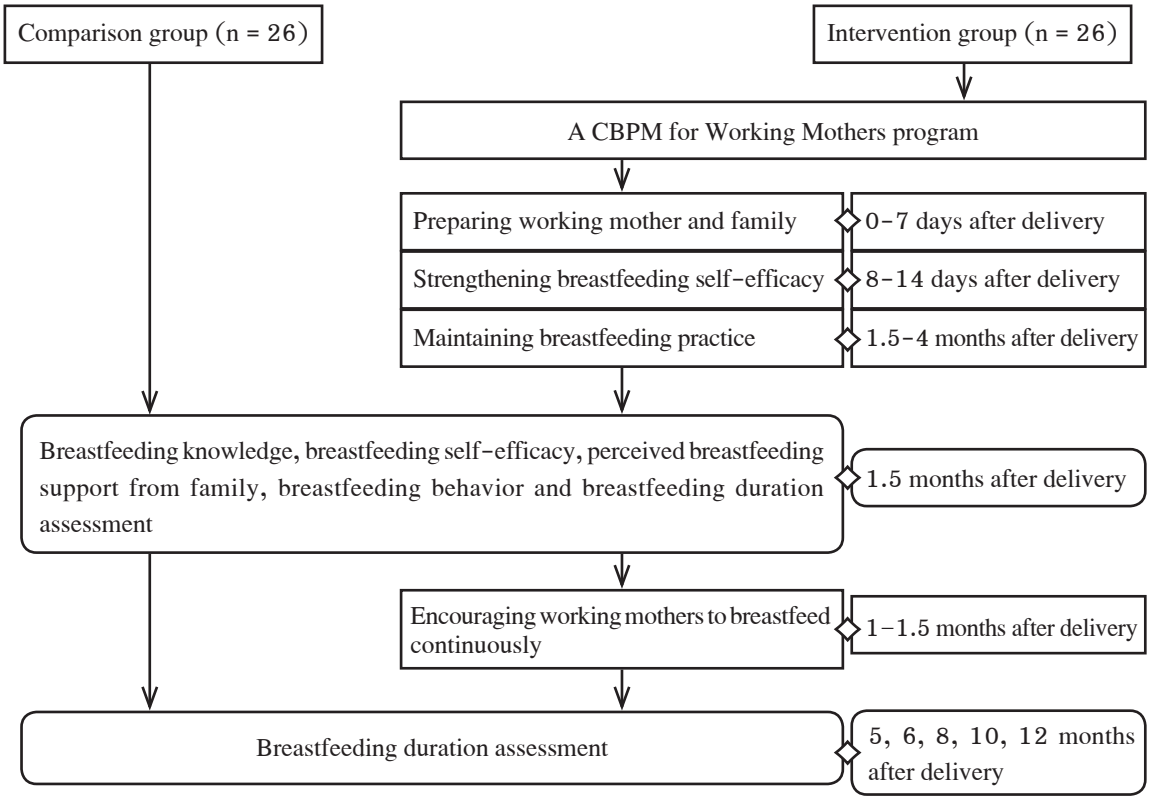

Figure 2 Flow chart of procedure

Strengthening Breastfeeding Self-efficacy (8-14 days after delivery).

The breastfeeding support team visited the working mothers at home aiming to strengthen their breastfeeding self-efficacy by reassuring them on their breastfeeding choice and following up their breastfeeding self-efficacy. The team also discussed with working mothers and families about their breastfeeding plan and management when mothers resumed work, and investigated any breastfeeding difficulties to find solutions with working mothers and family members.

Maintaining Breastfeeding Practice (1-1.5 months after delivery)

The breastfeeding support team visited working mothers at home proposing to maintain maternal breastfeeding practice through the involvement of family member roles in breastfeeding support.

Encouraging Working Mothers to Breastfeed Continuously (1.5-4 months after delivery)

The breastfeeding support team focused on investigating the breastfeeding difficulties regarding combining breastfeeding and employment and mutually explored strategies to support working mothers to breastfeed continuously with the support of family members.

Instruments:

The instruments for data collection were 6 questionnaires. Before collecting data, all research instruments were assessed for content validity and language appropriateness by 5 experts included 2 obstetrics and gynecological nursing instructors, 1 public health nursing instructor, 1 public health instructor, and 1 lactation nurse. Then the researcher

adjusted the instruments according to the experts' recommendations and comments for improving content validity and language appropriateness before using in this study.

The Breastfeeding Knowledge of Working Mother Questionnaire was developed by the researcher from the CBPP for working mother lesson plans and the Handbook of Breastfeeding for Working Mothers. The questionnaire consisted of 30 items. Participants were required to respond to all of the items by answering true or false (answer wrong = 0, answer correct = 1). The score ranged from 0 to 30, with higher scores indicating higher breastfeeding knowledge. Tested for reliability, the Kuder-Richardson Formula 20 was 0.71.

The Breastfeeding Self-efficacy of Working Mothers Questionnaire was adapted by the researcher from the Thai version of the Breastfeeding Self-efficacy Scale - Short Form (BSES-SF: Thai version) of Thussanasupap.[35] The original BSES-SF was developed based on the self-efficacy theory to measure maternal breastfeeding confidence by Dennis.[36] For this study, the Questionnaire consisted of 20 self-administered items, arranged in a 5-point Likert-type scale, ranging from 1 (not at all confident) to 5 (very confident) that assessed breastfeeding self-efficacy expectancies among working mothers. The total scores ranged from 20 to 100, with higher scores indicating higher levels of self-efficacy. The Cronbach's alpha coefficient was 0.93.

The Perceived Breastfeeding Support from Family Questionnaire (PBSF) was adapted from the PBSF of Suriyakhan.[37] The PBSF consists of 20 self-administered items, arranged in a 4-point Likert-type scale, ranging from 0 (never) to 3 (usually, 6-7 times/week). The total scores range from 0 to 60, with higher scores indicating higher perceived breastfeeding support from family members. The Cronbach's alpha coefficient was 0.85.

The Breastfeeding Behavior of Working Mothers Questionnaire was adapted from the questionnaire developed by Rungreang.[38] It consists of 20 items, arranged in a 3-point Likert-type scale, ranging from 0 (never) to 2 (every time). The scores range from 0 to 40, with higher scores indicating higher breastfeeding behavior. The Cronbach's alpha coefficient was 0.90.

The Breastfeeding Duration Form was developed by the researcher to record breastfeeding duration and exclusivity of breastfeeding among working mothers. This form was also used to monitor the type of food that infants received including breastmilk, water, formula, and complementary food. A question consisting of 7 choices for selecting only one choice which best explained the feeding that the infant received in the 24 hours before the interview such as breastmilk only or breastmilk and formula.

The Demographic Data Questionnaire of Working Mothers elicited basic personal data consisting of 5 main parts (1) personal information (such as age, education level, income), (2) family information and support from family members, (3) the history of pregnancy and delivery, (4) breastfeeding information and experience, and (5) information of employment and workplace.

Data Analysis:

General characteristics of working mothers were compared and analyzed by grouped t-test, Mann-Whitney U test, and Chi-square test. The Mann-Whitney U test was used to determine any differences between the intervention and comparison groups.

Results

The characteristics of the intervention and comparison groups

Findings showed no significant differences among the demographic characteristics between both groups (Table 1). Similarly, all characteristics of the participants between the 2 groups demonstrated no significant differences (Table 2).

Table 1 Comparison of the Characteristics of the Participants by Grouped t-Test and Mann-Whitney U test

Characteristics	Intervention group (n = 26)		Comparison group (n = 26)		Mann-Whitney U	*z*	*p*-value
	n	%	n	%			
Age (years)							
20 - 29	18	69.2	14	53.9			
30 - 39	8	30.8	11	42.3			
> 39	0	0.0	1	3.8			
$\overline{X}$ ± SD;	26.31 ± 4.70		29.35 ± 5.59		233.5	1.921	0.555
Parity							
Primiparous	13	50.0	12	46.2			
Multiparous							
2 children	10	38.5	12	46.2			
3 children	3	11.5	2	7.6			
$\overline{X}$ ± SD;	1.62 ± 0.70		1.62 ± 0.64		333.0	0.102	0.919
Exclusive breastfeeding duration of last child (days)[a]	*n = 13*		*n = 14*				
< 30	2	15.4	1	7.1			
30 - 59	5	38.4	2	14.3			
60 - 119	2	15.4	5	35.7			
> 120	4	30.8	6	42.9			
$\overline{X}$ ± SD;	73.15 ± 62.65		91.57 ± 53.18		0.826[b]	-	0.417
Income (baht/month)							
< 10,000	7	26.9	7	26.9			
10,000 - 19,999	15	57.7	15	57.7			
20,000 - 29,999	4	15.4	2	7.7			
> 30,000	0	0.00	2	7.7			
$\overline{X}$ ± SD;	12,538.46 ± 5,398.01		13,646.15 ± 7,316.68		323.0	0.276	0.783
Total of working days/weeks (days)							
5	2	7.7	4	15.4			
6	14	53.8	15	57.7			
7	10	38.5	7	26.9			
$\overline{X}$ ± SD;	6.31 ± 0.62		6.12 ± 0.65		286.0	1.070	0.284
Total working hours/days (hours)							
8	1	3.9	5	19.2			
9	16	61.5	14	53.9			
10	3	11.5	3	11.6			
11	0	0.0	1	3.8			
12	3	11.6	0	0.0			
13	0	0.0	1	3.8			
14	3	11.5	2	7.7			
$\overline{X}$ ± SD;	10.00 ± 1.79		9.54 ± 1.68		276.0	1.265	0.206
Break time duration/time (minutes)							
0 (no break)	22	84.6	18	69.2			
10	4	15.4	8	30.8			
$\overline{X}$ ± SD;	1.54 ± 3.68		3.08 ± 4.71		286.0	1.304	0.192

a = grouped t-test, b = *t*-value

Table 2 Comparison of the Characteristics of the Participants by Chi-Square

Characteristics	Intervention group (n = 26)		Comparison group (n = 26)		χ^2	*p*-value
	n	%	n	%		
Educational level						
Primary school	2	7.7	1	3.8	4.092	0.536
Junior high school	5	19.2	10	38.5		
Senior high school	8	30.8	5	19.2		
Primary vocational certificate	1	3.8	1	3.8		
High vocational certificate	4	15.4	6	23.1		
Bachelor degree	6	23.1	3	11.5		
Type of delivery						
Normal	15	57.7	15	57.7	1.048	0.592
Vacuum	1	3.8	0	0.00		
Cesarean section	10	38.5	11	42.3		
Time to first start breastfeeding						
Within 30 minutes after delivery	9	34.6	14	53.8	1.950	0.377
Within 60 minutes after delivery	7	26.9	5	19.2		
Longer than 1 hour after birth	10	38.5	7	26.9		
Type of feeding during hospital stay						
Exclusive breastfeeding	15	57.7	14	53.8	0.078	0.780
Mixed feeding	11	42.3	12	46.2		
Occupation						
Formal sector	16	61.5	18	69.2	0.340	0.560
Informal sector	10	38.5	8	30.8		
Working characteristic						
Formal fulltime	22	84.6	17	65.4	2.564	0.109
Shift work	4	15.4	9	34.6		

1. Breastfeeding knowledge of working mothers

The breastfeeding knowledge of working mothers score of the intervention group (mean rank = 39.50) was significantly higher than the comparison group (mean rank = 13.50), $U = 351.0$, $z = 6.381$, $p < .001$.

2. Breastfeeding self-efficacy of working mothers

The breastfeeding self-efficacy of working mothers score of the intervention group (mean rank = 38.87) was significantly higher than the comparison group (mean rank = 14.13), $U = 16.5$, $z = 5.907$, $p < .001$.

3. Perceived breastfeeding support from family

The perceived breastfeeding support from family score of the intervention group (mean rank = 35.62) was significantly higher than the comparison group (mean rank = 17.38), $U = 101.0$, $z = 4.349$, $p < .001$.

4. Breastfeeding behavior of working mothers

The breastfeeding behavior of working mothers score of the intervention group (mean rank = 36.65)

was significantly higher than the comparison group (mean rank = 16.35), $U = 74.0$, $z = 4.838$, $p < .001$.

5. Breastfeeding duration

The exclusive breastfeeding duration of the intervention group (mean rank = 38.96) was significantly longer than the comparison group (mean rank = 14.04), $U = 14.0$, $z = 6.059$, $p < .001$. As shown in Table 5, 18 participants (69.23%) of the intervention group exclusively breastfed for 6 months and 14 participants (53.85 %) continued to breastfeed at 1 year whereas none of the participants of the comparison group exclusively breastfed for 6 months and continued to breastfeed for 1 year.

Table 3 Comparison of the Outcomes Between the Intervention and Comparison Groups by Mann-Whitney U Test

The outcomes	Intervention group (n = 26)		Comparison group (n = 26)		Mann-Whitney U	*z*	*p*-value
	$\overline{X}$	SD	$\overline{X}$	SD			
1. Breastfeeding knowledge of working mother	29.77	0.43	21.85	3.22			
Mean Rank	39.50		13.50		351.0	6.381	0.000***
Range	29 - 30		14 - 26				
2. Breastfeeding self-efficacy of working mother	94.77	6.61	65.85	16.05			
Mean Rank	38.87		14.13		16.5	5.907	0.000***
Range	80 - 100		30 - 92				
3. Perceived breastfeeding support from family	71.73	9.06	58.42	8.73			
Mean Rank	35.62		17.38		101.0	4.349	0.000***
Range	50 - 80		37 - 73				
4. Breastfeeding behavior of working mother	33.31	7.97	18.2	9.75			
Mean Rank	36.65		16.35		74.0	4.838	0.000***
Range	14 - 40		1 - 38				
5. Exclusive breastfeeding duration	154.04	44.16	29.88	25.14			
Mean Rank	38.96		14.04		14.0	6.059	0.000***
Range	51 - 180		0 - 75				

*** $p < .001$

Table 4 Comparison of the Exclusive Breastfeeding for 6 Months and Continued Breastfeeding for 1 Year Between the Intervention and Comparison Groups

The outcome	Intervention group (n = 26)		Comparison group (n = 26)	
	n	%	n	%
Exclusive breastfeeding for 6 months	18	69.23	0	0.0
Continued breastfeeding for 1 year	14	53.85	0	0.0

Discussion

After hospital discharge, many mothers experience difficulty finding and receiving breastfeeding support: they may need continued breastfeeding support from health professionals – not only from their family members.[2]

Further, pressures of employment influence working mothers to reduce or stop breastfeeding too early.[16-21] Continuing to breastfeed after returning to work presents significant challenges for working mothers, and they often face several difficulties.[15] This study revealed that the effect of CBPP could improve several outcomes such as breastfeeding knowledge, breastfeeding self-efficacy, perceived breastfeeding support from family members, breastfeeding behavior, and breastfeeding duration that are discussed below.

Breastfeeding knowledge of working mothers

The finding of this study revealed that the breastfeeding knowledge scores of the intervention group was significantly higher than the comparison group. Lack of breastfeeding knowledge regarding breastfeeding preparation before returning to work, the method of breastmilk expression, and breastfeeding management during work was identified as the barrier to successful exclusive breastfeeding among working mothers.[27] Breastfeeding knowledge and skills were important for working mothers to continue breastfeeding after returning to work. An explanation of this study's results indicate that the CBPP for working mothers (Figure 1) including the necessary breastfeeding knowledge for working mothers may have increased breastfeeding knowledge of working mothers. The breastfeeding kit, flip chart, and handbook were useful for the mothers to understand more easily.

Breastfeeding self-efficacy of working mothers

The breastfeeding self-efficacy scores of the intervention group was significantly higher than the comparison group. This led to the conclusion that the CBPP had a positive effect on the breastfeeding self-efficacy of working mothers. Mothers' breastfeeding self-efficacy has a direct influence on performance accomplishments of breastfeeding. The significance of maternal breastfeeding self-efficacy has been demonstrated frequently to be predictive of breastfeeding outcomes. It constitutes a salient variable in breastfeeding performance as it predicts (a) whether a mother chooses to breastfeed, (b) how much effort she will expend if she does, (c) whether she will have self-enhancing or self-defeating thought patterns, and (d) how she will emotionally respond to breastfeeding difficulties.[28] Breastfeeding self-efficacy is influenced by 4 main sources of information including enactive mastery experiences, vicarious experiences, verbal persuasion, and physiological and affective states. As such, the intervention of this study was devised based on self-efficacy theory and was expected to increase mothers' confidence in their ability to breastfeed by adjusting 4 main sources of self-efficacy information in the Program.

Further, the provision anticipatory guidance in the Program and the breastfeeding handbook were very helpful when the mothers had breastfeeding problems or concerns. For example, common problems including nipple pain, cracked nipples, breast engorgement, pain, and insufficient milk supply were frequently cited as breastfeeding problems after hospital discharge and mothers who faced these problems were less likely to continue to breastfeed. The Program and the breastfeeding handbook provided guidelines to prevent and to solve such problems.

Perceived breastfeeding support from family

The perceived breastfeeding support from family scores of the intervention group were significantly higher than the comparison group. We believe that engaging family members to learn about the breastfeeding program encouraged the family to provide breastfeeding support for the working mothers. Family members play a vital role in breastfeeding support[29] and influence breastfeeding practice.[30] Komkham[31] reported that although Thai mothers received appropriate advice from healthcare

professionals and mothers desired to follow those recommendations, they may eventually give formula or supplementary food to their infant because of the influence of their own mother. Moreover, the infant's grandmother and the father of the infant have been identified as crucial roles in influencing mothers in their intention to continue to breastfeed after returning to work.[32] In this study, family members participated in the program to receive all breastfeeding information as working mothers received and also participated in planning and managing breastfeeding when mothers resumed work. Family members cooperated with working mothers and the breastfeeding support team to explore strategies that encouraged working mothers to breastfeed their infant continuously after returning to work with the support of family members.

Breastfeeding behavior of working mothers

The breastfeeding behavior of working mothers' scores of the intervention group was significantly higher than the comparison group. The qualitative study of Tangsuksan & Ratinthorn[27] revealed that the hospital did not provide enough breastfeeding information for working mothers such as the details of how to store, and to handle expressed milk, and the breastfeeding management plan for working mothers. Lacking breastfeeding information that was needed to understand and to practice in daily life led working mothers to not practice breastfeeding continuously after returning work, resulting in insufficient breastmilk problems.[27] In this study, 0-7 days after delivery, participants received a CBPP which provided full breastfeeding information about hand expression and pumping techniques, storing and handling expressed milk, milk storage and breastfeeding management, and preparation before returning to work. They directly experienced how to express breastmilk by hand and how to use the pump correctly by practice and rehearsal. Further, 8-14 days after delivery, they were reassured and followed up regarding their breastfeeding practice by the breastfeeding support team. From 1 - 1.5 months after delivery, they were followed up to maintain breastfeeding practice and reassured that they had already prepared the infant's caregiver to provide breastmilk while they worked. From 1.5 - 4 months after delivery, they were followed up to encourage their breastfeeding practice continuously after returning to work. Therefore, working mothers were able to maintain breastfeeding behavior after they returned to work. In this study, 2 infants had hyperbilirubinemia and needed phototherapy treatment. However, working mothers still practiced exclusive breastfeeding even when the hospital did not allow mothers to take the infants out of the phototherapy incubator because they learned from the breastfeeding support team that the infant with hyperbilirubinemia needed breastmilk rather than formula to increase the releasing of bilirubin.

Breastfeeding duration

The current study found that the exclusive breastfeeding duration at 6 months of the intervention group was significantly longer than the comparison group. Further, 18 participants (69.23%) of the intervention group exclusively breastfed for 6 months and 14 participants (53.85 %) continued to breastfeed for 1 year whereas none of the comparison group exclusively breastfed for 6 months and continued to breastfeed for 1 year. This led to the conclusion that the CBPP had an effect on the breastfeeding duration of working mothers.

The results of this study could be used to explain that the CBPP, that increased breastfeeding knowledge, breastfeeding self-efficacy, perceived breastfeeding support from family and breastfeeding behavior, resulted in the exclusive breastfeeding rate for 6 months and the breastfeeding rate for 1 year. The prospective survey of Blyth et al.[33] reported that low self-efficacy was related to bottle-feeding at 1 week postpartum (p <.001). Mothers with higher breastfeeding self-efficacy scores were significantly more likely to continue to breastfeed to four months postpartum and did so exclusively more than mothers with lower scores (p <.001). This is congruent with a randomized controlled trial of Olenick,[34] demonstrating that breastfeeding confidence was associated with

higher rates of full breastfeeding at weeks 1, 6, and 12. High breastfeeding confidence was associated with longer mean duration of breastfeeding (10 weeks) versus lower scores (5 weeks) ($p < .0001$).

Limitations

The working mothers who participated in this study stayed with their infants. Therefore, working mothers who have to send their infants to stay in their hometown may need extra support and strategies.

Conclusion and Recommendation

The finding showed that the CBPP was an effective program to improve breastfeeding knowledge, breastfeeding self-efficacy, perceived breastfeeding support from family, breastfeeding behavior, and breastfeeding duration of working mothers. Both public health nurses and health volunteers as the breastfeeding support team in Thailand work almost exclusively in community settings, and thus, serve as the connector between the birth hospital and the community to provide breastfeeding support for working mothers. This model should be implemented in other areas to increase the exclusive breastfeeding rate of mothers, resulting in increasing the exclusive breastfeeding rate of the country. Future research is needed to explore strategies for the working mothers who had to separate from their infants after returning to work.

Acknowledgment

The authors would like to express gratitude to Thailand Nursing and Midwifery Council for providing funding for this study. Also, they acknowledge the mothers, infants, family members, health volunteers, and public health nurses who participated in this study. We further thank the staff of the hospital, community medical centre and the lactation clinic who kindly assisted with this study.

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ผลของโปรแกรมส่งเสริมการเลี้ยงลูกด้วยนมแม่ในชุมชนสำหรับแม่ทำงาน: การวิจัยกึ่งทดลอง

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บทคัดย่อ: การวิจัยกึ่งทดลองเพื่อทดสอบผลของโปรแกรมส่งเสริมการเลี้ยงลูกด้วยนมแม่ในชุมชนสำหรับแม่ทำงาน กลุ่มตัวอย่างประกอบด้วยแม่ทำงานที่อาศัยอยู่ในอำเภอบ้านบึง จังหวัดชลบุรี จำนวนทั้งหมด 52 ราย ผู้วิจัยกลุ่มตัวอย่างออกเป็นกลุ่มควบคุมและกลุ่มทดลอง ก่อนหน้าที่จะดำเนินการตามโปรแกรมส่งเสริมการเลี้ยงลูกด้วยนมแม่ในชุมชนสำหรับแม่ทำงาน ผู้ร่วมวิจัย 26 รายแรกถูกจัดอยู่ในกลุ่มควบคุมและได้รับกิจกรรมตามปกติ หลังจากนั้น 7 เดือนต่อมา จึงดำเนินการตามโปรแกรมส่งเสริมการเลี้ยงลูกด้วยนมแม่ในชุมชนสำหรับแม่ทำงานในอำเภอบ้านบึง และผู้ร่วมวิจัยอีก 26 รายต่อมาถูกจัดให้อยู่ในกลุ่มทดลอง รูปแบบโปรแกรมดังกล่าวพัฒนามาจากข้อมูลที่รวบรวมได้จากระยะวิเคราะห์สถานการณ์ก่อนหน้านี้ การทบทวนวรรณกรรม และทฤษฎีสมรรถนะแห่งตน

ผลการวัดประสิทธิภาพของโปรแกรมส่งเสริมการเลี้ยงลูกด้วยนมแม่ในชุมชนสำหรับแม่ทำงาน พบว่า กลุ่มแม่ทำงานในกลุ่มทดลองมีคะแนนเหล่านี้สูงขึ้นอย่างมีนัยสำคัญทางสถิติเมื่อเปรียบเทียบกับกลุ่มควบคุม ($p < .001$) ได้แก่ (1) ความรู้เกี่ยวกับการเลี้ยงลูกด้วยนมแม่ (2) สมรรถนะแห่งตนในการให้นมบุตร (3) การรับรู้เกี่ยวกับการได้รับการสนับสนุนส่งเสริมเรื่องการเลี้ยงลูกด้วยนมแม่จากครอบครัว และ (4) พฤติกรรมการเลี้ยงลูกด้วยนมแม่ ระยะเวลาการเลี้ยงลูกด้วยนมแม่อย่างเดียวในกลุ่มทดลองยาวนานกว่ากลุ่มควบคุมอย่างมีนัยสำคัญทางสถิติ mean rank = 14.04, U = 14.0, z = 6.059, $p < .001$ นอกจากนี้พบว่า ผู้ร่วมวิจัยในกลุ่มทดลอง จำนวน 18 ราย (69.23%) สามารถเลี้ยงลูกด้วยนมแม่อย่างเดียวนาน 6 เดือน และมี 14 ราย (53.85 %) ที่สามารถเลี้ยงลูกด้วยนมแม่ต่อเนื่องได้ถึง 1 ปี ในขณะที่ไม่มีผู้ร่วมวิจัยรายใดในกลุ่มควบคุมที่สามารถเลี้ยงลูกด้วยนมแม่อย่างเดียวนาน 6 เดือน และสามารถเลี้ยงลูกด้วยนมแม่ต่อเนื่องได้ถึง 1 ปี จากผลการทดลองจึงสรุปได้ว่า โปรแกรมส่งเสริมการเลี้ยงลูกด้วยนมแม่ในชุมชนสำหรับแม่ทำงานนี้สามารถช่วยประสานช่องว่างของระบบการดูแลสุขภาพในเรื่องของการสนับสนุนการเลี้ยงลูกด้วยนมแม่ โดยส่งเสริมให้แม่ทำงานสามารถเลี้ยงลูกด้วยนมแม่ได้อย่างต่อเนื่องภายหลังออกจากโรงพยาบาล

Pacific Rim Int J Nurs Res 2016; 20(3) 196-209

คำสำคัญ: โปรแกรมส่งเสริมการเลี้ยงลูกด้วยนมแม่ แม่ทำงาน ทฤษฎีสมรรถนะแห่งตน

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