

Factors Predicting Exclusive Breastfeeding among Thai Adolescent Mothers at 6-months Postpartum

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Abstract: The benefits of breastfeeding to infant and maternal health are widely recognized, however, the exclusive breastfeeding rate in Thailand remains low, especially among adolescent mothers. To better understand this, we investigated the relationships and predictability of selected factors on breastfeeding among Thai adolescent mothers during 6-months postpartum in a cross-sectional predictive. One hundred and ninety-five adolescent mothers were purposively selected from six hospitals in the north of the country. In addition to collecting demographic data we used six self-administered instruments: The Pregnancy Intention and Breastfeeding Practice Questionnaire; the Perceived Benefits of Breastfeeding Questionnaire; the Perceived Barriers to Breastfeeding Questionnaire; the Breastfeeding Self-Efficacy Short-Form Scale, the Maternity Care Practice Questionnaire, and the Family Support Questionnaire. Data were analyzed using descriptive statistics, Fisher's exact test and multivariate logistic regression.

Findings indicated that the only predictor of exclusive breastfeeding was breastfeeding self-efficacy. Strategies to increase breastfeeding self-efficacy in Thai adolescent mothers should be further researched and developed for midwifery practice.

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Introduction

Human milk is recommended by the World Health Organization (WHO) for infants and they should be breastfed within the first hour after birth.¹ WHO and United Nations Children's Fund (UNICEF) recommends that all mothers exclusively breastfeed their infants for the first 6 months and continue breastfeeding with appropriate complementary foods until their infants reach twenty-four months of age.^{1,2} Breastfeeding provides various beneficial nutrients and energy for infants,³ and also promotes infant growth

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through its nutritional properties and helps reduce the incidence and severity of infections.³ However, exclusive breastfeeding remains at a low level in both initiation and duration in many countries.⁴ A previous study demonstrated that adolescent mothers tended to initiate and continue breastfeeding their infants at a lower rate than adult mothers.⁵ In this study, an adolescent mother was defined as one aged 15–19 years.

Breastfeeding is best for newborns of adolescent mothers because they frequently face health problems caused by neonatal complications,⁶ and infant complications including preterm delivery, low birth weight, neonatal jaundice, and intrauterine growth retardation that might have both short and long-term impacts on their health.⁷ Breastfeeding can decrease the severity of the infant's health problems since human milk contains antibodies, hormones, and enzymes that reduce infection, inflammation, neurodevelopment problems,⁸ and support their growth and development.⁷ Breastfeeding also enhances infant attachment and maternal-infant interaction.⁹ For the adolescent mother, breastfeeding can reduce the risk of postpartum haemorrhage,¹⁰ breast cancer,¹¹ and ovarian cancer.¹² Importantly, breastfeeding reduces healthcare costs for families and societies.¹

The global exclusive breastfeeding rate at 6 months of age was reported to be 41.00% in 2018,¹³ but in Thailand, the rate remained at 23.10% in 2016.¹⁴ Also, the prevalence of exclusive breastfeeding at 6 months after delivery among adolescent mothers with no complications in childbirth in Nakhon Nayok Province in Thailand from 2010 to 2013 was 27.00%,¹⁵ whilst it was 19.80% in 2019 among adolescent mothers in Bangkok, Thailand,¹⁶ thus these mothers have low rates of breastfeeding. Studies regarding factors affect breastfeeding in adolescent mothers have been conducted but their generalizability to Thai adolescent mothers may be limited because they have been conducted examining different factors, postpartum periods, and the sociocultural contexts of other countries.^{17,18,19,20}

Literature Review and Conceptual Framework

Breastfeeding is a behavior that promotes health and positively influences the infant's well-being. The Health Promotion Model (HPM)²¹ was used as a conceptual framework in this study since it offers an explanation and prediction of health-enhancing

behaviors. This model highlights a wide range of factors influencing people's health behaviors and motivates them to behave in ways to promote health. For example, the HPM has been applied in breastfeeding research and found to promote breastfeeding initiation and duration among Latina female participants in the United States.²² Adolescent mothers' behavior relates to cognitions and may be influenced by perceived benefits of and barriers to breastfeeding, and breastfeeding self-efficacy. Moreover, breastfeeding behavior can result from factors affecting adolescent mothers, including pregnancy intention, interpersonal influences, such as family support, situational influences, and maternity care practices.

Perceived benefits of breastfeeding are significant factors related to the cognitive domain. The expected benefits of health-enhancing behaviors have a direct effect on a persons' engagement in such behavior.²³ Intrinsic benefits can encompass the direct physical impacts of doing the behavior while extrinsic benefits can involve monetary or social benefits.²³ A previous study revealed that perception regarding breastfeeding benefits to their infants could increase breastfeeding initiation and continuation in adolescent mothers.²⁴

Barriers to health-enhancing behaviors influence individuals' determination to perform such behaviors.²³ Regardless of its level, the readiness to perform a behavior tends to determine the accomplishment of health-promoting activities.²² Nevertheless, the behavior is less likely to be performed in situations with high perceived barriers and low readiness to act.²³ Many barriers influence decisions about breastfeeding in adolescent mothers, including personal and environmental aspects.²⁴

Perceived self-efficacy refers to a person's judgment of their capability of managing and conducting a favorable action.²³ It has a direct effect in triggering health-promoting behavior through an increase in anticipation of achievement, and an indirect effect on the perception of barriers.²³ Positive self-efficacy is associated with the commitment to planned action.²¹ Breastfeeding self-efficacy is a woman's perception

of her capability to breastfeed her child.²⁵ Previous studies also demonstrate a strong positive association between breastfeeding self-efficacy and exclusive breastfeeding duration in adolescent mothers.²⁵

Pregnancy intention is a personal factor that can explain or predict health-promoting behaviors.²⁶ It is the reflection of a woman's intention before she becomes pregnant.²⁶ Mothers who have unintended pregnancy experience psychosocial stress that inhibits them from practicing desirable health behaviors.²⁶ Unintended pregnancy causes mothers to develop adverse feelings for their infants, which further leads to an inability to create bonding with their infants,²⁶ and such feelings probably influence a mother's determination for breastfeeding initiation or breastfeeding duration.

Family support can be an interpersonal influence for both breastfeeding initiation and duration. It affects health-promoting behavior directly or indirectly pass by social pressures or motivation to desirable behavior.²¹ It is also essential to consider positive and negative effects on breastfeeding, which may relate to interactions, attitudes, behaviors, and relationships, that occur between people.²⁷ Adolescent mothers who initiate breastfeeding may require social support from family members,²⁷ and particularly from their partners.¹⁸

Maternity care practices can affect breastfeeding and may be perceived the choices available or the proper characteristics of the context in which behavior takes place that either promotes or hinders breastfeeding.²⁸ These practices may involve parts of Baby-Friendly Hospital Initiative (BFHI) aligned maternity care practices recommended by WHO and UNICEF in promoting breastfeeding.²⁹ Some adolescent mothers have received maternity care from health care providers that is perceived as both positive and negative support. They were provided breastfeeding practice and information²⁸ while others were judged, given unsympathetic support,³⁰ or received free formula in a hospital gift set.²⁸ Therefore, maternity care practices may associate with breastfeeding outcomes of adolescent mothers.

Study Aim

To examine the predictability of pregnancy intention, perceived benefits of breastfeeding, perceived barriers to breastfeeding, breastfeeding self-efficacy support, perceived maternity care practice, and family support to breastfeeding at the first 6-months postpartum among Thai adolescent mothers.

Methods

Design: Cross-sectional and predictive

Sample and Settings: Thai adolescent mothers were recruited from six hospitals in northern Thailand when they visited a well-baby clinic at 6-months postpartum for their infant's vaccination between May 2017-June, 2018. Inclusion criteria were: maternal age 15-19 years; gestation age at birth 37-42 weeks; no medical complications during pregnancy, labor, or postpartum that affected breastfeeding; and infants had no condition that interrupted breastfeeding. The sample size, based on logistic regression with a ratio of 30 observations for each variable,³⁰ was calculated as (30×7) or 210 participants. However, 15 participants were eliminated at the data analysis stage because their infants were aged 7-12 months during data collection stage. According to Van Voorhis and Morgan, an absolute minimum of 20 participants per variable is necessary for regression equations³² using seven variables for a total 140. Thus, the study with 195 participants was adequately powered.

Ethical Considerations: Approval was granted by the Research Ethics Committee of Faculty of Nursing, Chiang Mai University, Thailand (No: 016-2017), and each of the hospitals involved. Informed consent forms and a set of questionnaires were given to potential participants as well as material to fully explain the study. The participants were assured of confidentiality, reflecting the privacy of justice and anonymity of their responses to the questionnaires, and they had the right to refuse to participate or withdraw independently at any time without any penalty.

Instrument: Data were collected using six instruments described below:

1. *The Demographic Data, Pregnancy Intention and Breastfeeding Practice Questionnaire (QDPiB)* includes questions on maternal age, marital status, education level, employment, family characteristic, personal income, family income, parity, types of delivery, pregnancy intention and breastfeeding practices. For the pregnancy intention question, the responses are divided into three categories: “intended,” “mistimed” and “unintended,” intended meaning mothers wanted to have a child, while mistimed and unintended meant they did not at that time. Scoring is 1 for “intended,” and 0 for “unintended.” Breastfeeding practices questions explore current types of infant feeding, if breastfeeding, was it full or partial, including the use of formula milk. This helped the researchers determine if participants used exclusive breastfeeding or not.

2. *The Perceived Benefits of Breastfeeding Questionnaire (PBeBQ)* consists of 16 items based breastfeeding benefits for both infants and mothers. The responses are categorized as agree or disagree, and 1 point given for each positive response for breastfeeding benefits. The total score is calculated by summing the individual scores which range from 0–16. Higher scores indicate higher perception of breastfeeding benefits. The score is further classified into three levels, low (0–5), moderate (6–11), and high (12–16) using the equal class intervals method.³³

3. *The Perceived Barriers to Breastfeeding Questionnaire (PBaBQ)* consists of 19 items on breastfeeding barriers, including maternal, infant, and sociocultural barriers. Responses are categorized as agree or disagree and 1 point given for agreement. The total score is calculated by summing the individual scores, which ranges from 0–19. Higher scores indicate higher perception of breastfeeding barriers. The score is then classified into three levels, low (0–6), moderate (7–13), and high (14–19) using the equal class intervals method.³³

4. *The Breastfeeding Self-Efficacy Short-Form Scale (BSES-SF)* was developed in English by Dennis²⁵ and was translated into Thai version by Jintrawet et al.³⁴ It consists of 14 items which are preceded by the phrase “I can always” and all items are anchored with a 5-point Likert scale where 1 = “not at all confident” and 5 = “always confident.” The items are presented positively and summed to produce a score ranging from 14–70. Higher scores indicate more confidence to breastfeed. The final score is classified into three levels, low (14–32), moderate (33–51), and high (52–70), using the equal class intervals method.^{33–}

5. *The Family Support Questionnaire (FSQ)* was developed by Biswas.³⁵ It was translated into Thai by the researchers and consists of 20 items. Each item is scored on a 5-point Likert scale ranging from: never = 1; sometimes = 2; often = 3; very often = 4; and always = 5. The total score of family support is computed by summing the score of each item constructed for the five-item subscale. The total score ranges from 20 to 100 and higher scores indicate more support from family. The score is then classified into three levels including low (20–46), moderate (47–73), and high (74–100) using the equal class intervals method.³³

6. *The Maternity Practice Questionnaire (MCPQ)*. The original English version was developed by Olaiya and colleagues.²⁸ It based on the indicators from the Pregnancy Risk Assessment Monitoring System (PRAMS). The MCPQ was translated into Thai by the researchers. It consists of nine items, eight of which correspond to the Ten Steps for Successful Breastfeeding and one item assesses the distribution of hospital gift packs containing infant formula. The responses are divided into “yes” and “no,” with 1 point for yes and 0 for no. The total score is calculated by summing the individual scores. The negatively-worded items are reverse-scored and the total score ranges 0–9. Higher scores indicate more maternity care support from health care system/providers. The score is then classified into three levels, low (0–3), moderate (4–6), and high (7–9), using the equal class intervals method.³³

The QDPiB was developed by the researchers, while PBeBQ and PBaBQ was developed by a co-researcher. With the permissions of the instrument's developers, the FSQ and MCPQ were translated into Thai using the following steps of back translation process.³⁶ It was

back-translated by four experts in breastfeeding. The quality of all six instruments were examined for content validity by seven experts. Examples of items, content validity index and Cronbach alpha reliability are shown in **Table 1**.

Table 1 Item examples, content validity index and Cronbach alpha reliability of measurements

	CVI	KR-20	Test-retest	Cronbach alpha	Examples of items
Breastfeeding Practice	1.00		1.00		- Do you currently perform breastfeeding? - Was there other milk or any food or water that you gave to your infant?
Pregnancy Intention	1.00		0.98		- Did you plan for this pregnancy?
PBeBQ	0.97	0.81			- Breastfeeding protects the baby from diseases such as diarrhea, allergy and ear infection.
PBaBQ	0.90	0.81			- Embarrassed about lactation in public places.
BSES-SF	0.86			0.91	- I can always manage the breastfeeding situation to my satisfaction.
FSQ	1.00			0.96	- My family members encourage me to provide breastfeeding.
MCPQ	1.00	0.83			- Hospital staff helped me learn how to breastfeed.

PBeBQ = The Perceived Benefits of Breastfeeding Questionnaire

PBaBQ = The Perceived Barriers to Breastfeeding Questionnaire

BSES-SF = The Breastfeeding Self-Efficacy Short-Form Scale

FSQ = The Family Support Questionnaire

MCPQ = The Maternity Practice Questionnaire

Data collection procedures: Six nurses, one from each hospital, were trained as research assistants (RAs) to collect the data and procedures for the human right protection. They reviewed the infants' medical records and selected healthy adolescent mothers with healthy 6-month-old infants who met the inclusion criteria. The mothers were provided with an explanation of the study and asked to sign a consent form. After the mothers completed the self-report questionnaires, the principal investigator (PI) or RAs would check all the questionnaires and if any questionnaires were incomplete, the mother was asked to complete it. However, they had the right to refuse without any penalty, if they felt uncomfortable with the process.

Data Analysis: All the data were analyzed using both descriptive and inferential statistics. The overall level of significance was set at 0.05. The demographic characteristics, selected factors, and breastfeeding of the samples were analyzed with descriptive statistics. The perceived breastfeeding benefits and barriers, and self-efficacy, maternity care practices, and family support scores were categorized for analysis with the logistic model. The relationships between six selected factors (pregnancy intention, perceived benefits of breastfeeding, perceived barriers to breastfeeding, breastfeeding self-efficacy, perceived maternity care practice, and family support) and breastfeeding at the first 6-months postpartum were analyzed using Fisher's

exact test. Multivariate logistic regression analyses were conducted to identify the predictors of breastfeeding among adolescent mothers. For the assumption of logistic regression analysis, multicollinearity was tested using a correlation matrix of the independent variables that were the tolerance and the variance inflation factors (VIF). The tolerance coefficients ranged from .81–.98 that were not less than .10 and the VIF ranged from 1.02–1.24 that were not higher than 10, so the assumptions of multicollinearity were met. The goodness of fit was tested using –2 Log likelihood (221.23), Cog & Snell R square (.16), Nagelkerke R square (.22), Omnibus test (34.51, $p = .00$),

Hosmer and Lemeshow test (Chi square = 7.25, $p = .51$). The results presented the model fit was met.

Results

One hundred and ninety-five Thai adolescent mothers participated in this study. Most participants: were married (78.97%); lived with extended family (90.77%); had graduated from secondary school or lower (60.51%); were unemployed (80.00%), had a low personal income (81.54%, <30 US\$/month); and a low family income (65.13%, ≤300 US\$/month). At 6-months postpartum, the percentage of exclusive breastfeeding was only 36.41% (Table 2).

Table 2 Demographic characteristics and breastfeeding practice of adolescent mothers (n=195)

Variables	Frequency	Percentage
Age (Years) (Mean =17.76, SD=1.21)		
15–16	36	18.46
17–19	159	81.54
Marital status		
Single	18	9.23
Married	154	78.97
Separated/divorced	23	11.80
Family characteristic		
Nuclear	18	9.23
Extended	177	90.77
Education level		
Secondary school or lower	118	60.51
High school	37	18.98
Vocational school or bachelor's degree	40	20.51
Employment		
Unemployed	156	80.00
Employed	39	20.00
Personal income (US\$/month)		
< 30	159	81.54
30–150	8	4.10
151–300	26	13.33
301–1,000	2	1.03
Family income (US\$/month)		
≤ 300	127	65.13
301–600	54	27.69
601–1,000	14	7.18
Breastfeeding at 6 months		
Exclusive breastfeeding	71	36.41
Non-exclusive breastfeeding	124	63.59

The relationships between selected factors and breastfeeding among the participants demonstrated that the significant factors associated with breastfeeding

at the 6-months postpartum were breastfeeding self-efficacy ($p < .001$) and family support ($p = .037$) (Table 3).

Table 3 The Fisher's exact test examining relationships between selected factors and breastfeeding at the first 6 months postpartum among adolescent mothers ($n=195$)

Selected variable	Breastfeeding			<i>p-value</i>
	Total (N=195)	Exclusive (n=71)	Non- exclusive (n=124)	
	n (%)	n (%)	n (%)	
Pregnancy intention				
Intended	74 (37.95)	33 (46.48)	41 (33.06)	.068
Unintended	121 (62.95)	38 (53.52)	83 (66.94)	
Perceived benefits of breastfeeding				
Low	5 (2.56)	1 (1.41)	4 (3.23)	.398
Medium	67 (34.36)	21 (29.58)	46 (37.10)	
High	123 (63.08)	49 (69.01)	74 (59.68)	
Perceived barriers of breastfeeding				
Low	59 (30.26)	22 (30.99)	37 (29.84)	1.000
Medium	113 (57.95)	41 (57.75)	72 (58.06)	
High	23 (11.79)	8 (11.26)	15 (12.10)	
Breastfeeding self-efficacy				
Low	20 (10.26)	2 (2.82)	18 (14.51)	<.001
Medium	89 (45.64)	20 (28.17)	69 (55.65)	
High	86 (44.10)	49 (69.01)	37 (29.84)	
Perceived Maternity care practice				
Low	13 (6.67)	4 (5.63)	9 (7.26)	.514
Medium	80 (41.03)	26 (36.62)	54 (43.55)	
High	102 (52.30)	41 (57.75)	61 (49.19)	
Family support				
Low	17 (8.72)	5 (7.04)	12 (9.68)	.037
Medium	78 (40.00)	21 (29.58)	57 (45.97)	
High	100 (51.28)	45 (63.38)	55 (44.35)	

The multivariate logistic regression analysis (enter method) revealed that only breastfeeding self-efficacy significantly predicted breastfeeding during the 6 months postpartum ($p = 0.006$). Adolescent mothers with high breastfeeding self-efficacy were 9.91

times more likely to exclusive breastfeeding compared to adolescent mothers with low breastfeeding self-efficacy. Breastfeeding self-efficacy could explain 22% (Nagelkerke R square) of the variation of breastfeeding among the participants (Table 4).

Table 4 Multivariate logistic regression examining the prediction between selected factors and breastfeeding at the first 6 months postpartum among adolescent mothers (n=195)

Factors	Breastfeeding			B	SE	OR	95%CI		
	Exclusive (n=71)	Non- exclusive (n=124)	Total				lower	upper	p-value
	n(%)	n(%)	n(%)						
Pregnancy intention									
Unintended	38(53.52)	83(66.94)	121(62.95)	ref					
Intended	33(46.48)	41(33.06)	74(37.95)	.35	.34	1.42	.73	2.77	.308
Perceived benefits of breastfeeding									
Low	1(1.41)	4(3.23)	5(2.56)	ref					
Medium	21(29.58)	46(37.10)	67(34.36)	.05	1.26	1.05	.09	12.29	.969
High	49(69.01)	74(59.68)	123(63.08)	.29	1.24	1.34	.12	15.19	.815
Perceived barriers of breastfeeding									
Low	22(30.99)	37(29.84)	59(30.26)	ref					
Medium	41(57.75)	72(58.06)	113(57.95)	.39	.38	1.48	.70	3.11	.305
High	8(11.27)	15(12.10)	23(11.79)	.80	.62	2.22	.67	7.42	.194
Breastfeeding self-efficacy									
Low	2(2.82)	18(14.52)	20(10.26)	ref					
Medium	20(28.17)	69(55.65)	89(45.64)	.80	.82	2.22	.44	11.10	.331
High	49(69.01)	37(29.84)	86(44.10)	2.30	.83	9.91	1.96	50.10	.006
Perceived maternity care practice									
Low	4(5.63)	9(7.26)	13(6.67)	ref					
Medium	26(36.62)	54(43.55)	80(41.03)	.06	.73	1.06	.25	4.46	.937
High	41(57.75)	61(49.19)	102(52.31)	.31	.72	1.37	.33	5.61	.664
Family support									
Low	5(7.04)	12(9.68)	17(8.72)	ref					
Medium	21(29.58)	57(45.97)	78(40.00)	-.16	.65	.85	.24	3.10	.809
High	45(63.38)	55(44.35)	100(51.28)	.13	.65	1.14	.32	4.10	.844
Constant				-2.90	1.56	.06			

ref=reference category -2 Log likelihood (221.23), Nagelkerke R square (.22)

Discussion

In this study, the exclusive breastfeeding rate of Thai adolescent mothers at 6-months was 36.41%. This rate is higher than has previously been reported.^{15,16} There are several possible explanations for this finding. In Thailand, there have been breastfeeding promotion campaigns as well as protective policies including controlling the marketing of formula since 2017.²⁷ Adolescent mothers in this study were unemployed

(80%), allowing them time to be at home and breastfeed their children. Prior research in Thailand found that unemployed adolescent mothers or housewives had a 10-times greater rate of exclusive breastfeeding than employed and studying adolescent mothers.¹⁶ Participants in this study also had low personal income (81.54%, <US\$30 /month) and family income (65.13%, ≤US\$300 /month). Exclusive breastfeeding therefore has the important economic benefit of saving the family the cost of purchasing infant formula.

The relationships and predictability of selected factors of this study (including pregnancy intention, perceived benefits of breastfeeding, perceived barriers to breastfeeding, breastfeeding self-efficacy, maternity care practice and family support) revealed that breastfeeding self-efficacy and family support were significantly related to breastfeeding at 6-months postpartum. All factors could together predict breastfeeding at 6-months postpartum among Thai adolescent mothers with 22% of the cases and only breastfeeding self-efficacy could expressively predict exclusive breastfeeding.

Perceived self-efficacy, perceived benefits and perceived barriers are the critical factors to motivate specific behavior. Self-efficacy is the best predictor for health promoting behaviors of adolescents for both normal health and illness conditions.³⁷ It is the main component of cognitive and affective domain that is specific to behavior and affects breastfeeding of adolescents. The HPM hypothesizes that as perceived self-efficacy in a given behavior increases, the likelihood that a given behavior will continue also increases.²¹ Mothers who have high breastfeeding self-efficacy made the effort to breastfeed as act a new behavior. They tried to look for breastfeeding methods and support when they were faced with obstacles.²¹ This finding is congruent with a previous study showing that breastfeeding self-efficacy influenced breastfeeding.³⁸ A possible explanation could be most adolescent mothers in this study perceived their ability or confidence to breastfeed their infants. As the majority (81.54%) of the mothers in this study were 17–19 years old, they could be considered as late adolescents who were likely to have psychological maturity and the ability to deal with tasks at hand,³⁷ rather that might be the case with younger adolescents. Based on social cognitive theory, perceived self-efficacy is an important motivation that leads the individual to success in their goal. Self-efficacy is a central construct of the HPM while perceived benefits and perceived barriers are indirect influences on health promoting behavior via self-efficacy.³⁷ Feeling efficient and skilled in an individual's performance is likely to inspire people

to involve in the desirable behavior more frequently than feeling incompetent and unskilled.²¹ Self-efficacy is considered to make adolescent mothers believe that they have the knowledge and skills to successfully breastfeed their infants²⁵ and influences breastfeeding by providing motivation and confidence to continue throughout common challenges associated with breastfeeding.²⁵ When adolescent mothers believe in their ability to breastfeed, they will try to overcome the difficulties to succeed in doing this. Mothers will be able to be confident in their own abilities and use high endurance to observe and learn infant's needs.²⁵ They can accurately interpret the meaning and response to the needs of infant. Therefore, we argue that self-efficacy influenced the breastfeeding of adolescent mothers in this study.

Although family support is associated with breastfeeding of adolescent mothers, but it could not predict breastfeeding among the participants, possibly because family support may not have been strong enough to perform the prediction. Family support, as an interpersonal influence of the HPM, may affect an adolescent's breastfeeding directly or indirectly pass by social pressures or motivation to commit a plan of action,³⁷ and through the influence of family members who might have positive or negative attitudes towards breastfeeding.²⁴ Some family members might lack knowledge about breastfeeding; or they might also provide the negative support such as incorrect advice from grandmothers who have been found to be a major cause for discontinuing breastfeeding.²⁴

The participants' perceived benefits of breastfeeding did not predict breastfeeding behavior. An explanation for this finding is that breastfeeding benefits the infant, mother, family and society, but adolescent mothers might decide to breastfeed only when perceiving the benefits of breastfeeding as convenient and low-cost.²⁴ Financial benefit of breastfeeding has been noted to be a motivating factor for adolescent mothers making the decision to breastfeed.²⁴ Participants in this study relied on financial support from their family as they

were mostly unemployed (80.00%) and had low personal income (81.54%, <30 US\$/month) and family income (65.13%, ≤300 US\$/month). Thus, the cost-saving benefit of breastfeeding may have influenced their decision to continue breastfeeding. Previous research in Thailand demonstrated that adolescent mothers were able to continue exclusive breastfeeding for four to five months to help their partner or family save on costs while living with an unstable economy.²⁴ In addition, adolescent mothers may believe that breastfeeding was their responsibility to show that they were good mothers.²⁴

Perceived barriers of breastfeeding had no relationship with, and did not predict, exclusive breastfeeding among adolescent mothers. Previous Thai research demonstrated that some mothers might identify breastfeeding in a positive way when breastfeeding in public was a social norm and did not cause embarrassment, and they could breastfeed their infants using a cloth cover.²⁴

The correlation and prediction between pregnancy intention and breastfeeding in this study was not statistically significant. Adolescent mothers' feelings or attitudes changed from unintended before pregnancy to intended the following birth. Breastfeeding increases bonding between adolescent mothers and their infants²⁶ and attachment might improve.

The perceived maternity care practices were not statistically significant, despite that American research reports that perceived maternity care practice influences short-term breastfeeding.³⁶ No specific research has examined the influence of perceived maternity care practice on breastfeeding among adolescent mothers in Thailand. Maternity care practices were organized for adult mothers while adolescent mothers may have different needs.²⁷ Specific information could help in balancing the adolescents' development and breastfeeding accompanied by usual daily activities to reduce breastfeeding problems.²⁴ Adolescent mothers need breastfeeding information at pregnancy through the postpartum period.²⁷ Some Thai adolescent mothers

have accessed information via the internet, and easy access to information and technology for communication helps to avoid uncomfortable situations such as talking to nurses.²⁴ In addition, some adolescent mothers need to appraise their breastfeeding techniques with a lactation nurse to enhance their confidence. The lactation nurse is an important part of maternity care practice who should spend enough time with postpartum mothers to teach the right techniques for breastfeeding,³⁹ and to help especially the adolescent mother to overcome the difficulties which they might face through the breastfeeding period.

Limitations of the Study

The generalization of the findings of this study is limited due to the homogeneity of the sample. Participants had similar characteristics in terms of culture, employment, and family life. Study findings may vary if a more heterogeneous sample of adolescent mothers had been recruited. Furthermore, data collection was based on self-report and there is the potential for response bias because the study team members were checking the questionnaires thus adolescent mothers could have felt pressured to answer the questions in a certain fashion.

Conclusions and Implications for Nursing Practice

Breastfeeding self-efficacy and family support were positively correlated with breastfeeding at 6-months postpartum. Binary regression analysis revealed that only breastfeeding self-efficacy was a significant predictor of exclusive breastfeeding in our participants. Strategies to increase breastfeeding self-efficacy should be further researched and developed, focusing on education and delivered in both hospital and community settings, using multiple contact points with social media technology to promote breastfeeding practice appropriately for Thai adolescent mothers.

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ปัจจัยทำนายการเลี้ยงลูกด้วยนมแม่ที่หกเดือนแรกหลังคลอดของมารดา วัยรุ่นไทย

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บทคัดย่อ: ประโยชน์ของการเลี้ยงลูกด้วยนมแม่ต่อสุขภาพทารกและมารดาเป็นที่ทราบกันอย่างกว้างขวาง อย่างไรก็ตามอัตราการเลี้ยงลูกด้วยนมแม่เพียงอย่างเดียวในประเทศไทยยังคงต่ำโดยเฉพาะในมารดา การค้นหาปัจจัยที่มีอิทธิพลต่อการเลี้ยงลูกด้วยนมแม่ในมารดาวัยรุ่นไทยเป็นสิ่งสำคัญเพื่อให้มีความเข้าใจมากขึ้นโดยเฉพาะหกเดือนแรกหลังคลอด การศึกษาเชิงทำนายนี้มีวัตถุประสงค์เพื่อทดสอบความสัมพันธ์และความสามารถในการทำนายปัจจัยที่เลือกสรรต่อการเลี้ยงลูกด้วยนมแม่ที่ 6 เดือนหลังคลอดในมารดาวัยรุ่นไทย มารดาวัยรุ่นจำนวน 195 คนถูกคัดเลือกแบบเจาะจงจากโรงพยาบาล 6 แห่ง ในภาคเหนือ รวบรวมข้อมูลโดยใช้แบบสอบถาม 6 ฉบับประกอบด้วย แบบสอบถามข้อมูลส่วนบุคคล ความตั้งใจในการตั้งครรภ์ และการเลี้ยงลูกด้วยนมแม่ แบบสอบถามการรับรู้ประโยชน์ของการเลี้ยงลูกด้วยนมแม่ แบบสอบถามการรับรู้อุปสรรคของการเลี้ยงลูกด้วยนมแม่ แบบสอบถามสมรรถนะแห่งตนในการเลี้ยงลูกด้วยนมแม่ แบบสอบถามการปฏิบัติการดูแลมารดา และแบบสอบถามการสนับสนุนของครอบครัว วิเคราะห์ข้อมูลด้วยสถิติเชิงพรรณนา การทดสอบของฟิชเชอร์และการถดถอยโลจิสติกส์หลายตัวแปร ตัวทำนายการเลี้ยงลูกด้วยนมแม่เพียงอย่างเดียวคือสมรรถนะแห่งตนในการเลี้ยงลูกด้วยนมแม่ กลยุทธ์เพื่อเพิ่มสมรรถนะแห่งตนในการเลี้ยงลูกด้วยนมแม่ในมารดาวัยรุ่นไทย ควรได้รับการวิจัยเพิ่มเติมและพัฒนาในการปฏิบัติด้านการผดุงครรภ์

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