

CHAPTER IV

RESULTS

The present research aimed at investigating postpartum mothers' breastfeeding practices and determining factors related to breastfeeding of postpartum mothers at Maharaj Nakhon Si Thammarat Hospital, Nakhon Si Thammarat Province. The sample consisted of 400 postpartum mothers. In this chapter, the research findings will be presented in the following topics:

- Part 1: Predisposing factors related to demographic characteristic
- Part 2: Predisposing factors related to knowledge of breastfeeding practices
- Part 3: Predisposing factors related to attitudes toward breastfeeding practices
- Part 4: Predisposing factors related to intention and plan to breastfeed
- Part 5: Enabling factors related to postpartum mothers
- Part 6: Enabling factors related to infants
- Part 7: Enabling factors related to problems and obstacles in breastfeeding
- Part 8: Reinforcing factors related to support during various stages of pregnancy and childbirth
- Part 9: Breastfeeding practices during the first four months

Part 10: Relationship between predisposing factors and breastfeeding practices during the first four months

Part 11: Relationship between enabling factors and breastfeeding practices during the first four months

Part 12: Relationship between reinforcing factors and breastfeeding practices during the first four months

Part 1. Predisposing factors related to demographic characteristics

The subjects in the present study were postpartum mothers who gave birth at Maharaj Nakhon Si Thammarat Hospital. All of them took their infants who were from four to six months old to the Primary Care Units under the network of Maharaj Nakhon Si Thammarat Hospital to seek vaccination and other medical services. All of them did not have any restrictions preventing them from breastfeeding their infants, and their infants did not have trouble of postpartum oxygen deprivation or any other problem preventing them from sucking breast milk such as cleft lips. The largest group of subjects (34.5%) was recruited from Maharaj Primary Care Unit, followed by those from Hornaliga Primary Care Unit (11.3%). The smallest percentage of subjects (4.5%) was recruited from Tachine Primary Care Unit (see Table 1).

Table 1: Number and percentage of the sample as categorized according to the Primary Care Units under the network of Maharaj Nakhon Si Thammarat Hospital

Primary Care Units	Number	Percentage
Maharaj	138	34.5
Yuanlae	33	8.3
Kokekoi	34	8.5
Maidaeng	23	5.8
Homaliga	45	11.3
Bodhisadej	26	6.5
Sritawee	28	7.0
Kukwang	32	8.0
Salameechai	23	5.8
Tachine	18	4.5
Total	400	100

1.1 Age

More than half of the subjects (52.3%) were between 21 and 30 years old, followed by those who were older than 31 years of age (35.5%). The mean age was 28.37 years. The youngest mother was 17 years old; the oldest one was 46 years old (see Table 2).

1.2 Religion

Most of the subjects, or 87.0%, were Buddhists, while the rest, or 13.0%, were Muslims (see Table 2).

1.3 Education

The largest group of subjects, or 45.0%, graduated from high school. Also, 29.5% and 25.5% of the subjects finished primary school and held a diploma or higher, respectively (see Table 2).

1.4 Occupation

Half of the subjects (50.2%) were housewives, and about one-fourth (23.8%) were employees. In addition, 20.3% and 5.7% had their own business and were government officials, respectively (see Table 2).

1.5 Workplace

About 64.7% of the subjects working at home, whereas the rest, or 35.3%, worked outside their home (see Table 2).

1.6 Income

The largest group of subjects, or 42.3%, had a family income of 5,001 to 10,000 baht per month. Also, 42.3% and 16% had a monthly family income lower than 5,000 baht and higher than 10,000 baht, respectively. The mean monthly family income was 8,521.38 baht (see Table 2).

Table 2: Number, percentage, mean, and standard deviation of demographic characteristics of the sample

Demographic characteristics	Number	Percentage
Age (years)		
≤ 20	49	12.3
21-30	209	52.3
≥ 31	142	35.5
Total	400	100
Religion		
Buddhism	348	87.0
Islam	52	13.0
Total	400	100
Education		
Primary school	118	29.5
High school	180	45.0
Diploma and higher	102	25.5
Total	400	100
Occupation		
Housewives	201	50.2
Government officials	23	5.7
Employees	95	23.8
Business owners	81	20.3
Total	400	100
Workplace		
At home	259	64.7
Outside home	141	35.3
Total	400	100
Income (baht per month)		
≤ 5,000	167	41.7
5,001 – 10,000	169	42.3
> 10,000	64	16.0
Total	400	100

$\bar{X} = 8,521.38$; $SD = 2,010.20$

Part 2. Predisposing factors related to knowledge of breastfeeding practices

The questionnaire which elicited knowledge of breastfeeding practices consisted of 20 items covering the topics of benefits of breastfeeding as well as methods and duration of breastfeeding. Each item required a response of ‘yes,’ ‘no,’ or ‘don’t know.’ If the answer was ‘yes,’ the score was equal to 1; if the answer was either ‘no,’ or ‘don’t know,’ the score was equal to 0. The total scores would then be calculated into percentage and compared with the criteria set by the Ministry of Education which divided the total scores into three levels: a good level of knowledge was 80 or higher, a moderate level was 60-79, and a poor level was 0-59.

When categorizing the subjects according to their knowledge of breastfeeding practices, it was found that more than half, or 56.0%, had a good level of knowledge, while 36.3% and 7.8% had their knowledge at moderate and poor levels, respectively. The maximum score was 20, and the minimum score was 6, with the mean score of 15.56 and the standard deviation of 2.69, as shown in Table 3.

Table 3: Number and percentage of the sample categorized according to level of knowledge

Level of knowledge	Number	Percentage
Good (scores \geq 80%)	224	56.0
Moderate (scores = 60-79%)	145	36.3
Poor (scores = 0-59%)	31	7.8
Total	400	100

Table 4 illustrates the subjects’ knowledge of breastfeeding as categorized based on their breastfeeding practices during the first four months—exclusive

breastfeeding and non-exclusive breastfeeding. It was discovered that the largest group of subjects who exclusively breastfed their infants for at least four months, or 59.8%, had a good level of knowledge, while 35.4% and 4.9% had moderate and poor levels of knowledge of breastfeeding, respectively. As for the mothers who non-exclusively breastfed their infants, 55.0% had knowledge at a good level, 36.5% at a moderate level, and 8.5% at a low level.

Table 4: Number and percentage of the sample's level of knowledge of breastfeeding as categorized according to their breastfeeding practices during the first four months

Level of knowledge	Exclusive breastfeeding		Non-exclusive breastfeeding	
	Number	Percentage	Number	Percentage
Good (scores $\geq 80\%$)	49	59.8	175	55.0
Moderate (scores = 60-79%)	29	35.4	116	36.5
Poor (scores = 0-59%)	4	4.9	27	8.5
Total	82	100	318	100

The findings obtained from the 20-item questionnaire eliciting knowledge of breastfeeding revealed that the three items which received the highest scores were “breastfeeding promotes bonding and attachment between mother and child,” “breast milk is the best food for infants during the first four months,” and “breastfeeding helps the mother save on family expenses,” accounting for 98.3%, 97.5%, and 95.8%, respectively. On the other hand, the three items which received the lowest correct responses were “mothers with clogged or short nipples cannot breastfeed their babies,” “mothers with stress have less breast milk,” and “mothers need to clean nipples with

soap every time before breastfeeding their babies,” equaling 54%, 50%, and 42%, respectively (see Table 20 in Appendix B).

Part 3. Predisposing factors related to attitudes toward breastfeeding practices

The questionnaire eliciting attitudes toward breastfeeding practices used the Likert-scale with 15 positive and negative items. As for the positive items, ‘strongly agree,’ got the score of 5; ‘agree,’ 4; ‘uncertain,’ 3; ‘disagree,’ 2; and ‘strongly disagree,’ 1; and vice versa for the negative items. The mean scores were calculated from the total scores and then divided into three levels: < 2.5 was a low level of attitudes, 2.5-3.5 a moderate level of attitudes, and >3.5 a high level of attitudes.

Table 5 below displays the number and percentage of the subjects as categorized based on their attitudes toward breastfeeding practices. It was found that the largest group of subjects, or 64.8%, had the attitudes toward breastfeeding practices at a moderate level, while the rest (35.3%) had their attitudes at a high level. The maximum score was 75, and the minimum score was 43, with the mean of 60.36 and the standard deviation of 5.7.

Table 5: Number and percentage of the sample categorized according to attitudes toward breastfeeding practices

Level of attitudes	Number	Percentage
High (mean scores > 3.5)	141	35.3
Moderate (mean scores = 2.5-3.5)	259	64.8
Low (mean scores < 2.5)	-	-
Total	400	100

When dividing the subjects into two groups according to their breastfeeding practices during the first four months—exclusive breastfeeding and non-exclusive breastfeeding, it was discovered that the highest percentage of the subjects who exclusively breastfed their babies for at least four months, or 62.2%, had a moderate level of attitudes toward breastfeeding, whereas the rest, or 37.8%, had their attitudes at a high level. As for those who non-exclusively breastfed their infants, 65.4% and 34.6 had their attitudes at moderate and high levels, respectively, as shown in Table 6

Table 6: Number and percentage of the sample's attitudes toward breastfeeding as categorized according to their breastfeeding practices during the first four months

Level of attitudes	Exclusive breastfeeding		Non-exclusive breastfeeding	
	Number	Percentage	Number	Percentage
High (mean scores > 3.5)	31	37.8	110	34.6
Moderate (mean scores = 2.5-3.5)	51	62.2	208	65.4
Low (mean scores < 2.5)	-	-	-	-
Total	82	100	318	100

An analysis of the subjects' responses to the 15-item questionnaire indicated that the subjects' attitudes toward breastfeeding practices ranged from moderate to high. The items which received the highest mean scores were 'you think breastfeeding increases positive bonding and attachment between mother and child' and 'you are proud of yourself that you breastfeed your child,' with the mean scores of 4.57 and 4.52, respectively. In contrast, the items which received the lowest mean scores were 'you think the disadvantage of breastfeeding is it makes the infant too clingy to their mothers and prevents mothers from working outside the house' and 'breastfeeding

makes the mothers' breast sag and go out of shape,' with the mean scores of 3.01 and 3.31, respectively (see Table 21 in Appendix B).

Part 4. Predisposing factors related to intention and plan to breastfeed

Table 7 shows number and percentage of the subjects as categorized according to predisposing factors of mothers.

4.1 Intention to breastfeed (example: Did you have an intention to practice breastfeeding during pregnancy?)

Most of the subjects, or 91.8%, had an intention to practice breastfeeding, while the rest, or 8.3%, did not have such intention (see Table 7).

4.2 Plan to breastfeed (example: Did you have a plan to breastfeed your baby with working?)

More than half of the subjects, or 61.0%, had a plan to breastfeed their babies, while the rest of them, or 39.0%, did not (see Table 7).

Table 7: Number and percentage of the sample categorized according to predisposing factors related to mothers

Predisposing factors	Number	Percentage
Intention to breastfeed		
Having	367	91.8
Not having	33	8.3
Total	400	100
Plan to breastfeed		
Having	244	61.0
Not having	156	39.0
Total	400	100

Part 5. Enabling factors related to mothers

Table 8 illustrates number and percentage of the subjects as categorized according to enabling factors.

5.1 Ante-natal care

More than half, or 62.0%, completed their ante-natal care, while 36.7% did not. Also, 1.3% of the subjects did not seek ante-natal care at all (see Table 8).

5.2 Place of ante-natal care

The largest group of subjects, or 38.2%, sought ante-natal care at a hospital. About one-fourth, or 24.1%, sought ante-natal care from a health center. Finally, 13.6% sought ante-natal care from at least two healthcare service providers (see Table 8).

5.3 Advice on breastfeeding received

Most subjects, or 90.7%, received sufficient advice on breastfeeding, while 9.3% did not (see Table 8).

5.4 Type of delivery

Close to three-quarters of the subjects, or 70.5%, had normal child delivery, whereas 29.5% did not (see Table 8).

5.5 Characteristic of nipples

Most of the subjects, or 91.0%, had normal nipples, while 9.0% had abnormal nipples (see Table 8).

5.6 Experience with breastfeeding

A little more than half of the subjects, or 51.7%, did not have previous experience with breastfeeding, whereas 48.3% did (see Table 8).

5.7 History of illness

The majority of the subjects, or 81.3%, did not have history of previous illness. However, 18.7% did (see Table 8).

5.8 Health status during pregnancy

Almost all of the subjects, or 94.3%, were healthy during their pregnancy, whereas 5.7% were not (see Table 8).

5.9 Use of medication during pregnancy

Almost all of the subjects (96.7%) did not use any medication during pregnancy, while 3.3% did (see Table 8).

5.10 Health problems during the first four months

Most of the subjects, or 96.0%, did not experience any health problems during the first four months after child delivery. However, 4.0% did (see Table 8).

Table 8 Number and percentage of the sample categorized according to enabling factors related to mothers

Enabling factors	Number	Percentage
Ante-natal care		
Completed	248	62.0
Not completed	147	36.7
Not having any	5	1.3
Total	400	100
Place of ante-natal care		
Health center	95	24.1
Hospital	151	38.2
Clinic	54	13.6
More than two places	95	24.1
Total	395	100
Advice on breastfeeding received		
Sufficient	363	90.7
Not sufficient	37	9.3
Total	400	100
Type of delivery		
Normal	282	70.5
Abnormal	118	29.5
Total	400	100
Characteristic of nipple		
Normal	364	91.0
Abnormal	36	9.0
Total	400	100
Experience with breastfeeding		
Having	193	48.3
Not having	307	51.7
Total	400	100

Table 8 (Cont.) Number and percentage of the sample categorized according to enabling factors related to mothers

Enabling factors	Number	Percentage
History of illness		
Having	75	18.7
Not having	325	81.3
Total	400	100
Health status during pregnancy		
Healthy	377	94.3
Not healthy	23	5.7
Total	400	100
Use of medication during pregnancy		
Using	13	3.3
Not using	387	96.7
Total	400	100
Health problems during the first four months		
Having	16	4.0
Not having	384	96.0
Total	400	100

Part 6. Enabling factors related to infants

Table 9 displays number and percentage of the subjects as categorized according to the enabling factors related to their infants (see Table 9).

6.1 Birth weight

Approximately three-quarters of the infants (71.7%), weighed in at 2,500 to 3,500 grams at birth. Also, 14.8% and 13.5% were less than 2,500 grams and more than 3,500 in weight, respectively (see Table 9).

6.2 Current weight

About one-third of the infants, or 34.7%, were 5,500 to 6,500 grams in weight, followed by those who were less than 6,500 grams to 7,500 grams in weight, accounting for another 32.0%. Third came those who weighed in at less than 5,500 grams, making up 22.0%. The smallest group of infants, or 11.3%, were heavier than 7,500 grams (see Table 9).

6.3 Health problems at birth

Most of the infants, or 95.3%, did not have any health problems when they were born. However, 4.7% did (see Table 9).

6.4 Health problems during the first four months

Most the infants, or 84.0%, did not experience any sickness during the first four months of their lives, whereas 16.0% did (see Table 9).

Table 9: Number and percentage of the sample categorized according to enabling factors related to infants

Enabling factors	Number	Percentage
Birth weight (grams)		
< 2,500	59	14.8
2,500 – 3,500	287	71.7
> 3,500	54	13.5
Total	400	100
Current weight (grams)		
< 5,500	88	22.0
5,500 – 6,500	139	34.7
>6,500 – 7,500	128	32.0

Table 9: (Cont.) Number and percentage of the sample categorized according to enabling factors related to infants

Enabling factors	Number	Percentage
> 7,500	45	11.3
Total	400	100
Health problems after birth		
Having	19	4.7
Not having	381	95.3
Total	400	100
Health problems during the first four months		
Having	64	16.0
Not having	336	84.0
Total	400	100

The data obtained from the interviews of the subjects revealed that more than half of them (56.3%) wanted their infants to be exclusively breastfed. On the other hand, 29.2% wanted to give other supplementary diets to their babies (such water, honey), and 14.5% wanted to use formula milk (see Table 10).

Table 10: Number and percentage of the sample categorized according to type of milk/formula the infants received during hospital stay

Type of formula/milk	Number	Percentage
Exclusive breastfeeding	225	56.3
Breast milk with other nutrition	117	29.2
Formula milk	58	14.5
Total	400	100

When considering all 225 subjects who performed exclusive breastfeeding during hospitalization, it found that almost three-quarters of them (72.9%) had non exclusive breastfeeding their infants at four months, while a little more than one-quarter (27.1%) exclusive breastfed their infants for at least four months (see Table 11).

Table 11: Number percentage of type of milk/formula received during hospital stay as categorized according to breastfeeding practices during the first four months

Type of milk/formula	Total (N=400)		Exclusive breastfeeding		Non exclusive breastfeeding	
	Number	Percentage	Number	Percentage	Number	Percentage
Exclusively breastfed	225	56.3	61	27.1	164	72.9
Breast milk with other nutrition	116	29.2	11	9.4	106	90.6
Formula milk	58	14.5	10	17.2	48	82.8

Part 7. Enabling factors related to problems and obstacles in breastfeeding

The data concerning problems and obstacles of postpartum mothers who exclusively or non-exclusively breastfed their infants were obtained during the focus group discussion. For the former, factors which led to successful breastfeeding were found, while for the latter, factors which posed problems and obstacles were discovered.

Factors posing problems and obstacles

1. Working outside home

Mrs. Somjai explained that, "If possible, I want to breastfeed my baby continuously, but my workplace is so far away from home."

Mrs. Narumol stated, "I have a responsibility to go to work. It is not convenient to pump my breasts at my workplace and it looks dirty. I don't have my own private office."

Mrs. Nual, who did laundry at people's home for wages, reported, "I have to make ends meet. I need to leave home very early in the morning, and I can only come back home in the evening."

2. Insufficient lactation

Mrs. Somjai stated, "After I return from work, I have problems. My baby refused to suck formula milk, but when I try to breastfeed him, he also refused. So, I have less and less breast milk."

3. Abnormal nipples

Mrs. Mali said that, "Right after delivery, after we got home from the hospital, I tried to breastfeed my baby. However, he sucked them so hard that I got injuries on both nipples. It was very painful."

Mrs. Kaewta explained, "I have short nipples. Every my baby sucked them, she cried."

4. Infants' health problems

Mrs. Sajjai explained that, "When my baby was two months old, she was sick very often and I needed to take her to the doctor. She cried a lot, so I changed to formula milk."

5. Mothers' health problems

Mrs. Kularp said, "Initially, I breastfed my baby. But after a month, the doctor told me I had boils on my breasts, so I stopped."

6. Embarrassment of breastfeeding in public

Mrs. Sajjai reported, "When I had to breastfeed my baby when I was outside the house, I felt so embarrassed."

Supporting factors

1. Feeling of love, warmth, and attachment

Mrs. Nupin explained, "Every time I breastfeed my baby, she will stare at me. I make me feel bonded with him and warm. It makes me love him."

2. Expense saving

Mrs. Samorn stated, "My baby sucks my breast milk, so it saves a lot."

3. Benefits and values of breast milk

Mrs. Nupin explained, "Breast milk is purely natural and contains no harmful substances."

Mrs. Samorn reported, "Breast milk is the best. It makes the baby healthy."

Mrs. Duangta pointed out that, "Breast milk contains immunity. It is better than powdered milk."

Mrs. Manee stated, "Breast milk is very nutritious. It benefits the baby. The baby will not get sick easily."

4. Mothers working at home

Mrs. Samorn said, "I will breastfeed my baby until he wants to wean by himself because I do not work outside."

5. Support from family members

Mrs. Duangta pointed out, "My mother said she also breastfed me when I was young. Breastfeeding makes our baby healthy and strong."

6. Advice from healthcare officials

Mrs. Samorn explained that, "The doctor said that breast milk is beneficial."

Part 8. Reinforcing factor related to support during different phases of pregnancy

In this section, the data were divided into two parts:

8.1 Data obtained from the questionnaire

The items in the questionnaire consisted of information about individuals or media which supported breastfeeding practices as well as breastfeeding activities recommended by family members, others, and medical and public health officials during pregnancy, delivery, postpartum period, and follow-up period by the hospital or its primary care units. Each item was rated by a four-point scale: 'received all the time' was equal to 3, 'received often' was equal to 2, 'received sometimes' was equal to 1, and 'did not receive any' was equal to 0. The total scores were calculated for mean scores and then divided into three levels: mean scores of 1.00-1.49 referred to a low level of support, 1.50-2.49 a moderate level of support, and 2.50-3.00 a high level of support.

In Table 12, number and percentage of the subjects as categorized according to the level of support for breastfeeding practices they received are shown. In the present study, it was found that about two-thirds of the subjects, or 67.8%, received a moderate level of support, while 21.0% and 11.3% received low and high levels of support, respectively. The highest score was 114; the lowest was 12. The mean score was 70.96, with the standard deviation of 17.55.

Table 12: Number and percentage of the sample categorized according to level of support for breastfeeding practices.

Level of support for breastfeeding	Number	Percentage
High (mean scores = 2.5-3.0)	45	11.3
Moderate (mean scores = 1.5-2.49)	271	67.8
Low (mean scores = 1.0 -1.49)	84	21.0
Total	400	100

As regards support for breastfeeding practices received during pregnancy, delivery, postpartum period, and follow-up period, it was found that for those who exclusively breastfeed their infants during the first four months, 64.6% received a moderate level of support, while 25.6% and 9.8% received low and high levels of support, respectively. On the other hand, for the postpartum mothers who non-exclusively breastfed their infants, almost the same number, or 68.6%, received a moderate level of support, whereas 19.8% and 11.6% received low and high levels of support, respectively (see Table 13).

Table 13: Number and percentage of levels of support for breastfeeding as categorized according to breastfeeding practices during the first four months

level of support	Exclusive breastfeeding		Non-exclusive breastfeeding	
	Number	Percentage	Number	Percentage
High (mean scores = 2.5-3.0)	8	9.8	37	11.6
Moderate(mean scores=1.5-2.49)	53	64.6	218	68.6
Low (mean scores = 1.0 -1.49)	21	25.6	63	19.8
Total	82	100	312	100

With regard to support for breastfeeding from different individuals and media, the findings revealed that the subjects' mean scores of support for breastfeeding ranged between moderate to low levels. The items which received the highest mean scores were support from public health officials and husbands, equal to 2.31 and 2.11, respectively. The items which received the lowest mean scores were support from news announcement center and television and radio, equal to 0.95 and 1.60, respectively (see Table 22 in Appendix B).

As for support from medical and public health personnel during different phases, it was discovered that the mean scores of the subjects were at a moderate level. The items which received the highest mean scores were support for breastfeeding during the postpartum period and during pregnancy, which were equal to 2.25 and 2.24, respectively. On the other hand, the items which received the lowest mean scores were support for breastfeeding during delivery and during the follow-up period, equal to 2.13 and 1.95, respectively (see Table 23 in Appendix B).

Regarding support for breastfeeding from medical and public health officials, the study findings pointed out that the mean scores of support in different topics of breastfeeding ranged from moderate to low. The item which received the highest mean score was benefits of breastfeeding, with the mean score of 2.19. The item with the lowest mean score was obstacles in breastfeed, which was 1.34 (see Table 24 in Appendix B).

When it came to support from public health officials in terms of activities, the mean scores of the subjects again ranged from moderate to low. The items which received the highest mean scores were assisting in breastfeeding the infants right after delivery and advice on letting the infant suck the nipples often to stimulate lactation, which were equal to 2.26 and 2.19, respectively. The items which received the lowest mean score were advice and assistance on breastfeeding during home visits of public health officials and advice from individuals in community such as mothers with successful experience of breastfeeding, which were 1.11 and 1.51, respectively (see Table 25 in Appendix B).

Concerning support from family members in different activities of breastfeeding, the mean scores of the subjects were at a moderate level. The item which received the highest mean scores was husbands always giving moral support in breastfeeding, which was equal to 2.10. The item which received the lowest mean score was husbands helping take care of the infants to ensure mothers' sufficient rest, which was 1.95 (see Table 26 in Appendix B).

Observation data

The qualitative data were gathered during the researcher's observation of the public health officials who provided support for breastfeeding practices to mothers from pregnancy to the follow-up period. The qualitative data were also collected from a review of documents, policies, standards, and ways of practice in supporting breastfeeding practices among postpartum mothers. The observation made by the researcher is as follows:

Policy to promote breastfeeding

Maharaj Nakhon Si Thammarat Hospital has passed the evaluation criteria of the Baby Friendly Hospital Initiative since 1991. It also passed the evaluation criteria of Alive Baby Safe Mother Hospital Initiative in 2001. The hospital is evaluated every year by the Breast Milk Committee and the Alive Baby Safe Mother Committee with the Regional Health Promotion Center 11 of Nakhon Si Thammarat Province. The hospital has also declared its breastfeeding promotion policy and continuously organized activities to promote breastfeeding during all phases of pregnancy and childbirth. The policy to promote breastfeeding is clearly posted in the hospital premise as well as its Primary Care Units together with posters to promote breastfeeding. Based on the researcher's observation, the public health officials' support of breastfeeding activities can be summarized as follows:

During pregnancy Pregnant women who sought ante-natal care at the ante-natal care clinic of Maharaj Nakhon Si Thammarat Hospital would receive the following treatment:

1. Newly pregnant women would be asked about experience with breastfeeding and their nipples would be examined, and corrected if necessary. The records would be transferred to the Lactation Clinic or the Primary Care Units for further evaluation.
2. Newly pregnant women would be given health education on breastfeeding individually and in groups.
3. In cases of those who received regular ante-natal care, their abnormal nipples would be corrected and followed up on.

All pregnant women who sought ante-natal care at the Primary Care Units under the network of Maharaj Nakhon Si Thammarat Hospital would be referred to the ante-natal care clinic at Maharaj Nakhon Si Thammarat Hospital and treated as follows:

First appointment: Nipples would be examined and corrected and experience with breastfeeding would be asked for record and subsequent transfer to the Lactation Clinic or Primary Care Units.

Second appointment: Pregnant women would be given health education on breastfeeding in groups.

Third appointment: Abnormal nipples would be examined and corrected.

Delivery Period

The mothers who give birth at Maharaj Nakhon Si Thammarat Hospital would be treated by public health officials as follows:

1. Their knowledge of breastfeeding would be assessed, and those with insufficient knowledge would receive more health education.
2. After child delivery, mothers would be enabled to hold their infants with in half an hour.
3. Postpartum mothers who were HIV negative would be encouraged to breastfeed their babies within one hour after delivery.
4. Postpartum mothers who did not have HIV results would have their blood examined. After it became certain that they were HIV negative,

they would be encouraged to start breastfeeding their infants within two hours.

Postpartum mothers

Postpartum mothers who were HIV negative would receive the following care and treatment from staff:

1. Those who had normal child delivery would be assisted in their first breastfeeding immediately.
2. Those who had a C-section would be assisted in breastfeeding within one hour after they regained their consciousness.
3. Postpartum mothers would receive health education both individually and in groups in the following topics before discharge:
 - 3.1 How to avoid infants sucking milk or water from a bottle
 - 3.2 How to let infants suck their breasts correctly and frequently
 - 3.3 The disadvantages of rubber nipples, fake nipples, or pacifiers
 - 3.4 How to squeeze breast milk
 - 3.5 How to drop breast milk into infants' mouth instead of using a bottle if infants are unable to suck mothers' breasts
 - 3.6 How to prevent and solve frequently found problems in breastfeeding
 - 3.7 Where to ask for help with breastfeeding problems
4. Postpartum mothers who had a risk of breastfeeding failure would be asked to return to the Lactation Clinic within one week after child delivery.

Follow-up period

Mothers and infants with breastfeeding problems such as not having readiness for breastfeeding, having injured nipples, and others would be assisted by nursing staff at the Lactation Clinic of Maharaj Nakhon Si Thammarat Hospital. The clinic also provided a 24-hour hotline service. If the mothers and infants did not have any problems, after they had been discharged from the hospital, the hospital would transfer them to the Primary Care Units under the network of the hospital near their homes, and the staff of the units would be responsible for paying a home visit and providing further advice on breastfeeding. However, based on the observation, the staff paid only a small number of home visits and did not visit all postpartum mothers who gave birth at Maharaj Nakhon Si Thammarat Hospital.

Part 9. Breastfeeding practices during the first four months

Of the 400 subjects of the present study, only 20.5% exclusively breastfed their infants for at least four months, while 79.5% non-exclusively breastfed their infants (see Table 14).

Table 14: Number and percentage of the sample categorized according to breastfeeding practices during the first four months

Breastfeeding practice	Number	Percentage
Exclusive breastfeeding	82	20.5
Non-exclusive breastfeeding	318	79.5
Total	400	100

When considering the duration the subjects exclusively breastfed their infants, the study result indicated that approximately one-fourth or 26.5% breastfed their infants

for one month. Only 20.5% exclusively breastfed their infants for four months. Also, 31.2% of the subjects fed their infants since birth with breast milk together substitutes or formula milk (see Table 15).

Table 15: Number and percentage of the subjects as categorized according to exclusive breastfeeding practices

Breastfeeding practices	Number	Percentage
Exclusive breastfeeding for one month	106	26.5
Exclusive breastfeeding for two months	46	11.5
Exclusive breastfeeding for three months	41	10.3
Exclusive breastfeeding in four months	82	20.5
Non-exclusive breastfeeding(since birth)	125	31.2
Total	400	100

Based on the questionnaire, two-thirds of the subjects, or 64.3%, had not weaned their infants. They mainly fed their infants with their breast milk, but they also gave other substitutes or formula milk. It is worth noting that 35.6% of the subjects stopped breastfeeding their babies when the babies were one month old or younger. Among the reasons cited by the subjects, working outside the house and having not enough lactation were the most important reasons, accounting for 37.7% and 33.7%, respectively (see Table 16).

Table 16: Number and percentage of the sample as categorized according to weaning, duration, and reasons for weaning

Variables	Number	Percentage
Weaning		
Not weaning	257	64.3
Already weaning	143	35.7
Total	400	100
Duration since weaning (months)		
≤ 1	51	35.6
1-2	25	17.5
2-3	27	18.9
3-4	26	18.2
> 4	14	9.8
Total	143	100
Reasons for weaning		
Insufficient lactation	58	33.7
Innutritious breast milk	7	4.1
Problems with nipples	9	5.2
Having someone else take care of infants	3	1.7
Working outside	65	37.7
Mothers having health problems	7	4.1
Infants being sick	2	1.2
Infants refusing to suck	18	10.5
Others	3	1.7
Total	172	100

Part 10. The relationship between predisposing factors and breastfeeding practices during the first four months

The predisposing factors investigated in the present study were age, religion, education, occupation, family income, intention to breastfeed, and plan to breastfeed. The Chi-square test was used, and the result indicated that the predisposing factors which were related to breastfeeding practices during the first four months were occupation (p-value = 0.015), workplace (p-value < 0.001), and intention to breastfeed (p-value = 0.032) (see Table 17).

Table 17: Relationship between predisposing factors and breastfeeding practices during the first four months

Predisposing factors	Exclusive breastfeeding		Non-exclusive breastfeeding		p-value of λ^2 test
	Number	Percentage	Number	Percentage	
Age (years)					.567
≤ 20	11	13.4	38	11.9	
21 – 30	46	56.1	163	51.8	
≥ 31	25	30.5	117	36.3	
Religion					.327
Buddhism	74	90.2	274	86.2	
Islam	8	9.8	44	13.8	
Education					.504
Primary school	27	32.9	91	28.6	
High school	38	46.3	142	44.7	
Diploma and higher	17	20.7	85	26.7	
Occupation					.015*
Housewives	54	65.9	147	46.2	
Government officials	2	2.4	21	6.6	
Employees	14	17.1	81	25.5	
Business owners	12	14.6	69	21.7	

Table 17: (Cont.) Relationship between predisposing factors and breastfeeding practices during the first four months

Predisposing factors	Exclusive breastfeeding		Non-exclusive breastfeeding		p-value of λ^2 test
	Number	Percentage	Number	Percentage	
Workplace					<.001**
At home	69	84.1	190	59.7	
Outside home	13	15.9	128	40.3	
Family income (baht)					.929
≤ 5,000	35	42.7	132	41.5	
5,001-10,000	35	42.7	134	42.1	
> 10,000	12	14.6	52	16.4	
Knowledge of breastfeeding					.502
Good	48	59.8	175	55.0	
Moderate	29	35.4	116	36.5	
Low	4	4.9	27	8.5	
Attitudes toward breastfeeding					.587
High	31	37.8	110	34.6	
Moderate	51	62.2	208	65.4	
Low	-	-	-	-	
Intention to breastfeed					.032*
Having	80	97.6	287	90.3	
Not having	2	2.4	31	9.7	
Plan to breastfeed					.615
Having	52	63.4	192	60.4	
Not having	30	36.6	126	39.6	

* Significant at the 0.05 level

** Significant at the 0.01 level

Part 11. The relationship between enabling factors and breastfeeding practices during the first four months

The enabling factors investigated in the present study were ante-natal care, place of ante-natal care, type of delivery, experience with breastfeeding, characteristic of nipples, mothers' health status during pregnancy, mothers' health problems during the first four months, infants' health problems at birth, infants' health problems during the first four months, birth weight, current weight, and type of milk/formula received during hospital stay. The Chi-square test was conducted (see Table 18), and the results showed that the enabling factors which were associated with breastfeeding practices during the first four months were experience with breastfeeding (p-value = 0.037), characteristics of nipples (p-value = 0.020), infants' health problems during the first four months (p-value = 0.016), current weight (p-value = 0.009), and type of milk/formula received during hospital stay (p-value = 0.001).

Table 18: Relationship between enabling factors and breastfeeding practices during the first four months

Enabling factors	Exclusive breastfeeding		Non-exclusive breastfeeding		p-value of λ^2 test
	Number	Percentage	Number	Percentage	
Ante-natal care					.068
Complete	58	70.7	190	59.7	
Incomplete	24	29.2	128	40.3	
Place of ante-natal care					.064
Health center	16	19.5	78	25.2	
Hospital	31	37.8	120	38.3	
Clinic	7	8.5	30	15.0	
More than two places	28	34.1	67	21.4	
Type of delivery					.386
Normal	61	74.4	221	69.5	
Abnormal	21	25.6	97	30.5	
Experience with breastfeeding					.037*
Having	48	58.5	145	45.6	
Not having	34	41.5	173	54.4	
Characteristic of nipples					.020*
Normal	80	97.6	284	89.3	
Abnormal	2	2.4	34	10.7	
Health status during pregnancy					.473^a
Healthy	78	95.1	299	94.0	
Not healthy	306	4.9	19	6.0	
Health problems during the first four months					.578^a
Having	3	3.7	13	4.1	
Not having	79	96.3	305	95.9	

Table 18: (Cont.) Relationship between enabling factors and breastfeeding practices during the first four months

Enabling factors	Exclusive breastfeeding		Non-exclusive breastfeeding		p-value of λ^2 test
	Number	Percentage	Number	Percentage	
Infants' health problems after birth					.071^a
Having	306	8.5	12	3.8	
Not having	75	91.5	306	96.2	
Infants' health problems during the first four months					.016*
Having	6	7.3	58	18.2	
Not having	76	92.7	260	81.8	
Birth weight					.319
< 2,500 grams	10	12.2	49	15.4	
2,500 – 3,500 grams	57	69.5	230	72.3	
>3,500 grams	15	18.3	39	12.3	
Current weight					.009**
< 5,000 grams	26	31.7	62	19.5	
5,000-6,500 grams	27	32.9	112	35.2	
>6,500-7,500 grams	16	19.5	112	35.2	
>7,500 grams	13	15.9	32	10.1	
Type of milk/formula received during hospital stay					<.001**
Exclusively Breastfed	61	74.4	164	51.6	
Breast milk with other	11	13.4	106	33.3	
Nutrition Formula milk	10	12.2	48	15.1	

a Fisher's Exact Test

*Significant at the 0.05 level

** Significant at the 0.01 level

Part 12. The relationship between reinforcing factor and breastfeeding practices during the first four months

The Chi-square test was conducted to identify the relationship between reinforcing factor related to support for breastfeeding and breastfeeding practices during the first four months after delivery of postpartum mothers at Maharaj Nakhon Si Thammarat Hospital. It was discovered that there was no relationship between reinforcing factor related to support for breastfeeding and breastfeeding practices during the first four months. (see Table 19)

Table 19: Relationship between reinforcing factor and breastfeeding practices during the first four months

Reinforcing factor	Exclusive breastfeeding		Non-exclusive breastfeeding		p-value of λ^2 test
	Number	Percentage	Number	Percentage	
Support for breastfeeding					.498
High	8	9.8	37	11.6	
Moderate	53	64.6	218	68.6	
Low	21	25.6	63	19.8	