CHAPTER II

LITERATURE REVIEW

Theories and Conceptions

The present research aimed at investigating postpartum mothers' breastfeeding practices at Maharaj Nakhon Si Thammarat Hospital. In this chapter, a review of related research literature will be presented as follows:

1. The definition of success in breastfeeding

The success in breastfeeding means exclusive breastfeeding without giving any other nutritional substances even water to the infants for the duration of at least four months after birth as specified by WHO, UNICEF, and the Ministry of Public Health, and as set as objective of the Baby Friendly Hospital.

2. Significance of breastfeeding

Infant is one of the most important period in a human being's life because it is a fundamental of good health in the future. The infant's health refers to physical growth as well as development of ability and physical, mental, and emotional development. It covers the period since conception to pre-school age. For this reason, giving appropriate nutrition is crucial as it promotes the infants' health (Somchai Durongdej,

1993: 26). It is widely accepted that breast milk is the most appropriate food for newborns to infants four months old.

Breastfeeding benefits the infants, mothers, and the family as follows:

Benefit of breastfeeding for infants

- 1. Breast milk contains all nutrition the infants need, and it is easy to digest and absorb, making the infants' development complete.
- 2. Breast milk offers immunity to infants.
- 3. Breast milk contains nutrition necessary to the full functioning of major bodily organs such as the brain and the neurological system, enabling the infants to grow up to be intelligent.
- 4. Breast milk contains hormones necessary to the growth of infants.
- 5. There are different kinds of gastric juices—some help digest breast milk, some help the body absorb minerals, and others kill germs.
- 6. Breastfeeding ensures psychological closeness and warmth, ensuring the infants' good mental health and ability to adapt in society.
- 7. When the upper teeth grow, they will arrange themselves neatly and they will not be abraded.
- 8. The infants will have normal bowel movement with no constipation.

Benefits of breastfeeding for mothers

1. It helps prevent postpartum hemorrhage and makes the uterus return to its normal condition faster.

- It is convenient because breastfeeding can be practiced anywhere and anytime.
- 3. It helps reduce the chances of breast and ovarian cancer.
- 4. It increases bonding and attachment between mothers and infants which is necessary for appropriate mental development of infants.

Benefits of breastfeeding for the family

- 1. It is economical than paying for formula milk.
- 2. It helps strengthen the feeling of love and attachment among family members.

Breast milk is the most appropriate food for infants, especially during the first year of life. The American Academy of Pediatrics (1982: 654-661) has recommended that infants should be exclusively breastfed. In the United States and European countries, breastfeeding has been re-promoted. In particular, Scandinavian countries allow a nine-month maternity leave to ensure exclusive breastfeeding (Suwit Kiatsewee, 1992: 11). In Thailand, the law allows a three-month maternity leave (Ministry of Public Health, 1993: 53) to allow the mothers to breastfeed and be close to their infants. However, the success of the Ministry's breastfeeding promotion effort is yet to be seen.

3. Situations promoting breastfeeding in Thailand

Over the past two decades, there have emerged a number of factors which adversely affected breastfeeding including medical services of the hospital regulations

regarding child delivery and separation of mother and child after birth, mothers' working outside the house, advertisements of manufacturers and distributors of supplementary baby food, economic and social situations, as well as marketing mechanisms of baby food companies. The rate of breastfeeding has markedly reduced. The resulting problems include higher mortality rate of children younger than five years old, malnutrition, and increased incidences of infection. These problems make UNICEF and WHO stimulate different countries to promote breastfeeding.

In Thailand, the Baby Friendly Hospital initiative has been established to promote breastfeeding since 1991. The main goal is to encourage postpartum mothers to exclusively breastfeed for at least four months and then breastfeed together with giving supplementary food until the infants are two years old. All public hospitals were able to comply with this initiative in 1995, and all health centers were encouraged to carry out the ten-step operational plan to become Baby Friendly Health Centers at the end of the Eighth National Public Health Development Plan (1997-2001) (Office of Policy and Planning, Ministry of Public Health,1996). In the Ninth National Public Health Development Plan (2002-2006), promotion of breastfeeding is still emphasized as an important means to promote the health of children. The goal is to encourage at least 30% of postpartum mothers to exclusively breastfeed their infants for at least four months. Also, enabling factors of breastfeeding are enhanced, changing the advertising criteria for supplementary baby food 1984 to the criteria for marketing food for babies and small children. An establishment of a nursery or childcare center in the workplace is promoted as well (The Subcommittee for Nutrition Planning, 1996). Finally, the law

was changed to allow a 90-day maternity leave with full pay (Bandit Thanachaisethwut, 1999).

Dr. Somchai Durongdej, a faculty member of the Faculty of Public Health, Mahidol University, conducted a study in 1997 and found that only 2.08% of postpartum mothers exclusively breastfed their infants for at least four months, while the predominant breastfeeding rate was equal to 30%. In addition, the findings revealed that as high as 30% of the postpartum mothers gave water to their infants during their hospital stay. Among these, 51% were afraid that the infants would be thirsty, 38% wanted to ensure their infants' good health, and 11% prevented their infants from having a dry mouth. Finally, when it came to the reasons why they stopped breastfeeding, 51% of the postpartum mothers had to return to work, whereas 32% had problems concerning breastfeeding.

4. Public healthcare providers' policy to promote breastfeeding

During the past 60 years, the trend of breastfeeding has constantly declined all over the world (Prasong Tuchinda, 1992: 14-15; Gwynn and Caries, 1989: 626; Neeson and May, 1986: 1167-1168). Medical evidence clearly indicates that feeding babies with formula milk affects the babies' health and development. In developed countries, such babies are likely to suffer from over-nutrition and allergy, while in developing countries, they tend to suffer from malnutrition and infectious diseases such as diarrhea, common cold, pneumonia, and arrested development. In addition to this, both mothers and infants in developed and developing countries also have bonding problems. Thus, numerous studies have been conducted to investigate the benefits and

drawbacks of breastfeeding and feeding infants with formula milk, and these study findings confirm that breastfeeding is best for infants. For this reason, the promotional campaigns of breastfeeding has been widespread (Ubol Taweesri, 1993: 71).

WHO and UNICEF have realized the significance of these problems, and they have continuously promoted breastfeeding with more clear-cut practical guidelines. In 1981, an agreement was reached between different countries and manufacturers of powder formula milk and feeding equipment to prevent the use of formula milk and rubble nipples to feed infants instead of breast milk called "The International Code of Marketing of Breast Milk Substitutes" (Kannikar Wichitsukhon, 1992: 3). In 1989, the Baby Friendly Hospital Initiative (BFHI) was founded to enable leaders and specialists in health care from both the public sector and the private sector of different countries to take action to create an environment facilitating successful exclusive breastfeeding for at least four to six months after childbirth. Infants should receive breast milk together with supplementary diets until they are at least two years of age. The practical guideline for hospitals the world over is called Ten Steps to Successful Breastfeeding. Thailand is one of the twelve countries selected as the leader of the Baby Friendly Hospital Initiative. The Ministry of Public Health has declared that any hospital or organization which is able to completely comply with the criteria will be recognized and awarded by WHO and UNICEF (Kannikar Wichitsukhon, 1992: 3), with details as follows:

- 1. Have a written breastfeeding policy that is routinely communicated to all health care staff;
- 2. Train all health care staff in skills necessary to implement this policy;

- Inform all pregnant women about the benefits and management of breast feeding;
- 4. Help mothers initiate breast feeding within a half hour of birth;
- 5. Show mothers how to breast feed and how to maintain lactation even if they should be separated from their infants;
- 6. Give newborn infants no food nor drink other than breast milk ,unless medically indicated;
- 7. Practice rooming-in, allow mothers and infants to remain together 24 hours a day;
- 8. Encourage breast feeding on demand;
- 9. Give no artificial teats or pacifiers to breast feeding infants; and
- 10. Foster the establishment of breast feeding support groups and refer mothers to them on discharge from the hospital or clinic.

The Baby Friendly Hospital Initiative is in congruence with the policy of the Ministry of Public Health which has promoted breastfeeding since the Fifth National Economic and Social Development Plan (1982-1986) to the present.

Maharaj Nakhon Si Thammarat Hospital is a center hospital under the Ministry of Public Health. It is responsible for promoting the health of mothers and infants. Its breastfeeding promotion project has been in existence since 1991, and the policy to promote breastfeeding of the infants born at Maharaj Nakhon Si Thammarat Hospital is as follows:

Policy to Promote Breastfeeding of Infants Born at Maharaj Nakhon Si Thammarat Hospital

- 1. This hospital promotes breastfeeding.
- 2. The staff of the hospital are able to provide explanation and promote breastfeeding.
- Pregnant mothers who visit ante-natal care and give birth at the hospital will be advised to breastfeed their infants.
- 4. Newborns will suck their mothers' nipples and be held by their mothers within half an hour after birth.
- Mothers will be taught and assisted with correct methods of breastfeeding when both mothers and infants are together and both are separated.
- 6. Infants can suck their mothers' nipple as often as they want, but no longer than three hours apart.
- 7. Mothers and infants stay together all the times.
- 8. In case the infants are sick, mothers will be provided with a place to stay so as to enable them to breastfeed their infants.
- Infants are not allowed to be fed with a bottle and to suck a rubber nipple.
- 10. Mothers are encouraged to exclusively breastfeed their infants for at least four months with no water or supplementary diets.
- 11. Mothers who successfully breastfeed their infants will be encouraged to give advice to other mothers in the community.

- 12. Hospital staff should breastfeed their infants, and they can take a maternity leave as specified in the government regulation.
- 13. The hospital has set up a childcare center in the hospital to enable the hospital staff to continue breastfeeding their infants.
- 14. No formula milk and bottles for newborns are allowed to be advertised, sold, or distributed within the hospital's premise.

All pregnant mothers who visit ante-natal services of the hospital will be educated with knowledge and practice of breastfeeding during every stage of their pregnancy, delivery, and postpartum period as follows:

During pregnancy Pregnant mothers who visit ante-natal care at the ante-natal care unit of Maharaj Nakhon Si Thammarat Hospital or at the primary care units under the network of Maharaj Nakhon Si Thammarat Hospital will be given health education both individually and in groups at least twice. At the first ante-natal check-up, their breasts and nipples will be checked, and any abnormality will be corrected such as by using Hoffman's maneuver or using breast cups to cover the nipples for one hour every day. The assessment of the mothers' abnormal nipples will also be conducted. At the second and subsequent ante-natal check-ups, pregnant mothers will receive advice on breastfeeding concerning benefits of breastfeeding, significance of exclusive breastfeeding, disadvantages of formula milk and water, ways to ensure infants are breastfeed even if mothers have to return to work outside the house, importance of breastfeeding immediately after childbirth, and ways to ensure correct nipple sucking of infants. Documents on breastfeeding will be provided, which affects breastfeeding

behavior of postpartum mothers. This is because receiving information support from hospital staff enables mothers to have more options in performing healthcare behaviors. A study of Jariyawat Kompayak et al. (1986: 82) found that mothers who were taught breastfeeding techniques had more correct knowledge of breastfeeding and were more successful with breastfeeding after giving birth. Also, they tended to continue breastfeeding longer than those who did not receive such knowledge.

During delivery The mothers will be taken care of to make sure that they are reunited with their babies as soon as possible or within half an hour after delivery. If the mothers have delivered the babies and they have no complications, as soon as the umbilical cord is cut, the mothers will hold the babies, and they will stay close together for at least 30 minutes. They will also receive advice on breastfeeding, and they will be assisted with their first attempt at breastfeeding while their genitals are being stitched. This is to enable the infants to receive breast milk as soon as possible. Somporn Suntharapa (1993: c-d) conducted a study to investigate the outcome of letting the mothers and babies be together as soon as possible and breastfeeding. In this study, the mothers were divided into three groups: mothers and infants who were separated after delivery, mothers who had a chance to hold their babies for two to five minutes before separating, and mothers who stayed with their infants all the time. The findings revealed that mothers who held their babies right after delivery breastfed their babies more than those who did not hold their babies with statistical significance. Therefore, it can be concluded that letting mothers and infants stay together affects breastfeeding. That is, such mothers tend to breastfeed their babies more than those who do not have a chance to be close to their babies while in the hospital.

Postpartum period Mothers and infants who have no complications and are healthy will be sent to the postpartum ward together. In cases of natural childbirth, mothers will be stimulated by nursing staff to begin breastfeed their infants immediately after arriving at the ward. In cases of C-section, the healthcare staff will bring the babies to the mothers as soon as they gain consciousness or within one hour after that. After that, the mothers will be taught health education concerning how to breastfeed appropriate to each individual mother. The staff from the lactation clinic will also provide advice and suggestions on breastfeeding to every mother everyday. A study conducted in the United States to examine change of practice to increase the duration of breastfeeding revealed that letting mothers stay together with the infant all the time during hospital stay was associated with duration of breastfeeding in the first four months (Wright and Rice, 1996: 674). Letting the mothers and infants be together enables the mothers to breastfeed their infants under supervision of medical personnel. Before the hospital discharge, mothers will be given health education about breastfeeding which is conducted in groups. The content of the education consists of how to squeeze breast milk, feeding with a cup, disadvantages of water and formula milk, prevention, and frequently found problems. Mothers will be provided with a breastfeeding manual which includes contact information in case mothers have problems such as the Lactation Clinic of Maharaj Nakhon Si Thammarat Hospital and Primary Care Units nearby. In the event that mothers and infants have abnormal problems about breastfeeding before hospital discharge, appointment will be made asking the mothers to come back to the Lactation Clinic within one week.

Follow-up period The staff of Primary Care Units close to mothers' residence, according to the referral of Maharaj Nakhon Si Thammarat Hospital, will pay a visit while the mothers are staying at home. Natesai Rungruangtham et al. (1986: a) studied two groups of postpartum mothers and discovered that there was a statistically significant difference in breastfeeding practice between the mothers who received home visits and advice and those who did not receive home visits. This supports the notion that paying a home visit helps increases the duration of breastfeeding. The infants' growth and development will be followed up on, and mothers will consistently receive advice and assistance if they have problems, especially when the mothers bring the children to the Primary Care Units for vaccination.

Thus, it can be concluded that even though it is accepted that breastfeeding is most appropriate for infants, breastfeeding practice tends to decrease all over the world. Maharaj Nakhon Si Thammarat Hospital has complied with the Ministry of Public Health's policy on breastfeeding as well as the Ten Steps to Successful Breastfeeding of the Baby Friendly Hospital Initiative by offering services during every period since pregnancy, childbirth, postpartum period, and follow-ups during home visits. This is also in compliance with the breastfeeding promotion policy of WHO and UNICEF.

5. The PRECEDE Framework

Lawrence W. Green et al. (1980: 71) of The John Hopkins Hospital in the United States were the first persons who developed the PRECEDE Framework with an aim to use it in research studies and in assessment of behavioral projects and other health promotion projects.

The PRECEDE Framework is a conceptual framework used in analyzing health behavior by means of multiple causality assumption. It is based on the hypothesis that individuals' behaviors are caused by both internal and external factors. Therefore, an effort or operation to change individuals' behaviors need to consist of various aspects and important factors affecting such behaviors need to be analyzed before effective plans to change those behaviors can be devised.

In the present study, the PRECEDE Framework (Predisposing, Reinforcing, Enabling Causes in Educational Diagnosis and Evaluation) was employed. This means using predisposing factors, reinforcing factors, and enabling factors in diagnosing and assessing individuals' behaviors as follows:

Predisposing factors are fundamental factors leading to motivation to show certain behaviors including knowledge, attitudes, beliefs, values, perception, behavioral intention, and demographic, social, and economic data.

Enabling factors are necessary resources and skills which enable individuals to perform such behaviors as well as ability to gain access to such enabling factors.

Reinforcing factors are factors which indicate that how much health practice or behavior is supported such as support and encouragement from family members, other individuals, and medical team.

The relationship between these three factors and health behaviors, which are specific problems, is illustrated in Figure 1 below:

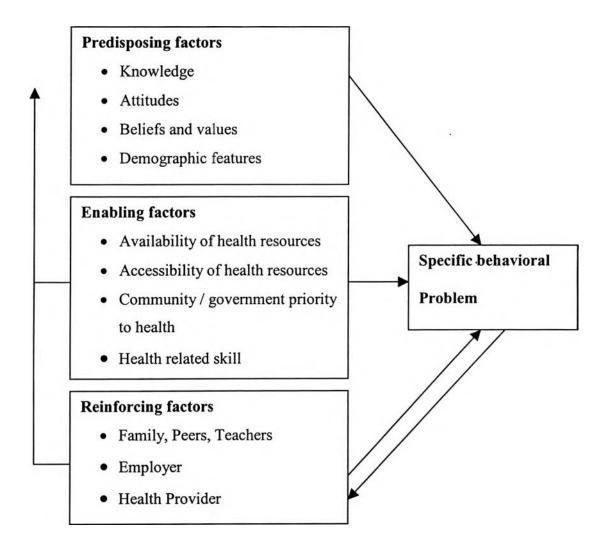


Figure 1: The relationship among factors affecting behavior (Green and Kreuter, 1991: 153)

6. Factors related to breastfeeding

Factors related to breastfeeding consist of predisposing factors, enabling factors, and reinforcing factors. These factors can be factors enabling mothers to successfully breastfeed their infants or factors prohibiting mothers from successfully breastfeeding their infants.

Factors leading to successful breastfeeding

Successful breastfeeding requires care, support, and assistance from medical and public health personnel offered to mothers. Practice enabling infants to successfully suck their mothers' nipples has to be full-fledged—starting from pregnancy and continuing until the breastfeeding period. Before or during pregnancy, mothers should receive knowledge and advice on breastfeeding practice. Their nipples and breasts should be examined to prevent problems and to increase mothers' confidence. After the mothers have given birth and are recuperating in the postpartum ward, medical and public health personnel should ensure that mothers and infants are free to be together and mothers have normal lactation. Before hospital discharge, mothers should be encouraged to continuously breastfeed their infants. After that, follow-ups should be conducted by visiting mothers at home or at office to further encourage and support them. Husbands and other family members should give moral support to the mothers, and the mothers should have appropriate and sufficient food and water intake as well as enough rest and relaxation. All of these are important factors which can lead to successful breastfeeding (Bronner and Paige, 1992: 48). Hewat and Ellis (1986: 37-42) found that successful breastfeeding could result if mothers let infants suck their nipples as much as they wanted, if mothers had enough rest and relaxation, if their work schedule was flexible, if they had positive attitudes, if husbands were understanding of their emotional and mental conditions, and if they received assistance from medical and public health personnel.

Successful breastfeeding depends on three crucial factors: mother factors, infant factors, and medical and public health personnel factors. That is, the mothers need to

have readiness, interest, faith, intention, and proper preparation since pregnancy. In addition, their husbands and family members are important factors which support mothers to breastfeed their infants. As for the infants, they need to have a good physical condition and do not have any bodily impairment or any adverse effect of delivery that prevent them from sucking their mothers' nipples. Finally, medical and public health personnel who are involved with providing care to mothers and infants need to play a role in encouraging and supporting mothers to breastfeed their infants. All staff members need to have good attitudes, knowledge, and skills necessary in supporting mothers to breastfeed (Ubol Taweesri, 1993: 72). Besides, factor which enable working mothers to successfully breastfeed their infants are intention to breastfeed, advice and assistance from medical and public health personnel, feeling of bonding and attachment with their babies, realization of the value of breast milk, imitation of breastfeeding practice of relatives or neighbors, and social support (Kanchana Kumdee, 1994: 124-126).

Factors obstructing successful breastfeeding

Lindquist (1991: 17) points out that the reasons why mothers stop breastfeeding are derived from four factors. The mother factors include illness, work, stress or anxiety, negative attitudes toward breastfeeding, lack of knowledge, and lack of advice from other mothers with successful breastfeeding experience. The infant factors are infants being fed with formula milk or water, increasing age, and refusal to suck. The environment factors involve advertisement of powdered formula milk, lack of support from husbands, or insufficient number of childcare centers. The final factors are factors related to operational policy of the hospital which separate mothers and infants for a

long period of time after birth (Bronner and Paige, 1992: 48). Penchan Charoenphol (1986: 18-19) conducted a study and concluded that factors which made mothers find breastfeeding a difficult experience were the mother factors—attitudes, intention to breastfeed, age, educational background, and type of work—as well as environmental factors including close persons, practice of medical and public health personnel, advertisement and distribution of supplementary diets, and social values. Also, Helsing and King (1985: 219) reason that breastfeeding has decreased in an urban community because of social, economic, and political conditions. The most important reasons are expansion of baby food industry and mothers' having to work outside their houses in an urban community.

According to Prasong Tuchinda (1992: 21-31), factors influencing breastfeeding are medical and public health personnel, postpartum nursing care system in the hospital, changes in social and economic systems, advertisements and distribution of power formula milk, policy of the government and healthcare institutions, customs and traditions, and profession of postpartum mothers. Besides, Somchai Durongdej et al. (1984: 25-31) contend that factors obstructing breastfeeding are lack of social support, lack of healthcare provision, lack of knowledge of and positive attitudes toward breastfeeding, advertisements and distribution of substitutes, and mothers' career outside home.

7. Related research literature

Kesara Sripitchayakarn and Kannikar Kantharaksa (1992: 45) studied a relationship between health beliefs and selected factors and duration of breastfeeding.

The findings revealed that health beliefs and perceived significance of health were positively and statistically significantly associated with the following factors: mothers' educational level, family income, residence, occupation, duration of maternity leave, need to have a child, and intention to breastfeed (p < 0.01).

Sranya Chitcharoen (1994: 86) investigated a relationship between spousal support and mothers' perception of breastfeeding and duration of breastfeeding in a workplace. The subjects were 150 working postpartum mothers whose infants were from one to twelve months old and had already weaned. It was discovered that the length of the maternity leave and the time the infants began to receive substitutes were positively associated with duration of breastfeeding with statistical significance at the 0.001 and 0.01 levels, respectively. However, the time when the infants first sucked their mothers' nipples was related to breastfeeding with no statistical significance (p > 0.05).

Uthaiwan Treerattanapunta (1996: 76) explored some factors influencing the duration of breastfeeding of unemployed mothers. The subjects were 165 postpartum mothers with only one child six months of age. The finding suggested that there was a statistically significant relationship between the age of mothers and duration of breastfeeding (p = 0.05).

Kanchana Kumdee (1994: 124-125) studied factors related to duration of breastfeeding of working mothers at Chiang Mai Mother and Child Hospital. The sample consisted of 18 mothers who had given birth to their first child. It was

discovered that the factors supporting mothers to continue breastfeeding after returning to work included mothers' feeding of attachment feeling with infants, the realization of the value of breast milk, imitation of relatives or neighbors who breastfed their babies for a long period of time, social support from family and relatives who provided help with household chores, and advice and assistance from medical and public health personnel. On the other hands, the factors which prevented the mothers from breastfeeding their infants were illness of the infants after birth, abnormal nipples, lack of support from family, and mothers' illness after delivery.

Hill (1987: 145) studied the success of provision of knowledge on breastfeeding using an educative-supportive program among 64 postpartum mothers who were divided into two groups—those receiving health education and those who did not. A comparison was made after the mothers were interviewed via telephone calls, and the result suggested that those who received health education had a higher level of knowledge than those who did not. However, there was no difference between the duration and the perception of success of breastfeeding longer than a period of six weeks.

Birenbaum and Riechman (1989: 522) investigated factors influencing breastfeeding among mothers living in rural areas in Israel. It was found that husbands' positive attitudes toward breastfeeding, religious beliefs and customs, mothers not smoking, mothers working outside during pregnancy, and mothers with previous experience of successful breastfeeding were factors supporting breastfeeding. This may be explained that the Israelis labor law allowed a three-month maternity leave and

breastfeeding was accepted by society as compliant with religious beliefs. Also, mothers who did not smoke had a good health making them able to breastfeed their infants, and mothers who worked outside had more chance to receive information about benefits of breastfeeding and were entitled to take a maternity leave.

Rentschler (1991: 151) conducted a study to examine factors influencing breastfeeding among 150 postpartum mothers. It was found that motivation and receiving information, knowledge, and preventive measures enabled 107 mothers to breastfeed their infants. However, there were 43 mothers who were not successful with breastfeeding during the six weeks after childbirth were not having enough breast milk (44%), having cuts on the breasts (42%), and having to work outside the house (30.2%). Based on the findings, it was recommended that mothers should be prepared before delivery to increase their motivation and to equip them with knowledge and solutions to possible problems to ensure the success of breastfeeding.

Freed (1993: 243) found that in order to make breastfeeding successful, the knowledge of breastfeeding should be publicized in the community and the public health officials need to be able to disseminate health education. Ray and Martinez (1989: 524) surveyed American postpartum mothers who worked and did not work outside their house and discovered that both groups of mothers breastfed their infants while they were staying at the hospital. However, after returning home only 10% of them continued breastfeeding practices until their babies were six months old.

Duckett et al. (1993: 191) predicted the success of breastfeeding during hospital stay and found that the postpartum mothers who successfully breastfed their infants were those who received support and assistance from nursing staff to solve breastfeeding problems since the first periods of their hospital stay. Also, follow-ups after hospital discharge also enabled them to continue breastfeeding for a long period of time. Therefore, the period when postpartum mothers are recuperating in the hospital is a crucial time in which assistance can be provided to help mothers solve problems and make them ready to continue breastfeeding at home.

Based on the review of these research literatures, it can be concluded that the factors which have influence on breastfeeding practices are knowledge, attitudes, and service systems of the hospital which enable the mothers to successfully breastfeed their infants. In particular, mothers having a single family and living in an urban area who work outside constitute a group of mothers who need extra advice and assistance. Therefore, it is deemed necessary that main factors affecting breastfeeding practices of postpartum mothers need to be determined. This is because exclusive breastfeeding is a role all mothers should play. It will also enable Maharaj Nakhon Si Thammarat Hospital to more effectively promote exclusive breastfeeding for at least four months. As the factors associating postpartum mothers' breastfeeding practices consist of different factors—predisposing factors, enabling factors, and reinforcing factors related to both mothers and infants, the present study applied Green's PRECEDE Framework as its conceptual framework as shown in Figure 2 below:

Predisposing factors related to mothers

- Demographic characteristics (age, religion, education, occupation, income)
- · Knowledge of breastfeeding
- · Attitudes toward breastfeeding
- · Intention to breastfeed
- · Plan to breastfeed

Enabling factors related to mothers and infants

- Ante-natal care, place of Ante-natal care
- Type of delivery
- Characteristic of nipples
- · Experience with breastfeeding
- · Health status of mothers and infants
- · Infants' birth weight and current weight
- Type of formula received during hospital stay
- Problems and obstacles in breastfeeding

Reinforcing factor related to support from family members, others, and medical and public health personnel during different periods: pregnancy, delivery, postpartum period, and follow-up period by hospital or primary care units

Breastfeeding Practices

- Exclusive breastfeeding
- Non-exclusive

breastfeeding

Source: Green, W. L. and Keruter, M. W. Health promotion planning: An educational and environmental approach, 1991: 153.

Figure 2: Conceptual framework of the study