



**The Roles of Nurses in Promoting Exclusive Breastfeeding Perceived by  
Mothers and Staff Nurses in Bangladesh**

**Pronita Rani Raha**

**A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of  
Master of Nursing Science (International Program)**

**Prince of Songkla University**

**2010**

**Copyright of Prince of Songkla University**

**Thesis Title**            The Roles of Nurses in Promoting Exclusive Breastfeeding  
                                 Perceived by Mothers and staff Nurses in Bangladesh

**Author**                    Mrs. Pronita Rani Raha

**Major Program**        Nursing Science (International Program)

---

**Major Advisor:**

.....  
(Assoc. Prof. Dr. Jeranoun Thassri)

**Examining Committee:**

.....Chairperson  
(Assist. Prof. Dr. Wongchan Petpichetchian)

**Co-advisor:**

.....  
(Assoc. Prof. Dr. Jeranoun Thassri)

.....  
(Assoc. Prof. Sureeporn Kritcharoen)

.....  
(Assoc. Prof. Sureeporn Kritcharoen)

.....  
(Assoc. Prof. Chitkasaem Suwanrath)

.....  
(Dr. Supaporn Wannasuntad)

The Graduate School, Prince of Songkla University, has approved this thesis as partial fulfillment of the requirements for the Master of Nursing Science (International Program).

.....  
(Assoc. Prof. Dr. Kerkchai Thongnoo)  
Dean of Graduate School

<b>Thesis Title</b>	The Roles of Nurses in Promoting Exclusive Breastfeeding Perceived by Mothers and Staff Nurses in Bangladesh
<b>Author</b>	Pronita Rani Raha
<b>Major Program</b>	Master of Nursing Science
<b>Academic Year</b>	2009

### **ABSTRACT**

Breastfeeding is the best for baby, mother and family. Unfortunately the breastfeeding rate is quite low in Bangladesh. The objectives of this study were to identify the level and compare the perceptions toward the roles of nurses in promoting exclusive breastfeeding. A systematic problem solving approach was the conceptual framework to guide in this study. A descriptive comparative study was designed. The subjects were 80 postnatal mothers and 80 postnatal staff nurses selected randomly from three hospitals in Dhaka, Bangladesh. Structured self report questionnaires were used. The content validity of the instrument was tested by a panel of three experts. Pilot test was done on 10 mothers and 10 staff nurses to test the reliability of the instrument. The Cronbach's alpha coefficients for the entire scales of the roles of nurses in promoting exclusive breastfeeding for mothers' perceptions was .97 and for staff nurses' perceptions .75. Data were collected from December 2009 to February 2010. The results found that the total scale of mothers' perceptions regarding the roles of nurses in promoting exclusive breastfeeding were at a moderate level. In the subscale including data collection and assessment, planning, and implementation of

the roles of nurses as perceived by mothers were also at a moderate level whereas the evaluation of the roles of nurses were at low level. The staff nurses' perceptions regarding the roles of nurses in promoting exclusive breastfeeding were at a high level. In the four subscales staff nurses' perceptions were also at a high level. Staff nurses' perceptions were significantly higher than mothers' perceptions regarding the roles of nurses in promoting exclusive breastfeeding ( $t = 14.49, p < .001$ ). The findings of this study recommend that further in-depth interview and qualitative study may be conducted to explore the factors that increase the mothers' perception regarding the roles of nurses in promoting exclusive breastfeeding.

## ACKNOWLEDGEMENTS

I would like to express my sincere appreciation and deepest respect to my major-advisor; Assoc. Prof. Dr. Jeranoun Thassri, and co-advisor Assoc. Prof. Sureeporn Kritcharoen for their excellent guidance and encouragement throughout this challenging study. My great appreciation also to Assist. Prof. Dr. Wongchan Petpichetchian, chairperson of the Master of Nursing Science, International Program, for her warm acceptance and guidance throughout the course. Also I would like to thank the entire faculty of this master's program in nursing who are constant sources of love and encouragement. My fellow master's students also helped get through the difficult times. I gratefully acknowledge their help.

My study would have been impossible to complete without the help, ideas, time, effort, and good wishes of respected people. Great appreciation to all respected committee members for their expert guidance, thoughtfulness, and challenges to enhance my ability of writing and reflective thinking. Special thanks to all experts who were involved in validating the questionnaires (Assist. Prof. Dr. Sasikarn Kala, Sumonta Kabinlapat RN, and Ava Adhikari, SSN) and other who contributed to my work by translated the instrument (Dr. P.K Mallick and Subrata Kumar Das) and editing my proposal, and this final thesis (Mehraj and Judith)

I also would like to extend my grateful appreciation to the directors of three medical college hospitals, nursing superintendents and charge nurse of postnatal wards for allowing me to conduct this study. I am indebted to all the postnatal mothers and postnatal staff nurses for their valuable contribution to this study.

Definitely, especial thanks to the Government of the People's Republic of Bangladesh for providing me a scholarship to study at Prince of Songkla University, Thailand.

I extend my warmest thanks to all my colleagues and friends in Bangladesh for their support and inspiration during my study. Finally, I would like to thank especially my family: father (Mrinal Kanti Raha), mother (Shova Rani Raha), sisters, and brothers. I could not have earned a master degree without their help, love, prayer and support for me throughout my study. I would like to express special thanks to my dear son Arnob Ghosh and lovely daughter Ananya Ghosh. They sacrificed a lot and prayed for me to overcome all obstacles during my study. Special thank goes to my mother-in-law (Era Rani Ghosh) and father-in-law (Amol Kumar Ghosh) who took care of my children in my absence. It was quite impossible for me to continue this study without help of my husband Ashim Kumar Ghosh. His encouragement, cordial love, and emotional support made me confident to study attentively. I wish to thank to all, who are mentioned or unmentioned here, that gave me support to finish the study.

Pronita Rani Raha

## CONTENTS

	<b>PAGE</b>
ABSTRACT.....	iii
ACKNOWLEDGEMENTS.....	v
CONTENTS.....	vii
LIST OF TABLES.....	x
LIST OF FIGURE.....	xiii
CHAPTER	
1. INTRODUCTION	
Background and Significance of the Problem .....	1
Objectives of the Study .....	4
Research Questions.....	5
Hypothesis.....	5
Conceptual Framework of the Study .....	5
Definition of Terms.....	8
Scope of the Study.....	9
Significance of the Study .....	9
2. LITERATURE REVIEW	
Breastfeeding.....	10
Roles of Nurses in Promoting Exclusive Breastfeeding.....	23

## CONTENTS (Continued)

	<b>PAGE</b>
Perception of Mothers and Staff Nurses Regarding the Roles of Nurses in Promoting Exclusive Breastfeeding.....	43
Summary .....	50
 <b>3. RESEARCH METHODOLOGY</b>	
Research Design.....	52
Setting.....	52
Population and Sample.....	53
Instrumentation.....	55
Ethical Considerations.....	58
Data Collection.....	58
Data Analysis.....	59
 <b>4. RESULTS AND DISCUSSION</b>	
Results.....	60
Discussion.....	73
 <b>5. CONCLUSION AND RECOMMENDATION</b>	
Conclusion of the study.....	86
Recommendation.....	89
<b>REFERENCES.....</b>	<b>91</b>
<b>APPENDICES.....</b>	<b>103</b>
Appendix A: Demographic Questionnaire for Mothers.....	104



**CONTENTS (Continued)**

	<b>PAGE</b>
Appendix B: Demographic Questionnaire for Staff Nurses.....	105
Appendix C: Roles of Nurses Questionnaire (RNQ).....	106
Appendix D: Consent Form.....	109
Appendix E: List of Content Validity Experts.....	111
Appendix F: Analysis Regarding the Items with Highest and Lowest Mean Score, SD, and Level of the Roles of Nurses in Promoting Exclusive Breastfeeding Perceived by Mothers and Staff Nurses.....	112
VITAE.....	117

## LIST OF TABLES

<b>TABLE</b>	<b>PAGE</b>
1. Level of Score Regarding the Roles of Nurse in Promoting Exclusive Breastfeeding.....	56
2. Frequency and Percentage of Demographic Characteristics of the Mothers (n = 80).....	61
3. Frequency and Percentage of Demographic Characteristics of the Staff Nurses(n = 80).....	63
4. Level of Mothers' Perceptions Regarding the Total Scale and the Four Subscales Including Data Collection and Assessment, Planning, Implementation, and Evaluation of the Roles of Nurses in Promoting Exclusive Breastfeeding (n = 80).....	65
5. Mean, Standard Deviations and Level of Mothers' Perceptions in Three Hospitals Regarding the Roles of Nurses in Promoting Exclusive Breastfeeding (n = 80).....	66
6. Level of Staff Nurses' Perceptions Regarding the Total Scale and the Four Subscales Including Data Collection and Assessment, Planning, Implementation, and Evaluation Roles of Nurse in Promoting Exclusive Breastfeeding (n = 80).....	67
7. Mean, Standard Deviations and Level of Staff Nurses' Perceptions in Three Hospitals Regarding the Roles of Nurses in Promoting Exclusive Breastfeeding (n = 80).....	68

## LIST OF TABLES (Continued)

TABLE	PAGE
8. Comparisons Between Mothers' and Staff Nurses' Perception Regarding the Total Scale and Subscale of Data Collection and Assessment of the Roles of Nurses in Promoting Exclusive Breastfeeding (t-test) (n = 160)...	69
9. Comparisons Between Mothers' and Staff Nurses' Perceptions Regarding the Subscales of Planning, Implementation, and Evaluation Roles of Nurses (Mann-Whitney U test) (n = 160).....	70
10. Analysis of Variance of the Mothers' Perception Regarding the Roles of Nurses in Promoting Exclusive Breastfeeding Among Three Hospitals (ANOVA) (n = 80).....	71
11. Pair-Wise Comparison of the Mothers' Perception Regarding the Roles of Nurses in Promoting Exclusive Breastfeeding Among Three Hospitals (Post Hoc) (n = 80).....	71
12. Analysis of Variance of the Staff Nurses' Perception Regarding the Roles of Nurses in Promoting Exclusive Breastfeeding Among Three Hospitals (ANOVA) (n = 80).....	72
13. Analysis of Variance of Staff Nurses Perception Regarding the Roles of Nurses in Promoting Exclusive Breastfeeding among the Group with Working Experience in Postnatal Wards, Job Experience, and special Training in Breastfeeding (ANOVA) (n = 80) .....	73

**LIST OF TABLES (Continued)**

<b>TABLE</b>	<b>PAGE</b>
14. Mean, SD, and Level of Items with Highest and Lowest Score Regarding the Roles of Nurses in Promoting Exclusive Breastfeeding Perceived by Mothers (n = 80) .....	112
15. Mean, SD, and Level of Items with Highest and Lowest Score Regarding the Roles of Nurses in Promoting Exclusive Breastfeeding Perceived by Staff Nurses (n = 80).....	114

## LIST OF FIGURE

FIGURE	PAGE
1. Conceptual Framework of the Study .....	7

# CHAPTER 1

## INTRODUCTION

### *Background and Significance of the Problem*

Breastfeeding is the best practice for all including mother, baby, and family in terms of physical, psychosocial, and economical aspect. Unfortunately breastfeeding initiation and duration rate is quite low in both developed and developing countries particularly in Bangladesh (Galler, Harrison, Ramsey, Chawla, & Taylor, 2006). Promotion of breastfeeding is essential in Bangladesh, where the principal causes of infant and child mortality are nutritional deficiencies and infectious diseases (Chatman et al., 2004). In Bangladesh, more than two-thirds of all infant deaths occurred due to diarrhoeal diseases and respiratory tract infection both are significantly associated with lack of exclusive breastfeeding (Baque et al., as cited in Mahrshahi et al., 2003).

An extensive review of literature showed that in spite of many breastfeeding promotion strategies such as peer counseling and baby friendly hospital initiatives, only 43% of mothers exclusively breastfed up to six months (National Institute of Population Research & Training, 2009). In addition, only 24% of mothers had initiated breastfeeding within one hour after birth and 85% had fed prelacteal food to their babies before starting breast milk (Mahrshahi et al., 2003). Exclusive breastfeeding rate over last ten years was not significantly changed (Arifeen, 2008). However, the health risk for babies without breastfeeding can be significantly higher (McVeigh & Smith, 2000). It was estimated that much infant mortality could be

prevented if the infants are exclusively breastfed up to six months. Breastfeeding is also a cost-effective approach for children's health improvement and decreases the chance of childhood diseases (Cattaneo & Quintero-Romero, 2005). A number of research studies indicated there are many health benefits of breastfeeding for individual infants and mothers. In addition to these individual benefits, for the child, breastfeeding provides significant social and economic benefits to the nation. Therefore, the promotion of breastfeeding is very important and essential for all mothers around the world, including Bangladesh.

To promote exclusive breastfeeding, nurses can play a key role by using the systematic problem solving approach (Catalano, 2003; McAllister, 2007). It is the scientific method that consists of data collection and assessment, planning, implementation, and evaluation. Thus, the basic and fundamental roles of nurses are to provide care towards mother, newborn and family. Early assessment, planning and appropriate management are important strategies that facilitate the promotion of exclusive breastfeeding (Hill & Johnson, 2007). For example, Cadwell, Turner-Muff, Blair, Brimdyr, and McInerney (2004) revealed that nursing assessment plays an important role in reducing common breastfeeding problems including sore nipples. The mothers in that study indicated they were more satisfied with the treatment methods after appropriate assessment and corrective intervention. In the case of promoting exclusive breastfeeding, nurse's work experience in a postnatal unit contributes to providing accurate information, demonstrating, teaching, supporting the mothers and motivating them to breastfeed to their children (Alden, 2004; Blincoe, 2007). In addition, most mothers reported that physical, emotional and social support

provided by knowledgeable health care providers helped them to continue breastfeeding (Moore & Coty, 2005).

Generally, when nurses provide care to promote exclusive breastfeeding, the perceptions of mothers and staff nurses is important to consider. For instance, various literature reported that perceptions of the two groups did not match with each other (Muntlin, Gunningberg, & Carlsson, 2006). In Thailand, Kritcharoen and colleagues (2005) reported that mother's perception of the roles of nurses was at a moderate to high level, in contrast the nurses' role perception was at a high level. Another study in Australia, explored postpartum care (Schmied, Cooke, Gutwein, Steinlein, & Homer, 2008). They found that mothers perceived a low level of satisfaction with hospital based care including insufficient rest of mothers, work load of nurses, and short and split nature of received care. Finally, mothers perceived that the lack of support and inconsistent breastfeeding advice offered by nurses were the major causes for stopping breastfeeding (Montalto, Borg, Buttigieg-Said, & Clemmer, 2008; Moore & Coty, 2006).

In contrast, nurses perceived that they had the responsibility for protecting, promoting, and supporting breastfeeding of mothers who were under their care (Johnston, 1996). For example, they offered care for individuals and considered themselves expert in providing comfort measures to the mothers (Moore, 2004). Moreover, they also perceived that the purpose of postnatal care was associated with the assistance of mother transition to parenthood and the key outcome of the result was healthy and happy mothers along with their children. However, the perceptions of both parties, the nurses and the mothers, may differ from culture to culture and depending on many factors such as habits, tradition, education, and expectation of



mothers (Robbins & Coulter, 2005). The process of perception is an important component of the communication between nurses and the mothers they serve, how they perceived themselves or were perceived by others (Moore, 2004). To recapitulate, it is important that mother's expectations need to be considered when service delivery is planned (Forster et al., 2008; Fraser & Cullen, 2006). Therefore, the purpose of this study was to identify the roles of nurses in promoting exclusive breastfeeding perceived by mothers and staff nurses in the context of Bangladesh. Most previous studies focused on roles of health care professional in promoting exclusive breastfeeding from their perspective rather than that of nurses (Cummings, 2008; DiGirolamo, Grummer-Strawn, & Fein, 2003; Forster et al., 2008). There is limited study regarding these issues particularly in Bangladesh. The results of this study would be beneficial for designing nursing intervention to promote exclusive breastfeeding and also support for analyzing the nurses' roles which are essential for modification in order to provide quality of care for mothers and infants in the future.

### *Objectives of the Study*

The objectives of this study are:

1. To identify the level of mothers' perceptions towards the roles of nurses in promoting exclusive breastfeeding.
2. To identify the level of staff nurses' perceptions towards the roles of nurses in promoting exclusive breastfeeding.
3. To compare the perceptions towards the roles of nurses in promoting exclusive breastfeeding.

### *Research Questions*

The research questions are as follows:

1. What is the level of nurses' roles in promoting exclusive breastfeeding perceived by mothers?
2. What is the level of nurses' roles in promoting exclusive breastfeeding perceived by staff nurses?
3. Is there any difference between the perceptions of mothers and staff nurses towards the roles of nurses in promoting exclusive breastfeeding?

### *Hypothesis*

There is a difference between the perceptions of mothers and staff nurses towards the roles of nurses in promoting exclusive breastfeeding.

### *Conceptual Framework of the Study*

A systematic problem-solving approach was used to guide identification of the nurses' roles in promoting the exclusive breastfeeding in this study. It is crucial for nurses to identify health problems accurately. Every nurse uses this approach all the time both in nursing practice and in academic settings (Catalano, 2003; McAllister, 2007). Also, nurses need to learn how to be very good at being deductive, logical and rational so that they can carefully exclude problems, and related factors (McAllister). A four-step systematic problem-solving approach consisting of data collection and assessment, planning, implementation, and evaluation was used to identify nurses' roles. First, during data collection and assessment the nurse develops possible; though still tentative, professional goals. For this study, data collection and assessment

focused on collection of information about the mother and her baby to identify the breastfeeding problems. Data collection and assessment of the mother included three aspects namely, condition, knowledge, and readiness of mother to participate in promoting exclusive breastfeeding. Assessment of their babies consisted of two aspects, namely the baby's physical responses and behavioral responses related to establish exclusive breastfeeding. Second, planning related to setting the goal of care and activities in which mothers could participate in promoting exclusive breastfeeding. During the planning step, nurses need to set the goals and test or evaluate the significance. The goal is the basis of the plan and the goal directs the way to take needed action. Planning is based on the expected outcomes which are influenced by the resources and time available to achieve the desired goals. Third, implementation involves carrying out activities that nurses wrote in the care plan. In promotion exclusive breastfeeding, the purpose of implementation is to assist the mother to achieve her desired health goal (Taylor, Lillis, LeMone, & LeBon, 2005). This component consists of four aspects including providing information regarding exclusive breastfeeding, demonstrating the position of the mother, teaching regarding the importance of exclusive breastfeeding, and supporting the mothers to continue exclusive breastfeeding (Adewale, 2006; Arifeen, 2008; Blincoe, 2007; Bowman, 2007). Finally, the evaluation helps to determine the effectiveness of nursing care (Littleton & Engebretson, 2002; Timby, 2005).

To sum up, a systematic problem solving approach including data collection and assessment, planning, implementation and evaluation is the conceptual framework to guide this study. It is normally formal or informal technique of the

nurses' role to take care clients especially promoting exclusive breastfeeding. This conceptual framework is developed from the extensive literature review.

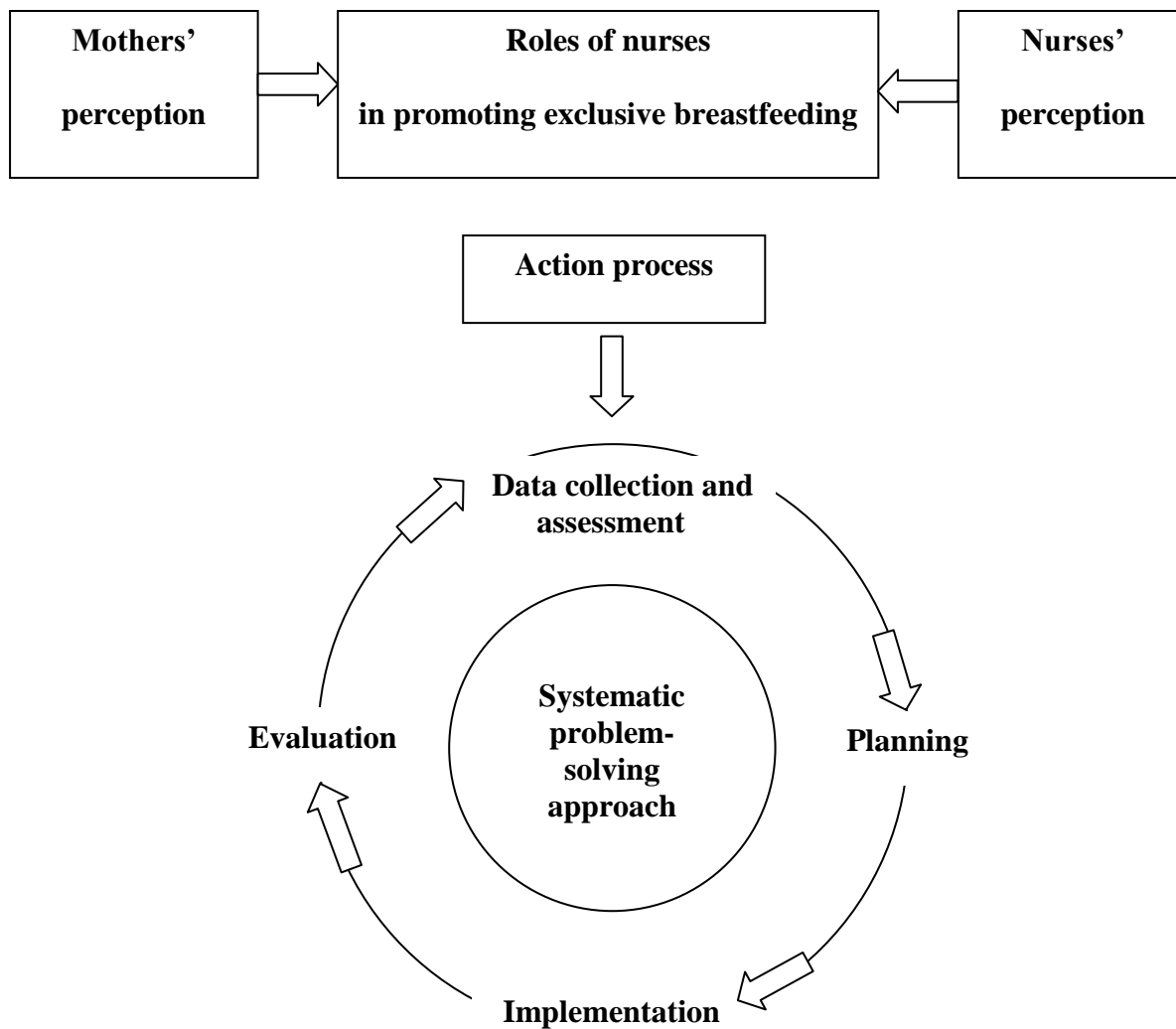


Figure 1

*Conceptual Framework of the Study*

### *Definition of Terms*

Perception refers to the mother's and staff nurse's opinion regarding the roles of nurses in promoting exclusive breastfeeding.

Roles of nurses in promoting exclusive breastfeeding refers to an action process that is performed by nurses in promoting exclusive breastfeeding which is based on the four-step systematic problem solving approach of data collection and assessment, planning, implementation, and evaluation. It was measured by using Demographic and Roles of Nurses Questionnaire. Each step was defined as follows:

Data collection and assessment refers to activities performed by nurses for the continuous collection of information by asking questions, observing and checking of information about the mother and her baby regarding the promotion of exclusive breastfeeding.

Planning refers to activities performed by nurses to involve the mother in order to set mutual goals, identify outcomes and formulate a plan of care to established exclusive breastfeeding.

Implementation refers to the activities performed by nurses to provide the information, demonstrate positioning, teach, and support mothers in performing, assisting or giving direction to the mother to promote exclusive breastfeeding.

Evaluation refers to activities performed by nurses to identify the effectiveness of nursing care to achieve the goals and expected outcomes.

### *Scope of the Study*

This study aimed to describe the roles of nurses in promoting exclusive breastfeeding and to examine its difference perceived by mothers and staff nurses at postnatal wards of the three hospitals in Bangladesh. It was conducted from December 2009 to February 2010.

### *Significance of the Study*

An extensive review of the literature demonstrated that there was a need for identifying and specifying the roles of nurses in promoting exclusive breastfeeding especially in Bangladesh. The findings of this study provided an evidence for nurses in all areas including practice, education, administration, and research to create further nursing intervention by using the conceptual framework of a systematic problem solving approach for successful exclusive breastfeeding.

## **CHAPTER 2**

### **LITERATURE REVIEW**

The purpose of this study is to describe the roles of nurses in promoting exclusive breastfeeding as perceived by both mothers and by staff nurses. A literature review is carried out on three main topics: (1) breastfeeding, (2) roles of nurses in promoting exclusive breastfeeding, and (3) perception of mothers and staff nurses regarding the roles of nurses in promoting exclusive breastfeeding.

#### *Breastfeeding*

Breastfeeding is accepted as the most widely preferred method of newborn nutrition because it provides numerous health benefits for both mother and infant. Feeding practices play a pivotal role in determining the optimal development of the infant. Poor breastfeeding practices have adverse consequences for the health and nutritional status of children. The World Health Organization (WHO) and United Nation International Children Emergency Fund (UNICEF) have recommended that children must be fed with colostrum immediately after birth and continue to be exclusively breastfed even if the regular breast milk has not begun flowing (National Institute of Population Research & Training, 2009). A review of breastfeeding is one of the main aspects of this study, which is divided into five parts: (1) definition of exclusive breastfeeding, (2) benefit of exclusive breastfeeding, (3) common breastfeeding problems, (4) factors related to exclusive breastfeeding practice, and (5) exclusive breastfeeding practice in Bangladesh.

### *Definition of exclusive breastfeeding*

Exclusive breastfeeding is infant consumption of human milk with no supplementation of any other type except for vitamins or medicine. It is sufficient to meet the demands of growing infants for their first six months (Memon, Sheikh, Memon, & Memon, 2006). Similar to the World Health Organization described exclusive breastfeeding in term of nurturing of the baby with only breast milk for at least six months (Chatman et al., 2004).

### *Benefit of exclusive breastfeeding*

The benefits of exclusive breastfeeding are well known. An extensive review of the literature showed that the breastfeeding has optimal health benefits for the infant and children. It provides tremendous benefits for babies, mother, family, and society.

*First, the baby benefits.* Breast milk is the best food for infants. It also is the unique source of nutrition and is essential for the growth, development and survival of infants (Giashuddin & Kabir, 2003). Breast milk provides an infant's total body requirement for the first six months of life. Breastfeeding decrease the incidence and severity of infectious diseases including diarrhoea, respiratory tract infections, and also protect against allergy (Leung & Sauve, 2005). Breast milk is a hygienic source of energy, essential nutrients, water and protective immune factors thereby decreasing infant morbidity and mortality (Kakute et al., 2005). In brief, the study shows breastfeeding is a very effective mean for protecting infants from diarrheal disease. Infants who are not breast-fed have a 2-3 times greater risk than who breastfed. Exclusive breastfeeding for the first 6 months can reduce pneumonia and diarrhoea by 2.5 to 3 times respectively (Imtiaz & Saleem, 2009).



Generally, the benefit of exclusive breastfeeding for premature infants, breast milk reduces the risk of life-threatening disease of the gastrointestinal system and other infectious diseases. It significantly shortens length of hospital stay and reduces hospital cost. Finally, breastfeeding infants have been shown to have higher intelligence quotient (United States Breastfeeding Committee, 2002). Also it develops and strengthens the emotional bond between mother and child by providing of skin to skin contact.

*Second, the mother benefits.* Breastfeeding reduces the risk of postpartum bleeding. It also reduces the mother's risk of breast and ovarian cancer. Breastfeeding, especially exclusive breastfeeding, delays the return of normal ovulation and menstruation thereby delaying the next pregnancy. Breastfeeding promotes good bonding between mother and infants (Leung & Sauve, 2005). In short, the benefit of exclusive breastfeeding for the mother includes physical and psychological wellbeing.

*Third, the family benefits.* Breastfed babies are usually healthier and thus require less medical attention and fewer prescriptions, which in turn reduces health care costs. The United States Breastfeeding Committee mentioned that breastfeeding reduces the need for health care costs paid by families as well as the number of sick days that families must use to care for ailing children. From the economic perspective, breastfeeding saves money. It is less expensive than formula milk (Leung & Sauve, 2005). In addition, the family does not need to buy bottles or other equipment.

*Lastly, Society benefits.* Breastfeeding help to protect the environment. It requires no packaging, and its production does not harm the environment. Breastfeeding also reduces the health care costs of individuals and government agencies (United State Breastfeeding Committee, 2002).

To sum up, exclusive breastfeeding protects against infectious diseases that decrease infants' mortality and morbidity rate. It also protects the mother from various diseases and establishes good bonding between the mother and the infant. Besides breastfeeding saves money for the family and also reduces health care costs that must be paid by the family, insurers or government agencies.

#### *Common breastfeeding problems*

Various studies stated that despite increasing knowledge breastfeeding rates remain relatively static. Mothers continue to report breastfeeding problems and tend to stop breastfeeding within a few weeks after birth. In most cases maternal problems and infant problems cause the mother to stop breastfeeding (Kong & Lee, 2004).

*First, maternal problems.* Infant feeding is an important art of parenting and the mother may get a great deal of satisfaction from her success in feeding (Murray, Mckinney, & Gorrie, 2002). However, exclusive breastfeeding failure may come from mothers having various health problems. Many studies explore the reason mothers stop the breastfeeding and concluded variety of factors affected the initiation and duration of breastfeeding. These included sucking and attachment difficulties, distraction during feeds, premature or sick infants, nipple or alveolar pathology (Cooke, Schmied, & Sheehan, 2006; Kaewsarn & Moyle, 2000). In contrast, Kong and Lee (2004) found that respondents did not agree that the physical pain and discomfort associated with breastfeeding had discouraged them. The mother's physical problems with breastfeeding impacted on their relationship with the baby (Gill, Reifsnider, Mann, Villarreal, & Tinkle, 2004; Kelleher, 2006). However these problems could be treated efficiently allowing the women to continue the breastfeeding, beneficial to themselves as well as their infant's health (Whelan &

Lupton, 1998). The following breast condition including sore nipples, breast engorgement, mastitis and insufficient milk supply are common problems that influence the low duration of exclusive breastfeeding.

1. *Sore nipple*. Sore nipple is the most common problem of the mothers who stop breastfeeding earlier than recommended period (Adewale, 2006; Blincoe, 2007). Nipple soreness often arises due to trauma from poor positioning and latch-on to the infant during breastfeeding. If not corrected it may lead to cracked nipples and infection. The nipple normally becomes more sensitive during pregnancy with the greatest sensitivity occurring around the fourth day after delivery. Cadwel et al. (2004) reported that 96% mothers experience sore or painful nipples. It can be reduced or prevented by appropriate assessment, instruction and corrective intervention including careful positioning (Smith & Tully, 2001).

2. *Engorgement*. Engorgement refers to swelling within the breast tissue and can be painful. This condition occurs due to delayed, restricted breastfeeding or the baby is unable to feed efficiently. It also inhibits the milk flow, due to swollen tissue compressed over the milk ducts. Therefore, appropriate assessment is important to identify the pattern of breast engorgement. The chance of recurrence of breast engorgement is greater with a second baby. Management should be aimed at enabling the baby to feed well. In severe cases this includes rest and hand expression or pumping, cold compression over the entire breast to reduce the pain and discomfort. (Leung & Sauve, 2005).

3. *Mastitis*. Mastitis means inflammation of the breast. The predisposing factors include a decrease in nursing frequency which results in milk stasis (Leung & Sauve, 2005). Typically, one or more adjacent segments are inflamed and the signs of

inflammation, redness and swelling appear during mastitis. If the milk is forced back into the blood stream, the mother's pulse and temperature may rise; and shivering attacks or rigor may occur. Intervention consisting of heat, massage, continued breastfeeding and rest may reduce the symptom (Inch, 2003).

*4. Insufficient milk supply.* Insufficient milk supply is one of the most commonly cited reasons for early cessation of breastfeeding (Gatty, 2008; Lewallen et al., 2006). It is the main cause of infrequent or incomplete breast emptying, anxiety and inadequate maternal diet (Leung & Sauve, 2005). Breastfeeding is a supply and demand system. Whenever the baby needs it the body will produce milk. Milk is freshly made at each feeding in response to the suckling stimulus. If the baby nurses frequently more milk will be produced. In addition, Chatman et al. (2004) reported that maternal anxiety also influences physiological milk-ejection reflex, a possible cause of inadequate milk flow. A low level of maternal anxiety enhances the milk-ejection reflex and maintains the regular milk flow.

*Second, infant problems.* Infant physical health includes congenital anomalies such as cleft lip and palate, and behavioral responses which affect the baby's breastfeeding.

*1. Cleft lip and palate.* A baby with cleft lip and palate faces many difficulties during feeding. A baby with bilateral, and sometimes unilateral, clefts usually has difficulty in breastfeeding because of ineffective sucking, and requires bottle feeding (Owens, 2008). However, Inch (2003) stated that feeding can be possible if the baby has a cleft palate. But complete success is rare due to the baby's inability to create a vacuum and to form a teat out of the breast and nipple. Effective collaborative management needed to support this group.

2. *The baby's behavioral responses.* The Baby's behavioral responses have an influence on feeding. Okamoto and Matsuoka (2009) reported that 60.8% of mothers experienced emotional unrest due to the baby's excessive crying. The investigator found the strongest correlation between the emotional unrest and feeding, e.g. fatigue and anxiety of mothers. This information is important for nurses to help the mother by providing early intervention, such as accurate information about crying as well as real and appropriate responsive measures for dealing with crying (Okamoto & Matsuoka). A mother's coping is affected by whether the child is restless. Those mothers whose children are perceived as calm natured experienced fewer problems, greater satisfaction and coped better with breastfeeding (Tarkka, Paunonen, & Laippala, 1999; Cronin, 2003).

In conclusion, it is essential for mothers to be alert about their babies, as infants like adults also have different temperament and show different behaviors. Similarly, it is important that nurses recognize babies who may have high needs and such infants can also significantly affect the mother's responsiveness. The daily experience of a mother whose child is predominantly good-natured and easy going is very different from that of one whose child reacts in an intensely negative manner to every minor irritation.

#### *Factors related to exclusive breastfeeding practice*

There are many factors that affect promotion of exclusive breastfeeding in all countries including Bangladesh. These include the age of mother, their education level, socio-economic status, and their knowledge regarding exclusive breastfeeding, Mothers' attitudes towards breastfeeding, experience of mothers, and environmental factors are discussed under this topic.

*Age of mothers.* Maternal age is significantly associated with continuation of breastfeeding (Dodgson, Tarrant, Fong, Peng, & Hui, 2003). Mothers more than 25 years were found to be at lower risk of stopping the breastfeeding than a younger group (Giasuddin & Kabir, 2003). Teenage mothers were less likely to breastfeed their babies than older mothers. The first were unwilling to breastfeed due to discomfort with intimacy and emotional distance from their infants (Bowman, 2007). In the United States 43% teenage mothers initiated breastfeeding in the hospital as compared to 62% of adult mothers. Teenage mothers faced physical discomfort, fatigue and learning difficulty about the technique of appropriate positioning and medical complications that hamper exclusive breastfeeding.

*Maternal education level.* Maternal education level influences the duration of breastfeeding. In developing countries higher education is associated with shorter duration of breastfeeding. In comparison in industrialized countries higher education is associated with longer duration of breastfeeding (Giasuddin & Kabir, 2003; Hoyer & Pokorn, 1997).

*Socio-economic status.* Socio-economic status of mothers is associated with initiation and duration of breastfeeding. A study in Bangladesh revealed that the women who lived in rural area were less likely to stop the breastfeeding than the mothers who lived in urban area (Giashuddin & Kabir, 2003). Mothers' employment status causes difficulty in continuing the breastfeeding upon return to the work place (Kaewsarn & Moyle, 2000; Stewart-knox, Gardiner, & Wright, 2003). In the case of teenage mothers, breastfeeding causes inconvenience while going to school and a reluctance to use the breast pump at school (Hannon, Willis, Bishop-Townsend, Martinez, & Scrimshaw, 2000). Stewart-Glenn (2008) investigated that in spite of

intention and knowledge about the breastfeeding; it is difficult for working mothers to continue the breastfeeding for due to lack of opportunity and administrative attitudes toward the breastfeeding mother. The maternal job status is also associated with the duration and frequency of breastfeeding (Ghosh, Mascle-Taylor, & Rosetta, 2006). Highly educated mothers and flexible job characteristics were associated with the longer duration of breastfeeding (Stewart-Glenn, 2008). Facilities for supporting breastfeeding in workplaces such as a mother's room and the location of a childcare centre at or near the work place may also assist the working mothers to continue the breastfeeding.

*Knowledge of mothers regarding exclusive breastfeeding.* Maternal prenatal knowledge about the importance of breastfeeding positively influence the mother's attitudes to breastfeed her baby (Adewale, 2006; Moore & Coty, 2005). The term "exclusive breastfeeding" is common in the breastfeeding literature, but very few mothers know the actual meaning of exclusive breastfeeding (Mihirshahi et al., 2003). Chatman et al. (2004) studied the influence of knowledge and attitudes on the practice of exclusive breastfeeding among rural Jamaican mothers and showed that approximately 98 percent of the mothers who exclusively breastfed exhibited satisfactory knowledge as compared to 97.4% of their counterparts who did not exclusively breastfeed. The Mother's higher knowledge about breastfeeding was associated with the longer duration of breastfeeding (Kronborg & Vachh, 2004).

*Mothers' attitudes towards breastfeeding.* The Mother's attitude towards breastfeeding is associated with the intention to breastfeed the babies. It attitude depends on her individual perception, child's mood, demand and adequacy (Tarkka et al., 1999). Mothers who believed that breastfeeding was better for their infants were

more likely to continue breastfeed up to six months (Galler et al., 2006). A significant association between maternal mood and feeding attitudes of mothers has also been identified. Previous studies have identified that many mothers failed to breastfeed their babies even though they decided previously to do so. The maternal attitude associated with breastfeeding intention includes the perceptions of what is healthier for babies and promotes maternal infant bonding, what is more natural, cost-effective, suitable, and pleasurable for the mother. On the other hand women who fed their infants with formula stated bottle feeding was much easier, less embarrassing, more compatible with work or school, more comfortable, and had fewer complications such as sore nipples. It was also more reassuring as mothers could see the amount of milk the baby was getting and others could feed the baby when the mothers left their babies for a longer period (Ineichen, Pierce, & Lawrenson, 1997; More & Coty, 2005). Similarly, Cronin (2003) found that despite of the promotion of breastfeeding by the nurse, mothers felt more comfortable bottle- feeding their baby.

*Breastfeeding experience of mothers.* Breastfeeding is not an instinctive behavior but a learned skill, and the establishment of successful breastfeeding cannot be assumed to occur easily for all mothers. The mother's previous infant feeding experience is a strong predictor to make the decision to breast or bottle-feed the infant. Mothers who experienced breastfeeding difficulties with their first baby and a give-up breastfeeding were less likely to breastfeed subsequent babies than mothers who did not experience such difficulties. First time mothers may have many questions about the breastfeeding and may needs assistance during the first feeding. Mothers with previous experience may have a better understanding regarding the breastfeeding (Mckinney, James, Murray, & Ashwill, 2005). Mothers without experience often need



information to have a successful breastfeeding. Breastfeeding problems and the lack of confidence during the first one to two days are common causes of discontinuation of breastfeeding within the first two weeks (Mckinney et al., as cited in Taveras et al., 2004).

*Environmental factors.* The mother's environmental situation including cultural factors and social support network also influence their infant feeding practice.

*1. Cultural factors.* Cultural factors also influence mothers by encouraging or preventing them breastfeeding as recommended (Alden, 2004). There is evidence that in some countries where the duration of breastfeeding is traditionally longer; exclusive breastfeeding in the first six months and is rarely found (Cattaneo & Quintero-Romero, 2006; Taylor et al., 2005). Moreover, Kong, and Lee (2004) reported that mothers agreed with the cultural factor which influences their breastfeeding practice. It is also presumed that influences of mother's decision to mix-feed their babies are due to pressures by village elders and families to supplement the traditional practice. They believed that breast milk is an incomplete food which does not increase infant's weight. The baby should be fed with the food grown by their family (Kakute et al., 2005). In addition, Ghosh et al. (2006) reported that despite the heavy maternal work load, traditional population practiced prolonged breastfeeding. Similarly, Dahlen and Homer (2009) supported that breastfeeding initiation and duration varied among different ethnic groups. Individual assessment of each mother is necessary to recognize the cultural preferences (Taylor et al., 2005).

*2. Social support.* Social support is important for successful breastfeeding (Ahmed, Macfariane, Naylor, & Hastings, 2006). Appropriate support and counseling can improve an exclusive breastfeeding (Arifeen, 2008). Social support is emotional,

informational and appraisal resources available under all or most circumstances (Hoyer & Pokorn, 1997). The feeding decision is strongly influenced by the view of family and friends (Hauck & Irurita, 2003; Stewart-knox et al., 2003). Family support particularly the opinion of the baby's father and the maternal grandmother has a highly predictive effect on the initiation and continuation of breastfeeding (Smith & Tully, 2001). Mothers living with parents and grandparents are associated with a low rate of exclusive breastfeeding (Kaneko et al., 2005).

The support received by the new mother from her environment is one of the most important factors influencing her level of well-being (Hoyer & Pokorn, 1997). The sources of support to a mother vary and are based on age, with adult mothers citing their partners as the most important source of emotional, informational and instrumental support. Teenage mothers received social support most often from their own mothers (McVeigh & Smith, 2000). Mothers need advice, help and support from their family members, friends or professionals depending on their individual needs and problems (Tarkka, as cited in Cronin, 2003).

3. *Husband's positive attitude.* The husband's positive attitude towards breastfeeding is related to better coping with breastfeeding by the mother. Tarkka et al. (1999) reported that 98% of mothers expressed that baby's father was the most important person to support breastfeeding. In many studies, participants identified their husband as the persons most supportive to their breastfeeding decision. The emotional support provided by the husband encourages them to breastfeed for long time (McVeigh & Smith, 2000; Moore & Coty, 2005).

4. *Healthcare professionals.* Healthcare professionals have a vital role to perform in promoting and caring for breastfeeding mothers (Leung & Sauve, 2005).

Exclusive breastfeeding in the first six months can be prolonged by both professional and supportive groups (Cattaneo & Quintero-Romero, 2006). The support before, during and after child birth from a competent health professional is effective. Health care professionals have a positive influence on the mother's infant feeding decisions and breastfeeding practices (Hannon et al., 2000). A mother feels support when health care providers spend time assisting her during the breastfeeding, encouraging and sharing them with their own breastfeeding experience. If mothers receive inconsistent advice from the health care provider, it can be a major source of frustration for them (Moore & Coty, 2005).

Clinicians' opinions about the importance of breastfeeding advice are associated with the mother's plan to continue exclusive breastfeeding. Clinicians reported that limited time during the visits of a mother to clinic and to address breastfeeding problems is a very important barrier in promoting exclusive breastfeeding. Obstetric and pediatric providers were also least confident in solving the problems with breastfeeding due to time limitation (Taveras et al., 2004). It has been identified that a perceived discouraging attitude from the hospital staff is associated with the low rate of breastfeeding particularly among the mothers who prenatally planned to breastfeed for only a short time (DiGirolamo, Grummer-Strawn, & Fein, 2003). Mothers also perceived that they received less support from nurses than from other health professionals (Cairney, Alder, & Barbour, 2006).

In conclusion, successful breastfeeding depends on many aspect including the mother's personal characteristics, knowledge, attitudes, experience, and environmental condition which may influence positively or negatively to make her decision about the exclusive breastfeeding.

### *Exclusive breastfeeding practice in Bangladesh*

Breastfeeding is common in Bangladesh. However, exclusive breastfeeding rate is low, and delays in initiation of breastfeeding are common practice. In addition, most of the mothers use prelacteal feeds before starting breastfeeding their babies (Mihirshahi et al., 2003). In Bangladesh 97% of mothers breastfed their children for some period of time (Ahmed, Perveen, & Islam, as cited in Giashuddin & Kabir, 2003). A study conducted in Dhaka, Bangladesh showed the effects of community based peer counseling on exclusive breastfeeding practices. The result indicated a significant increase in women who breastfeed exclusively. 70% of women in the intervention group were exclusively breastfed, compared to only 6% in the control group (Haider, Ashworth, Kabir, & Huttly, 2000). Although breastfeeding is a common practice in Bangladesh, the rates of exclusive breastfeeding remain low. In spite of breastfeeding promotion strategies, the exclusive breastfeeding rate over ten years was not significantly changed (Arifeen, 2008).

### *Roles of Nurses in Promoting Exclusive Breastfeeding*

There is mounting research to confirm the effectiveness of nurses' participation in the promotion and support of exclusive breastfeeding. Evidence suggests that several strategies are incorporated by nurses to promote exclusive breastfeeding. In this topic nurses roles were discussed based on the systematic problem solving approach, and factors related to perform the roles of nurses.

#### *Systematic problem solving approach*

The systematic problem solving approach is crucial to the fundamental roles of nurses. Nurses are providing care to a mother and infant particularly in promoting

exclusive breastfeeding. The set of actions leading to a particular goal and an organized sequence of problem solving steps are used to identify and to manage the health problems of mothers (Timby, 2005). Nurses are working in a variety of highly specialized areas such as breastfeeding clinic. The systematic problem solving approach has been accepted and has achieved predominance in all areas of nursing including practice, education administration and research (Vercoe, 1996). All nurses must develop and maintain the use of the systematic problem solving approach to identify and intervention in various problems (Murray et al., 2002).

The concept of systematic problems solving approach was introduced in four steps: data collection and assessment, planning, implementation, and evaluation based on the scientific method of observing, measuring, gathering data, and analyzing the findings (Doenges, Moorhouse, & Murr, 2005). These four distinct steps provide an efficient method of organizing thought processes for clinical decision making, problem solving, and delivering a higher quality of individualized client care. When nursing practice follows the systematic problem solving approach, patients received the quality of care within short time with maximum effectiveness (Timby, 2005). The systematic problem solving approach is a method using the information in a meaningful way to a plan for optimal patient care (Littleton & Engebretson, 2002). Thus all steps can be applied in the promotion of breastfeeding to all areas including the postnatal clinic. Nurses are the key health professionals in maternal newborn care with the responsibility for assisting the mothers in exclusive breastfeeding. Mothers feel less confidence when they leave hospital, a time when nurses can provide extra support and encouragement to mothers to continue exclusive breastfeeding at home (Blincoe, 2007). To promote exclusive breastfeeding, nurses must be familiar with

and follow a systematic problem-solving approach including data collection and assessment, planning, implementation and evaluation.

*First, data collection and assessment.* Data collection and assessment is the systematic and continuous collection of information about the patient (Taylor et al., 2005). During assessment nurses not only encounter the breastfeeding problems but also collect information related to the mothers' problems (Timby, 2005). Nursing assessment includes collecting and verifying the data from primary and secondary sources. The data can be objective or subjective. Objective data are observable and measurable facts and the subjective information is described by mothers about their feelings (Timby). The purpose of the assessment is to establish a database about the mothers' perceived needs, health problems, and responses to these problems regarding exclusive breastfeeding (Potter & Perry, 2003). Assessment performed by the nurses is a collaborative process with the mothers which promotes mutual participation for decision making and planning to improve individual breastfeeding problems. Ongoing nursing assessment alerts the nurses to bring changes in the mother's responses, to promote of exclusive breastfeeding and suggests the changes that need to be made in the plan of care (Taylor et al., 2005). Nursing activity to promote exclusive breastfeeding is devoted to the following: (1) data collection and assessment of the mother, (2) infants, and (3) environment.

*1. Assessment of the mother.* Assessment of the mother is essential to identify the exact nature of the problem which can help to make an exact plan of action towards the promotion of exclusive breastfeeding. It is important for all nurses to assess the mothers thoroughly in all dimensions including physical condition, knowledge regarding breastfeeding, and readiness for the establishment of exclusive breastfeeding.

*1.1 Assessment of the mother's physical condition.* The nurses need to consider and focus on assessment of the mother health to promote breastfeeding in terms of (1) functional health patterns, (2) physical fitness, (3) nutrition, (4) health-risk, (5) life-stress, (6) spiritual health, (7) social support systems, (8) health-beliefs, and (9) life style (Pender, Murdaugh, & Parsons, 2002). Assessment of all components can be accomplished through several strategies such as asking the mothers questions and physical examination, checking previous records and direct observation of the mother (Alden, 2004).

During assessment, nurses must consider the following common issues of mothers which are associated with successful breastfeeding. These include physical discomfort of mothers, breast and nipple problems and attitude of parents, individual choice and cultural beliefs regarding feeding methods. Especially nurses should assess breast and nipple condition which may interfere with the ability to produce milk and transfer it successfully to the baby such as previous breast surgery, inverted nipple and sore nipple. Cadwel et al. (2004) reported that common breastfeeding problems during the immediate postpartum period included sore and painful nipple which can be reduced by appropriate assessment. Another study also support, using the mother-infant breastfeeding progress tool as a checklist for assessing the mother breastfeeding progress is helpful (Johnson, Mulder , & Karen, 2007).

*1.2 Assessment of the mother's knowledge.* Assessment of the mother's knowledge about breastfeeding is essential to determine her need for assistance. More maternal knowledge about breastfeeding contributes prolongs its duration (Kronborg & Vachh, 2004). The mother's knowledge regarding the breastfeeding can be measured by questions about colostrum and exclusive breastfeeding, the advantages

of breastfeeding for mother and infant, the correct positioning and attachment of infant and the effect of sucking. During breastfeeding latch-on, it is important that position should be assessed by direct observation.

*1.3 Assessment of readiness of mothers.* The mother's readiness towards the breastfeeding of her baby is important for exclusive breastfeeding. Attitudes of the individual mother are also important for her breastfeeding readiness. The mother's preference and cultural beliefs about breastfeeding can influence her decision to breastfeed her baby. It is also important in increasing the rate of initiation and duration of breastfeeding. For instance, in the United States of America, persons who immigrate from poorer countries often choose to formula feed their infants as they believe that it is better and more modern (Alden, 2004). Attitudes can be quantified by asking questions to determine the feeling of mothers that breastfeeding is not fit for mother's body image or that it is an indicator of poverty (Chatman et al., 2004). The immediate postnatal period is very difficult for some mothers. Evidence showed that some mothers felt loneliness, sadness and psychological disturbance during the postpartum period. Therefore psychological assessment is also important to identify the mother's readiness for successful breastfeeding.

*2. Assessment of infant.* To assess the infant's readiness for feeding is a crucial role of nurses before initiating a breastfeeding session. Similar to the assessment of the mother, nurses should consider the physical and behavioral state of the baby in preparing to assist breastfeeding.

*2.1 Physical assessment of infant.* Physical assessment of the newborn reveals that the baby is physiologically ready to begin feeding. Most newborns do not feel hunger or thirst during the first hour after birth. However, they start sucking when



given the opportunity (Alden, 2004). Therefore, nurses should assess the following factors which affect the successful breastfeeding: including the term or preterm baby, birth weight, mode of birth, length of labor, maternal medication and congenital defect such as cleft lip or palate. Also they need to assess the baby's physical stability; for example vital signs, bowel sound, abdominal distention, alertness in waking sleeping and crying (Alden).

*2.2 Assessment of infant behavioral responses.* Before initiating breastfeeding, nurses need to be careful in assessing of infant behavioral responses, for instance the baby first starts breastfeeding, feeds vigorously with few pauses. As the feed progresses, pausing occurs more frequently and lasts longer. Pausing is an integral part of the baby's feeding rhythm and should not be interrupted. The nurse should encourage the mother to allow the baby to pace with the feed. Change in the pattern probably relates to the milk flow (Inch, 2003). During assessment, the nurse's role is to recognize the common signs of hunger in a newborn including restlessness, wakeup, sucking on the hands, rooting when the cheek or side of the mouth is touched, smacking of the lips and slight fussiness. Crying is late sign of hunger (Pillitteri, 2003). Assessment is needed to identify the infant problems throughout the feeding (McKinney et al., 2005). Nurses need to check the baby's elimination pattern. It should wet at least one diaper and pass one stool within 24 hours after birth.

*3. Assessment of environment.* To promote successful breastfeeding the nurse should not only assess the mother and baby but also the environmental factors including cultural beliefs and social support network that influences the mother's decision to initiate and to continue of exclusive breastfeeding.

*3.1 Assessment of cultural beliefs of mother.* Cultural beliefs and practices significantly influence infant feeding methods (Alden, 2004; Gill, 2004). Many studies stated that the breastfeeding initiation and duration might vary among different ethnic groups. Some cultures begin breastfeeding immediately after birth and others wait until begins flowing. Some cultural factors encourage mother to mix-feed their babies (Dahlen & Homer, 2009; Kakute et al., 2005; Taylor et al., 2005). Different cultures have particular beliefs and practices related to the mother's intake of foods that promote milk production. Nurses should be knowledgeable and sensitive regarding these issues. Individual cultural preferences need to be determined during assessment in order to recognize the mother's problems with breastfeeding (Alden, 2004; McKinney et al., 2005; Potter & Perry, 2003).

*3.2 Assessment of social support.* Social support is an important environmental resource for promoting exclusive breastfeeding (Hoyer & Pokorn, 1997). Mothers faced great difficulty in continuing breastfeeding without appropriate support (Arthur, Unwin, & Mitchell, 2007). The mother who experience positive support from her social network copes better with breastfeeding (Chatman et al., 2004). Influence from different people such as her mother, health care providers, friends, and the baby's father is an important source of maternal support. Positive influence occurs through encouragement, role modeling and the provision of basic information, benefits of breastfeeding and suggestion of strategies to cope with the perceived problems in breastfeeding (Hannon et al., 2000). Ongoing support of the mother enhances self-confidence and promotes a satisfying, successful breastfeeding experience (Alden, 2004). Nurses should emphasize their assessment of the individual

mother's supporting personal and community resources to help her to continue the breastfeeding.

In conclusion, contribution to promote successful breastfeeding data collection and assessment is the first step of systematic problem solving approach in which nurses should focus on the mother, the infant and environmental circumstances important for exclusive breastfeeding.

*Second, planning.* Planning is a nursing activity in which client-centered goals are established and interventions are designed to achieve the goal (Potter & Perry, 2003). Planning is the guide directing the efforts of the nursing team in working with patients to meet health goals (Taylor et al., 2005). During planning, nurses need to set the priorities, to determine the goals, and expected outcomes and to formulate a plan of care. In addition, they need to collaborate with the mothers and their families. They also need to consult with other members of the health care team, modify the care based on the evidence and record relevant information about the mother's health care needs (Timby, 2005).

Generally, during the planning for breastfeeding, it is essential to include discussion of proper feeding methods, positioning and demonstration of breastfeeding technique to assess the ability of the mothers (Littleton & Engebretson, 2002). Each mother should receive information, instruction, assistance, and support in positioning until she is able to perform independently (Alden, 2004; DiGirolamo et al., 2003). In the immediate postnatal period, planning is important for helping the mother and the new born to initiate breastfeeding. Planning for initiation of breastfeeding within one hour after birth is important for promoting exclusive breastfeeding when the infant is in the quite alert state. In some cases is not possible due to the effects of labor. The

mother may feel fatigue but it is important to place the infant in skin to skin contact on the mother's chest in the first hour after birth. It is essential to achieve some degree of success and satisfaction before discharge from the hospital (Alden, 2004).

Planning is based on the expected outcomes which are influenced by the resources and time available to achieve the desired goals. Establishing short-term goal with breastfeeding mothers is important for nurses because most of the mothers did not stay in hospital more than two days after normal vaginal birth (Timby, 2005). In promoting exclusive breastfeeding, nurses should discuss the following desired outcomes with the parents. After conversation the mother will understand the importance of breastfeeding and learn the techniques for successful breastfeeding including the positioning of mother and baby, and signs of adequate feeding. The mother will be evaluated as having no nipple discomfort with breastfeeding, expressing satisfaction with the breastfeeding experience, and maintaining an appropriate diet and fluid intake to support breastfeeding (Alden, 2004). Expected outcomes for the baby will be effective feedings, at least eight times per day; good hydration; in 24 hours six to eight wet diapers and at least three bowel movements; normal weight gained and good sleep in between feedings should be observed.

*Third, implementation.* Implementation is defined as the starting point of nursing activities in which the action needed for achieving the goals and expected outcomes of nursing care are initiated and completed (Alden, 2004; Potter & Perry, 2003). Its purpose is to assist the mother to achieve the desired health goal (Taylor, 2005). Implementation includes performing, assisting or directing the performance of activities; counseling and teaching the mother or family; providing directing, delegating, supervising and evaluating the work of staff members; and recording and

exchanging information relevant to the mother for continuation of care. Implementing the plan involves the mothers and one or more members of the health care team (Timby, 2005).

Nursing intervention must be based on protocols and standing orders which is necessary for safe nursing practice. A protocol is a written plan specifying the procedures to be followed during an assessment or providing care for a specific condition or formulation of nursing care plan (Potter & Perry, 2003). The nursing care plan enhances the continuity of nursing care by listing specific nursing actions necessary to achieve the goals of care. A standing order is a document containing orders for conducting routine care, monitoring guidelines or diagnostic procedures for a specific mother with identified clinical problems. The plan is best implemented and succeeds best when mothers are willing to participate (Taylor, 2005).

For promotion of breastfeeding, Cochrane's systematic review evaluated the postnatal interventions to improve duration time and found a beneficial effect of postnatal support in combination with antenatal support which had a more effective impact on exclusive than on mixed feeding (Sikorski et al., as cited in Wallace et al., 2005). A study on breastfeeding promotion interventions in developed countries found that combining pre and postnatal breastfeeding interventions had a larger effect on increasing breastfeeding durations than either pre or postnatal alone (Chung, Raman, Trikalinos, Lau, & Lp, 2008). The nurse's personal experience and knowledge regarding promotion of exclusive breastfeeding is derived from various sources including research and evidence based practice (Marshall, Renfrew, & Godfrey, 2006).

Intervention is more successful when performed throughout the postnatal period than intervention concentrating on a shorter period. In addition, implementation using

various methods of education and support from skilled personnel are more effective than implementations focused on a single method (Hannula, Kaunonen, & Tarkka, 2007). Nurses should be accountable for their contribution to the rate of exclusive breastfeeding (Kruse, Denk, Feldman-Winter, & Rotondo, 2005). During intervention they need to provide correct information, regarding exclusive breastfeeding, demonstrate practical skills, teach and especially support to provide physical and emotional for exclusive breastfeeding (Inch, 2003).

*1. Information.* Information about exclusive breastfeeding is important for the mother to continue breastfeeding. Murray and colleagues stated that many families require information about frequency of feeding during the first week (Murray et al., 2002). The nurse must provide this information to parents in a nonjudgmental manner and respect their decision (Alden, 2004; Page & Percival, 2000; Pillitteri, 2003)). The nurses should explain the benefits of breastfeeding for the mother and the infant when the mother is undecided about breastfeeding her baby (Mckinney et al., 2005). Mothers particularly adolescents who have the desire to bottle feed may change their decision after getting information about the differences between formula and breast milk. Appropriate information about the feeding methods can help those mothers to choose the best method for them (Bowman, 2007). For instance, in Malta 50% of mothers stated that they stopped breastfeeding due to incorrect information received from health professionals which encouraged them to give artificial milk feedings in the hospital. This practice is significantly associated with cessation of breastfeeding within six months after birth (Montalto et al., 2008). Nurses may influence the change in infant feeding practice by assisting them during breastfeeding (Alden, 2004). The

role of the nurse is to give information to the mothers regarding the many issues including time of initiation, frequency, and duration of breastfeeding.

*1.1 Initiation of breastfeeding.* Nurses should inform the mother about the time of initiation. Most infants are highly responsive and eager to suck during the first 30 minutes after delivery. They can use this time to help mother to initiate successful breastfeeding (Littleton & Engebretson, 2002). Early initiation of breastfeeding is important for many reasons. Mothers also benefited from early sucking because it stimulates breast milk production and facilitates the release of oxytocin which helps in contraction of the uterus and reduces postpartum blood loss. The first breast milk contains colostrum which is highly nutritious and has antibodies that protect the newborn from infectious diseases. Early initiation of breastfeeding also encourages bonding between mother and newborn (National Institute of Population Research & raining, 2009).

However initiation of breastfeeding depends on hospitals policy and practice. In some hospital, feeding practices were adopted with sterile water or formula before starting breast milk (Kruse et al., 2005). Based on the evidence during the hospital stay, nurses should inform the mother how to recognize the feeding cues and the physical sign the baby is receiving enough milk and as the part of discharge teaching, otherwise a large number of mothers stop breastfeeding within a few weeks after birth due to insufficient milk supply (Lewallen et al., 2006).

*1.2 Frequency of feeding.* Frequent unrestricted sucking at each feeding stimulates a faster increase in milk production. The effects of frequent feeding include increasing infant weight gain (Hill, 2001). If the baby nurses frequently, more milk will be produced. The more the breasts are emptied, the more milk is produced. It is

important to offer the breast frequently for breastfeeding. The infant usually feeds every two to three hours. Frequent feeding is useful especially in the early days after birth, while lactation is being established as the stomach capacity is small (McKinney et al., 2005). More than eight feedings within 24 hours during the first month of life greatly influenced the duration of breastfeeding.

*1.3 Duration of breastfeeding.* The baby should be exclusively breastfed up to six months. The use of formula or artificial milk during the hospital stay is significantly related to an early termination of breastfeeding (Hill, 2001). Babies who receive supplementary feeding may develop nipple confusion (Alden, 2004; McKinney et al., 2005). Establishment of exclusive breastfeeding not only depends on the intervention of health professionals but also depends on the parents attitudes toward the initiation of breastfeeding. Nurses like to encourage parents to keep the baby in the same room as the mother room (rooming in). Skin to skin contact at birth and early suckling has been shown to increase the duration of breastfeeding. Babies should be offered their mother's breasts frequently in the early days after birth (Fraser & Cullen, 2006)

*2. Demonstration.* Nurses should demonstrate the correct position during first feeding until the mother can assume it independently. Proper positioning is important to establish exclusive breastfeeding (Colson, Meek, & Howdon, 2007). Nurses must observe the breastfeeding session to monitor proper infant alignment, areolar grasp, areolar compression, and audible swallowing (Hill, 2001). The mother may need assistance in positioning herself and the infant. Adewale (2006) stated that visual demonstration was more effective for mother by showing the picture of comfortable feeding position that supports good attachment. Nurses need to spend time with the



mother during the first feeding session (McKinney et al., 2005). They can help the breastfeeding mother to become aware of how to pump and express milk for the baby when the mothers are at work (Lewallen et al., 2006).

3. *Teaching.* For exclusive breastfeeding, intervention is necessary to teach exclusive breastfeeding to all inexperienced mothers (Littleton & Engebretson, 2002). These techniques are appropriate for mothers who have some knowledge of breastfeeding but need review or explanation (McKinney et al., 2005). The key strategy to encourage mothers 'how to breastfeed' is education. It should begin as early as possible during pregnancy, when the mother attends the prenatal class. For those mothers who do not attend the prenatal classes, the postnatal period is appropriate for them. Nurses can help mothers by teaching them how to promote exclusive breastfeeding (Blincoe, 2007). The mother learning the benefits of exclusive breastfeeding up to six months eats more food and liquid in early postpartum period, and rests to avoid fatigue, important interventions for promoting exclusive breastfeeding (Haider et al., 2000). Maternal diet is important for exclusive breastfeeding up to six months. Human milk composition varied slightly among the women regardless of their diet. Literature review showed that if the mother had no nutritional deficiencies, her milk involuntarily contained every nutrient the baby needed. The role of nurses is to teach the mother about avoiding or consuming of specific food or drink during lactation period. Mothers should be advised to eat balanced diets especially rich in vitamins, and minerals as well as drinking enough liquids to support lactation (Alden, 2004).

Nurses should teach the mother about the indicators of well feeding such as frequent stools which indicate adequate milk intake. The breastfed infant voids

colorless urine eight or more times a day and passes soft, yellow, seedy stool. During the first few days after birth, the stool may look dark and tarry (Hill, 2001). Nurses need to prepare the mothers regarding the many issues including the best position of the baby on the breast; prevention and management of common breastfeeding problems such as sore nipple, and breast engorgement which are associated with successful breastfeeding before the mother is discharged from hospital (Adewale, 2006; Page & Percival, 2000).

4. *Support.* Support is essential to continue the exclusive breastfeeding for six months. Professional breastfeeding support is effective intervention for the promotion of exclusive breastfeeding (Nelson, 2007). Mothers feel lack of confidence about their ability to care for their babies without professional support particularly in the immediate postnatal period (Forster et al., 2008). Some mothers wished to breastfeed but stopped within a few days due to lack of appropriate support and preparation for management of breastfeeding problems (Arthur, Unwin, & Mitchell, 2007; Pillitteri, 2003). Evidence showed that mothers lacked confidence in their ability to continue breastfeeding once they left the hospital. During this period nurses can provide extra support and encourage the mothers (Blincoe, 2007). The nurse should provide awareness about the social support network. The importance of breastfeeding and the contributing factors should be discussed with the supporting person who can encourage and help the mother to continue the breastfeeding up to six months (McKinney et al., 2005). Mothers are experienced about the physical, mental and social changes after birth. These changes may have different effects on individual mother, close maternal relatives should be aware about these changes (Tarkka et al., 1999).

*Finally, evaluations.* It is the last step in the systematic problem solving approach. It helps to determine the effectiveness of nursing care (Littleton & Engebretson, 2002; Timby, 2005). Nursing care is provided to the mothers whenever needed, to evaluate the intervention which is effective for the mothers to meet the expectations of care. The evaluation point of the nursing care needs to be modified on each step of the systematic problem solving approach for accuracy (Taylor et al., 2005). Therefore, in evaluation the mother must be asked about her perception of care. The evaluation step of the systematic problem solving approach measures the mother's response to nursing actions and progress in achieving the goals. During evaluation, nurses decide that the nursing intervention is effective in minimizing or resolving the mother's problems. It is essential to examine the mother's responses and to compare them with the behavior previously stated in the established expected outcomes. If the goal is not achieved the entire systematic problem solving approach is repeated and reassessed as often as needed. Evaluation ensures that the information collected is accurate and current (Potter & Perry, 2003). For promoting exclusive breastfeeding, the mother, the baby and the environmental conditions are evaluated as follows:

1. *Evaluation of the mother.* During evaluation it is essential to evaluate the physical conditions of the mother including breast and nipples for sore nipples and breast engorgement during evaluation. The mother easily positions and latches the baby on and experiences let-down with feeding. She will have a tingling sensation in the nipples as the milk let-down. She may feel uterine contraction in the early postpartum period and increased lochia. She also may feel thirsty and experience leaking from the opposite breast. The mother feels relaxed during feeding. Evaluation

of the breast-feeding plan care should include regarding the mothers ability to state the importance of breastfeeding her infants, and her desire to maintain lactation; demonstrate the proper breastfeeding techniques and observe the signs that her infant is obtaining adequate breast milk; and to remain free of problems (Littleton & Engebretson, 2002; McKinney et al., 2005).

2. *Evaluation of the baby.* Evaluation of the baby includes its alertness. When the baby is awakened and appears well hydrated, with normal skin turgor and moist mucous membranes, it demonstrates a strong and coordinated suck. The baby's swallowing is audible and it appears relaxed during feeding and contented when finished. Weight loss should not be more than seven percent from the birth weight before discharge. In the first three days of life, a newborn should have one wet diaper and one stool per day. After day four, when milk has come in, the baby should have six to eight wet diapers per day (Alden, 2004).

3. *Evaluation of the environment.* This includes the evaluation of the mothers supporting person usually the baby's father and his attitude and assistance, support from other family members, friends, peers, and health care providers to continue the breastfeeding at home (Littleton & Engebretson, 2002). To evaluate the expected outcome, the mother will be able to state support systems available for her after discharge.

In conclusion, the systematic assessment guidelines specifically developed for a nursing assessment ensure that comprehensive, holistic data are collected for each mother and that data easily lead to identification of problems. Planning and implementation are necessary to solve the problems and evaluation for effectiveness of nursing care is important for promoting exclusive breastfeeding.

*Factors related to perform nurses roles*

Nurses have many roles that will continue to evolve as the health care environment changes. The challenge will be to maintain the unique skills that define nursing. Nurses meet client and family needs; guide, assist, and teach the client and family; and provide an environment that facilitates clients and family to maintain their health (Potter & Perry, 1999). However the nurses' roles are influenced positively or negatively by many factors such as level of education, communication skills, job satisfaction, and working environment.

*Level of education.* Level of education is an important factor of developing knowledge and skill. Some advanced intervention may require additional training that can be obtained in practicum under mentor or continuing educational courses (Dossey, Keegan, & Guzzetta, 2005). Continuing professional education is of key important of promoting research and adding to the knowledge base of nursing. The education level of the care provider makes a difference to patient outcomes. Nurses must be made aware of the impact they have on patient outcomes (Clunie, 2008). They must also have the current skill and knowledge to carry out this patient-centered care using evidence based principles. The basic training program will not prepare an individual to nurse in every situation and context. It is simply the groundwork for further learning. Otherwise the skill that the student has acquired during this time will stagnate and their desire for learning and new knowledge will become frustrated. Nurses must realize that education increase knowledge which helps them conduct higher quality nursing service at their current position and in their clinical environment. To strive for more and better knowledge, nurses must take part in further education (Reed & Procter, as cited in Clunie, 2008).

*Communication skill.* It is challenging to understand human communication within interpersonal relationships. Each person's perception of others is influenced by a multitude of factors. The nurse's communication can result in both harm to and good for the client. The nature of the communication process requires that nurses constantly make decisions about what, when, where, why, and how to provide information to others. There are many situations that challenge the nurse's decision making skill. Careful use of therapeutic techniques often involves people with different characteristics. The nurse's performance can vary based on their interpersonal communication skills. The desired outcomes of effective interpersonal communication are idea sharing, problem solving, expression of feeling, decision making, goal achievement, team building, and personal growth. For effective communication, good interpersonal relationship among the nurses and with patients is important. The appropriate environment is also important for effective communication. It should be comfortable and suited to participants needs. In the case of promoting exclusive breastfeeding the nurse's create the positive environment for care to the mothers. The nurse's intent to provide a message is not enough to ensure accurate response to a message or to information. The nurse must seek verbal and nonverbal feedback from the receiver to be sure the message has been understood. If the information is simple, short, and to the point, the result will be less confusing and more effective (Potter & Perry, 1999).

*Job satisfaction.* A variety of factors influence nurses' job satisfaction, among these, clinical leadership and quality of interpersonal relationship between nurses and doctors, and among nurses are particularly important (Konstantinos & Christina, 2008). Kankaanranta (2008) found that excessive duties, lack of possibilities to make

decisions oneself, and large amount of paper work increased nurses' job dissatisfaction. A previous study in the United State of America showed that many nurses are not happy with their work condition and are more likely to quit their job due to dissatisfaction (Hershbein, 2005). As a result nurses' turnover rate is high world wide. The turnover rate might be reduced if promotion policies were consistent, doctors value nurses' work, and if nurses' were more autonomous. Lephalala (2006) stated that enhanced communication about policies and about accessing information, as well as improving salaries, could contribute to reduced turnover rates among nurses.

*Working environment.* The working environment has influence on the roles of nurses. Poor or insufficient training, lack of or too much supervision, inadequate rest break, shift work, lack of job security, promotion prospects, inadequate staffing level, or shortage of nurses, poor relationship with colleagues and supervisors, and unsympathetic management interfere to perform nurses' roles ("Work place stress", 2004). The nurse's roles has been regarded as stress-filled based upon the physical labor, human suffering, work hours, staffing, and interpersonal relationships that are central to the work nurses do. Work stress may be escalating due to the increasing use of technology, continuing rises in health care costs, nurse to patient' ratios and turbulence within the work environment. The problem of nurse shortage has emerged and become a serious issue in most countries around the world. The issues not only affect the standard of nursing but also the quality of patients' lives (Wang, Sermsri, Sirisook, & Sawangdee, 2003).

Therefore, it can be summarized that many factors may influence nurses to perform their roles including education level, communication skill, job satisfaction and working environment which directly or indirectly influence on their nursing care.

*Perception of Mothers and Staff Nurses Regarding the Roles of Nurses in Promoting Exclusive Breastfeeding.*

Numbers of studies have documented several strategies that nurses need to incorporate routinely into their clinical practice to promote optimal health for both mothers and infants. It is essential to identify the mother's own personal feeling and perception toward the promotion of exclusive breastfeeding. However, previous studies showed that the nurse's and patient's perception may not be same (Muntlin et al., 2006). Identifying the perceptions of the both groups is important for the communication between nurses and the patients they serve (Moore, 2004). This review emphasizes the definition of perception, factors and principles of perception, perception of mothers, and staff nurses in promoting exclusive breastfeeding.

*Definition of perception*

Perception is the process by which one receives, organizes and interprets sensory impressions in order to select, evaluate, stimulate and give meaning to the environment (Robbins & Coulter, 2005).

*Factors and principles of perception*

In order to understand in depth about perception, the general factors and principles were reviewed and considered. The context in which individuals see objects or events is also important. The time at which an object or event is seen can influence attention, as can location, light, heat and color and any number of other situational factors. Much evidence points to the conclusion that early experience, learning, emotion, and motivation are important in defining what and how humans perceive. Part of this accumulating evidence comes from experiments that compare how people in different cultures perceive things. The perception of form, color, pain, and touch



may differ from culture to culture, depending on habits, customs, and training of children.

There are a number of general principles that help to understand the process of perception. One of the most important is closure. It tells that people have a general tendency to perceive things as complete and unified. People tend to “fill in” parts that are missing, or parts conforming to an overall impression. The principle of constancy states that despite the changes that occur in stimulation, every person has a strong tendency to perceive objects as constant in size, shape, color, and other qualities. The opposite of the principle of constancy is also important. Sometimes an object or pattern of stimulation will remain constant but the perceived effect will vary. Another important principle related to the perceptual context is the perception of an object or event depending on the context of surrounding conditions (Robbins & Coulter, 2005).

*Perception of mothers regarding the roles of nurse in promoting exclusive breastfeeding*

Despite increasing familiarity, breastfeeding rates remain relatively fixed in many countries and mothers continue to report the dissatisfaction with their breastfeeding experience. Breastfeeding played an important role in the mother’s perceived satisfaction, eliciting both positive and negative comments about nursing support as follows.

*Positive perceptions of mothers regarding the roles of nurses in promoting exclusive breastfeeding.* Much of the literature reported that a majority of mothers perceived that they received support from nurses during the postnatal periods with respect to physical and emotional help, providing rest and reassurance (Cronin, 2003). Moreover mothers perceived that during the postnatal period, nurses were helpful and

well prepared for caring the baby. For instance, Adewale (2006) identified that mothers perceived hospital nurses were most supportive in providing teaching to promote exclusive breastfeeding and felt that facilitating easier breastfeeding should be the key role of nurses.

Similarly, Kelleher (2006) supported that the mothers expressed positive feeling regarding the hospital based postpartum care. Women generally expected breastfeeding assistance from health care practioners in the hospital, especially the first-time mothers. Sixty-three percent of mothers reported that they received help from nurses. They reported that demonstrations of breastfeeding were a very helpful intervention for them. Helping the mother during the immediate postpartum period encouraged the mothers to continue the breastfeeding. Lewallen and colleagues (2006) stated that ninety-two percent of mothers reported that they received help from the hospital staff. Among those, fifty eight percent received help from nurses and nursing student.

In brief to promote breastfeeding, mothers felt support when health care providers spent time with them, assisted them during breastfeeding, and shared their own breastfeeding experience. Mothers perceived that firmly committed knowledgeable care providers who believed that breastfeeding is the natural method to feed a newborn were most helpful to them (Moore & Coty, 2005).

*Negative perceptions of mothers regarding the roles of nurses in promoting exclusive breastfeeding.* Over the past decade a number of studies have identified mothers' frustration with postnatal care, especially in breastfeeding ((Jones & Spencer, 2005). The first six weeks after birth, nurses are recognized to have an important and overarching task in health counseling and education. However, Cairney

et al. (2006) identified that the mothers perceived that they received less support from their nurses, who spent less time with the new mother in postnatal period than other health professionals. Mothers perceived that social support particularly support from own mother is more important than that of the health care provider (McInnes & Chambers, 2008). In addition, they mentioned that health service was unfavorable due to lack of availability of health care professionals or guidance, promotion of unhelpful practices and conflicting advice.

The pressure to breastfeed was strongly felt by the participants (Cronin, 2003). In particular women reported high levels of unhappiness with hospital based postnatal care including lack of rest, and inconsistent advice. Mothers perceived that the nurses were too busy; hospital mothers experienced inadequate resting periods at the time of birth and were frequently disturbed by the visitor. Mothers expressed their need for physical, emotional and social support which has resulted from the birth (Schmied et al., 2008). Women perceived a lack of support from health care providers and often received conflicting advice about addressing the breastfeeding problems. Similarly mothers stated that if they received conflicting advice from care giver and health workers it made them frustrated (Moore & Coty, 2005). Also they perceived the nurses did not perform their advisory role in postpartum period appropriately (Montalto et al., 2008). For example, Hoyer and Pokorn (1997) found that majority of the mothers failed to receive the information and instructions about the breastfeeding in the medical center or consulting clinic which routinely followed a women during pregnancy throughout the whole periods. Encouraging and preparing mothers to breastfeed should be the main concern during the postnatal periods. Some women believed their postpartum pain management was inadequate. They reported that the

hospital staff did not assess the mothers discomfort during postnatal period. In addition, mothers reported that many of the staff had strong opinions about the breastfeeding and were too forceful in promoting the practice (Moore, 2004). DiGirolamo et al. (2003) found that mothers did not report receiving positive breastfeeding messages from their health caregivers and hospital staff. Breastfeeding “no preference” by hospital staff including nurses was a significant risk factor for failure to breastfeeding beyond six week. Similarly results of a study in eastern Scotland showed that mothers perceived that the hospital nurses gave them less support and paid attention only to breastfeeding mothers (Cairney et al., 2006).

*Perception of nurses regarding the roles of nurses in promoting exclusive breastfeeding*

The nurses’ role in promoting exclusive breastfeeding at postnatal period is well documented. They believed that the purposes of postnatal care were assisting the mothers transition to parenthood and the key outcome of a healthy, happy mother and child. However, nurses perceived many issues including; (1) the length of hospital stays of the mother (2) cultural beliefs and attitude of nurses, (3) accountability and responsibility of nurses, (4) environmental characteristics, and (5) social support that positively or negatively influences their role in promoting of exclusive breastfeeding.

*1. The length of hospital stays of the mother.* The length of the hospital stay was also associated with satisfaction of care. Staying in hospital for one to two days was associated with a negative care rating (Forster et al., 2008). It is becoming more common for women to leave hospitals with their newborn as early as eight hours of postpartum. This shorter hospitalization contributes to the possibility of crisis during the postpartum period (Cronin, 2003). In the clinician’s perspective it is difficult to

provide care to each mother given the necessary checking, education, and documentation during shorter hospital stays (Forster et al.). Longer hospital stays would allow nurses to emphasize their role in meeting women's psychosocial needs.

2. *Cultural beliefs and attitude of nurses.* Nurses perceived that their role not only focuses on the individual breastfeeding problems but also on the community, family, and societal values and beliefs which influence the mothers decision to breastfeed (Sweet, 2008). They found that nurse's cultural beliefs and attitudes were also important determinants of health care behaviors. It also influences infant feeding decisions and maternal postpartum care but very few nurses know that their traditional beliefs influence their practice. Furthermore, the researcher found that only half of the nurses reported that they encouraged mothers to breastfeed immediately after birth. Nurses perceived that breastfeeding is not 'right' for everyone. The mother's personal choice should be considered which also influences on her infant feeding decision (Kaewsarn, Moyle, & Creedy, 2003). Nurses' negative beliefs and values influence their attitudes. The postnatal nurses' positive attitude is important in promoting exclusive breastfeeding. Ekstro and colleague developed an instrument for accurate measurement of nurse's attitudes towards breastfeeding in a group of maternity-nursing staff and postnatal nurses during breastfeeding counseling. The nurse's harmful attitudes towards the promotion of breastfeeding were identified and suggested a need for educational programmes to help health professionals resolve negative values in order to improve breastfeeding counseling (Ekstro, Matthiesen, Widstro, & Nissen, 2004).

3. *Accountability and responsibility of nurses.* Nurses perceived that they were professionally accountable for providing information about the importance of

breastfeeding so that mothers could make their decision. They felt that they have responsibility for protecting, promoting, and supporting breastfeeding of mothers who are under their care (Johnston, 1996). For example they offered care for individuals and considered themselves expert in providing comfort measures to the mother (Moore, 2004). Results of a study on the nurse's responsibility, knowledge and documentation in another aspect of patient care showed that nurses focus on planning, implementation and prevention aspects more than on the assessing phase of systematic problem solving approach (Persenius, Larsson, & Hall-Lord, 2006). Nurses believed that teaching priorities and assisting mothers depend on the individual needs of the mother. They need to pay attention to what the mothers already know and what information and skills are important for the mothers based on their individual needs and also respected the cultural diversity and personal beliefs of the mothers regarding breastfeeding.

4. *Environmental characteristics.* Environmental characteristics directly impacted on nurse's intention to perform their job. In a study on another aspect, nurses perceived that organizational structure including formal and informal types of influence can affect their work motivation. The study showed that perceived level of autonomy, access to resources and information, and support from colleagues were positively associated with work effectiveness (Laschinger & Havenss, Beaulieu et al., as cited in Takase, Maude, & Manias, 2005).

5. *Social support.* Nurses believed that postnatal support is important. They focused on four aims of postnatal care including emotional and practical support, enhancing confidence of the mother to make decision, and caring for her new born baby. The time at which an object or event is seen can influence the attention of the

mothers promoting women's health and recovery, and facilitating mother's rest and monitoring the health of her baby. They also described the principle of care, including building a trusting relationship with the mothers and focusing on their individual needs. Relationship with the mother is important in sharing the information which can be achieved by actively listening her, responding appropriately, being there, being flexible in approach and providing continuity as a caregiver. The mother can observe interaction with the nurses with some one who in fact wanted to help her (Schmied et al., 2008). However, inconsistent professional support is frequently mentioned as a negative influence on mother's breastfeeding effort. Nurses were agreed about their inconsistent professional support in promoting breastfeeding. Moreover, they identified the factors that might influence nurses in providing inconsistent breastfeeding support, and they suggested that strong collaborative relationship among supporting team is essential to reduce inconsistencies (Nelson, 2007).

In conclusion, perception is the individual feeling which can be varied from person to person based on their personal characteristics such as attitudes, personality, intensity, interest, experience, and expectation (Robbins & Coulter, 2005).

### *Summary*

Nurses are responsible for care of the mother and her baby in the postpartum period. The postpartum period is recognized during the first six weeks after birth. In this period, mothers faced many problems, physical and environmental, that negatively impact on establishing successful breastfeeding. Nurses play a key role in assisting the mother with the selection of infant feeding methods and deal with the

problems. Their involvement in promoting the breastfeeding is important to develop confidence and competence for the mother to continue breastfeeding.

Nurses can provide holistic care to the mothers by applying the systematic problem solving approach. It can be used in all areas, including promoting breastfeeding. Data collection and assessment, planning, implementation, and evaluation are essential steps for solving the individual breastfeeding problems. The systematic problem solving approach guides nurses to perform activities including providing correct information, demonstrating the position, teaching about common breastfeeding problems and focusing helping the individual mother and her supporting network is important to continue exclusive breastfeeding. Worldwide much attention has been directed at improving hospital practice to support breastfeeding especially in the early postpartum period. To enhance the breastfeeding initiation and duration rate, recommended by the World Health Organization, nurses should play an advocating role for continuing breastfeeding up to six months. They need to gain knowledge and understanding about the breastfeeding experience to provide support to the mother.



## **CHAPTER 3**

### **RESEARCH METHODOLOGY**

The purpose of this study was to compare the roles of nurses in promoting exclusive breastfeeding perceived by mothers and staff nurses in Bangladesh. The methodological issues about this study were discussed including research design, setting, population and sample, instrumentation, ethical considerations, data collection, and data analysis.

#### *Research Design*

The two group descriptive comparative study was conducted in which the roles of nurses in promoting exclusive breastfeeding perceived by mothers and staff nurses were compared.

#### *Setting*

The study was conducted in three medical college hospitals including, Dhaka Medical College Hospital (DMCH), and Sir Salimullah Medical College and Mitford Hospital (SSMCH-1), and Shahid Sarwardy Medical College Hospital (SSMCH-2) of Dhaka, Bangladesh. These three medical college hospitals are tertiary level government hospitals. The first DMCH hospital is situated in the central Dhaka city. Allocated beds are about 1700. Approximately 630 staff nurses (registered nurse) are working in various ward and specialized areas on rotation. The second SSMCH-1 is situated in southern part of Dhaka city. Allocated bed is about 600 and approximately

300 nurses are working there rotationally in various settings of this hospital and lastly Shahid Sarwardy Medical College Hospital (SSMCH-2) which is situated in the northern part of Dhaka city. Allocated bed approximately 500 hundred and near about 250 staff nurses are working in this hospital. This study was conducted in the postnatal wards of those hospitals.

### *Population and Sample*

#### *Population*

Populations of this study were postnatal mothers and staff nurses. Target populations for this study were approximately one hundred thirty staff nurses including three hospitals. There were fifty staff nurses from Dhaka Medical College Hospital and Sir-Salimullah Medical College Hospital, and thirty staff nurses from Shahid Sarwardy Medical College Hospital. For the mother group, based on the admission register, an average of more than ten mothers were admitted to the postnatal ward each day after normal delivery in the first two hospitals and fewer than five in the third hospital. The average 300 mothers per month from first two hospitals and 150 from third hospital were contacted for this study.

#### *Sample*

The sample group of this study consisted of 80 mothers and 80 staff nurses selected based on the inclusion criteria. There were four inclusion criteria for mothers including: (1) normal delivery, (2) at least one baby born alive, (3) no contraindication to breastfeeding, and (4) willingness to participate in this study. The inclusion criteria for staff nurses were: (1) completed diploma in nursing and diploma in midwifery, (2) experience in postnatal ward for at least three months, (3) rotated

from postnatal ward to another ward within six months, and (3) willingness to participate in this study.

The sample size was calculated for groups, mothers and staff nurses, based on power analysis. There was no known study that directly compares the perceptions between the mothers and staff nurses regarding the role of nurses in promoting exclusive breastfeeding. Therefore, the closest study on perceptions regarding the needs of families who have members admitted to critical care units was used to estimate the effect size for this study (Indriyawati, 2004). In that study, families' perceptions mean score was 26.55 and SD 2.13 and nurses' perceptions mean score was 25.54 and SD 2.64. After calculation, the effect size of that study was 0.42. In regard, the sample size was estimated at the alpha coefficient of .05, the accepted minimum level of significance; accepted power of .80; and an estimated effect size of .40. This yielded of 78 samples per group (Cohen, 1988). For simplicity it was rounded up to 80 samples per group. The data were collected from 30 subjects in each group at DMCH and SSMCH-1, and 20 subjects in each group from Shahid Sarwardy Medical College Hospital due to different number in the subject population.

Three hospitals were purposively selected for this study. Mothers and staff nurses were selected through random sampling. Systematic random sampling techniques were used to select the postnatal mothers. Every third number of postnatal mothers was selected based on the admission register (1<sup>st</sup>, 4<sup>th</sup>, and 7<sup>th</sup>) and staff nurses were selected by simple random technique, by drawing numbers.

## *Instrumentation*

### *Instruments*

The instruments of this study consisted of the structured self-report questionnaires which were developed by the investigator based on the literature review. It comprises two parts: The first a demographic questionnaire for mothers and staff nurses, the second one concerning the roles of nurses in promoting exclusive breastfeeding.

#### Part-1 A: Demographic questionnaire for mothers.

The demographic questionnaire for mother consisted of nine items including age, religion, marital status, level of education, occupation, monthly family income number of babies, postpartum period, and age of last baby (Appendix A).

#### Part-1 B: Demographic questionnaire for staff nurses.

The demographic questionnaire for staff nurses consisted of eight items: age, marital status, religion, level of education, monthly family income, work experience in postnatal ward, length of job experience, and special training in breastfeeding (Appendix B).

#### Part-2: Roles of Nurses Questionnaire in Promoting Exclusive Breastfeeding.

There were 55 items in the Roles of Nurses Questionnaire in Promoting Exclusive Breastfeeding. It consisted of four steps of the systematic problem solving approach: data collection and assessment (24 items), planning (4 items), implementation (21), and evaluation (6 items). The questionnaires regarding the roles of nurses were same for both the groups, mothers and staff nurses. For each item, the subjects were asked to rate the roles of nurses on a 4-point Likert scale ranging from 0 – 3; 0 = never did and 3 = always did (Appendix C).

The roles of nurses rating 0, never did, indicated that the nurse never performed that roles for postnatal mothers in promoting breastfeeding; 1, rarely did, indicated that the nurse performed her roles much less during care to postnatal mothers, 2, sometimes did, indicated that the nurse usually performed her role with the postnatal mothers to promote exclusive breastfeeding; finally 3, always did, indicated that the nurse always performed that roles to promote exclusive breastfeeding. The total score ranged from 0.00 to 165. For interpretation, the total scores were categorized by using the range of score (minimum-maximum) divided by the identified levels of 3, yielding the following three cut of scores (Table 1).

Table 1

*Level of Score Regarding the Roles of Nurses in Promoting Exclusive Breastfeeding*

Roles of nurses	Items	Score range	Low	Moderate	High
<b>Subscale</b>					
Data collection and assessment	24	0-72	0.00-24.00	24.01-48.00	48.01-72.00
Planning	4	0-12	0.00-4.00	4.01-8.00	8.01-12.00
Implementation	21	0-63	0.00-21.00	21.01-42.00	42.01-63.00
Evaluation	6	0-18	0.00-6.00	6.01-12.00	12.01-18.00
Total Scale	55	0-165	0.00-55.00	55.01-110.00	110.01-165

### *Content validity and reliability of the instruments*

The content validity of this instrument was tested by a panel of three experts, one nursing instructor from the Faculty of Nursing, Prince of Songkla University, Thailand; one advanced nurse-midwife, Songkhla Hospital, Thailand and one senior staff nurse from Sir-Salimulah Medical College and Mitford Hospital, Dhaka, Bangladesh. Instrument items and instructions were revised accordingly, based upon the feedback from the three experts. The review of the experts' suggestion showed that they had not excluded the items. The three experts' suggested including changes some words in the number of 22 items and reorganized the sentences to enhance the clarity of items. The pilot test was done on 10 staff nurses and 10 mothers who met the study's inclusion criteria but did not participate in this study (Polit & Beck, 2008). Based upon the pilot study data, the Cronbach's alpha coefficients for roles of nurses in promoting exclusive breastfeeding for mothers' perceptions was .97 and for staff nurses' perceptions .75. These findings were confirmed with the actual samples, yielding coefficients of .97 for mothers' perceptions and .91 for staff nurses perceptions.

### *Translation of the instruments*

The original questionnaire developed in English was back translated into Bengali by using the back translation technique (Sperder & Devellis, 1994). The investigator contacted the three Bangladeshi bilingual translators. First, the English version of this instrument as translated into Bengali by the first expert; then again Bengali version instrument was retranslated in to the English version by the second, and third checked the originality of meanings and equivalence in both, the original English and the translated English versions.

### *Ethical Considerations*

Thesis proposals were submitted to the Research Ethics Committee, Faculty of Nursing, Prince of Songkla University (PSU) for approval of this study. After receiving permission, they were submitted to the directors of three settings (DMCH, SSMCH-1, and SSMCH-2) for permission to collect data related to the study. After getting permission from these three hospitals for collecting data, the protection of subject rights were obtained by written and verbal explanation about the purpose of the study, assurance of confidentiality and freedom to withdraw from the study at any time, benefits of the study, findings, name and address of the investigator to contact if they have any concern or question before, during, and after completion of the data collection procedure. Finally, written consent from mother and staff nurses were taken for willingness to participate in this study (Appendix D).

### *Data Collection*

Data were collected by the investigator from 3 settings. For the staff nurses, investigators contacted the charge nurse of each setting and made a list of those working in the postnatal ward from December 2009 to February 2010, and had rotated to another unit from the postnatal ward within 6 months. Simple random sampling techniques were used to get the desired number of subjects. Investigators contacted the subjects according to their duty schedule. Questionnaires were distributed to the staff nurses and collected after completion by the subjects. During collection the filled questionnaires were checked for any missing items and asked to complete them. For the mothers' group the researcher made another list based on the register book and systematic random sampling techniques were used to select the subject. The mothers

were approached and the researcher explained the purpose of data collection. The researcher asked for their willingness to participate in the study. They responded to the questionnaires after at least 6 hours following delivery. The mothers refused to read and fill the questionnaires due to inconvenience. Therefore, the researcher read it to them and filled the questionnaires based on their opinion. Finally, the questionnaires were checked by the researcher for the completion of missing data.

### *Data Analysis*

Data were analyzed by using a computer software program. Demographic characteristics of data sets for both groups were analyzed by using descriptive statistics: frequency, mean, standard deviation, and percentage. The Independent t-test and the Mann-Whitney U test were used to compare the mean differences between mothers' and staff nurses' perception towards the roles of nurses in promoting exclusive breastfeeding. Preliminary data analysis was conducted to test the assumptions of the independent t-test: normality and homogeneity of variance. The overall data set and one subscale namely, data collection and assessment of the roles of nurses met the assumptions of the independent t-test and researcher using the independent t-test to compare the mean difference between the two groups. However, the data sets of the three subscales did not meet the assumption of the independent t-test. Therefore, these data sets were subsequently analyzed using the Mann-Whitney U test. One way Anova (ANOVA) were used to compare the perceptions of mothers and staff nurses in three hospitals, and staff nurses' perceptions within the group of working experiences in the postnatal wards, job experience, and special training in breastfeeding.



## CHAPTER 4

### RESULTS AND DISCUSSION

The purpose of this chapter was to present and discuss the results of the study. Results of this study were based on data from 80 mothers who had been admitted to postnatal ward after normal delivery and 80 staff nurses who were experienced and working in the postnatal wards of three hospitals in Dhaka, Bangladesh.

#### *Results*

The results of the study were presented in three parts as follows

1. Subject demographic characteristics
2. The level of mothers' perceptions regarding the roles of nurses in promoting exclusive breastfeeding
3. The level of staff nurses' perceptions regarding the roles of nurses in promoting exclusive breastfeeding
4. Comparisons of perceptions regarding the roles of nurses in promoting exclusive breastfeeding

#### *Subject Demographic Characteristics*

##### *Characteristics of the mothers*

In this study, the mothers' age ranged from 18 to 39 years old ( $M = 23.44$ ,  $SD = 4.54$ ) and more than half were 20-25 years old (56.2%). The majority of the mothers was Muslim (87.5 %) and all were married. Their educational attainment was primary

and secondary level (45.0% and 47.5%). Most of the subjects were housewives (92.5%) and almost of their approximate monthly income were less than 150 to 200 dollars (less than 10,000 - 15,000 Taka) (91.3%). More than half of them were primiparous (53.8 %). Less than fifty percent of them (46.2%) had a previous children and seventy five percent mothers' previous baby's age was more than three years. Most of them were at least six hours after normal delivery (98.7%) (Table 2).

Table 2

*Frequency and Percentage of Demographic Characteristics of the Mothers (n = 80)*

Mothers' demographic characteristics	n	%
Age years (M = 23.44, SD = 4.54, Min = 18, Max = 39)		
Less than 20	13	16.3
20 - 25	45	56.2
26 - 30	18	22.5
31 - 35	3	3.8
36 - 40	1	1.2
Religion		
Muslim	70	87.5
Hindu	9	11.3
Christian	1	1.2
Marital status		
Married	80	100.0
Level of education		
Illiterate	1	1.3
Primary school	36	45.0
Secondary school	38	47.5
Bachelor degree	3	3.8
Master degree	2	2.4

Table 2 (Continued)

Mothers' demographic characteristics	n	%
<b>Occupation</b>		
Housewife	74	92.5
Employee	6	7.5
<b>Family income per month (Taka/US \$)</b>		
Less than 10,000/150	49	61.3
10,000 – 15,000/150-200	24	30.0
15,001 – 20,000/201-300	4	5.0
≥ 20,001/300	3	3.7
<b>Number of child of mother</b>		
First	43	53.8
Second	21	26.2
Third	12	15.0
Fourth	3	3.8
More than Fourth	1	1.2
<b>Age of last baby of mother (Not included this baby)</b>		
2 - 3 years	9	24.33
> 3 - 4 years	5	13.51
> 4 years	23	62.16
<b>Postpartum Period of mother</b>		
≥ 6 hours	1	1.3
7 -12 hours	14	17.5
13 - 24 hours	35	43.8
> 24 hours	30	37.4

#### *Characteristics of the staff nurses*

The mean age of staff nurses was 38.56 years (SD = 5.01), ranging from 30 to 55 years. The majority of them were Muslim and most of them were married (71.3% and 92.5%). Their educational level was Diploma in Nursing (83.8%), and their

approximate family income per month was 300-400 dollars (20,000 to 30,000 Taka). They had worked a postnatal ward ranging from six months to more than two years and the majority of them had job experience ranging from ten to more than twenty years (98.7% and 75%). Finally, the majority of them had special training in breastfeeding for one to two weeks (63.7 %) (Table 3).

Table 3

*Frequency and Percentage of Demographic Characteristics of the Staff Nurses*

(n = 80)

Staff nurses' demographic characteristics	n	%
Age (M = 38.56, SD = 5.01, Min = 30, Max = 55)		
25 - 35	20	25.0
36 - 45	50	62.5
46 - 55	10	12.5
Religion		
Muslim	57	71.3
Hindu	18	22.5
Christian	5	6.2
Marital status		
Married	74	92.5
Unmarried	4	5.0
Widowed	2	2.5
Level of education		
Diploma in Nursing	67	83.8
Bachelor in Nursing	12	15.0
Master in Nursing	1	1.2

Table 3 (Continued)

Staff nurses' demographic characteristics	n	%
Monthly family income (Taka /US \$)		
< 20,000/300	15	18.8
20,000 - 30,000/300-400	40	50.0
30,001 - 40,000/400-600	13	16.2
≥ 40,000/600	12	15.0
Work Experience in the postnatal ward		
6 months - 1 year	39	48.8
> 1 - 2 years	17	21.2
> 2 years	24	30.0
Length of job experience		
<10 years	20	25.0
10 - 20 years	44	55.0
> 20 years	16	20.0
Special training in breastfeeding		
no training	29	36.3
< 1 week	44	55.0
1 - 2 weeks	7	8.7

*Level of Mothers' Perceptions Regarding the Roles of Nurses in Promoting Exclusive Breastfeeding*

The level of mothers' perceptions regarding the roles of nurses in promoting exclusive breastfeeding in this study was focused on two aspects including 1) the level of mothers' perceptions regarding the total scale and subscales of the roles of nurses in promoting exclusive breastfeeding, and 2) the level of mothers' perceptions in three hospitals regarding the roles of nurses in promoting exclusive breastfeeding.

*The level of mothers' perceptions regarding the total scale and subscales of the roles of nurses in promoting exclusive breastfeeding*

The total scale of mothers' perceptions regarding the roles of nurses in promoting exclusive breastfeeding were at moderate level ( $M = 92.56$ ,  $SD = 35.10$ ). The three subscales including; 1) data collection and assessment, 2) planning, and 3) implementation of the roles of nurses, the mothers' perceptions were also at moderate level ( $M = 44.78$ ,  $SD = 15.81$ ,  $M = 6.18$ ,  $SD = 3.68$ ,  $M = 38.33$ ,  $SD = 14.51$ ), while the subscale, namely the evaluation of the roles of nurses, mothers' perception was at low level ( $M = 3.29$ ,  $SD = 4.83$ ) (Table 4).

Table 4

*Level of Mothers' Perceptions Regarding the Total Scale and the Four Subscales Including Data Collection and Assessment, Planning, Implementation, and Evaluation of the Roles of Nurses in Promoting Exclusive Breastfeeding (n = 80)*

Roles of nurses	Mothers (n = 80)		
	M	SD	Level of perceptions
Subscale			
Data collection and assessment	44.78	15.81	Moderate
Planning	6.18	3.68	Moderate
Implementation	38.33	14.51	Moderate
Evaluation	3.29	4.83	Low
Total scale	92.56	35.10	Moderate

*The level of mothers' perceptions in three hospitals regarding the roles of nurses in promoting exclusive breastfeeding*

The total scale of mothers' perceptions regarding the roles of nurses in promoting exclusive breastfeeding for two hospitals namely, DMCH and SSMCH-1 were at moderate level, and SSMCH-2 mothers' perceptions were at high level (M = 64.93, SD = 16.87, M = 104.10, SD = 31.02, and M = 116.70, SD = 34.50) (Table 5).

Table 5

*Mean, Standard Deviations and Level of Mothers' Perceptions in Three Hospitals Regarding the Roles of Nurses in Promoting Exclusive Breastfeeding (n = 80)*

Hospital	Mothers (n = 80)		
	M	SD	Level of perceptions
DMCH	64.93	16.87	Moderate
SSMCH -1	104.10	31.02	Moderate
SSMCH -2	116.70	34.50	High

*The Level of Staff Nurses' Perceptions Regarding the Roles of Nurses in Promoting Exclusive Breastfeeding*

The level of staff nurses' perceptions regarding the roles of nurses in promoting exclusive breastfeeding was focused on two aspects including 1) the level of staff nurses' perceptions regarding the total scale and subscale of the roles of nurses in promoting exclusive breastfeeding, and 2) the level of staff nurses perceptions in three hospitals regarding the roles of nurses in promoting exclusive breastfeeding.

*The level of staff nurses' perceptions regarding the total scale and subscale of the roles of nurses in promoting exclusive breastfeeding*

The total scale of staff nurses' perceptions regarding the roles of nurses in promoting exclusive breastfeeding were at high level (M = 152.99, SD = 12.57). The four subscales including; 1) data collection and assessment, 2) planning, 3) implementation, and 4) evaluation roles of nurses, the staff nurses' perceptions were also at high level (M = 67.35, SD = 5.05, M = 11.41, SD = 1.15, M = 59.33, SD = 4.82, and M = 14.9, SD = 5.23) (Table 6).

Table 6

*Level of Staff Nurses' Perceptions Regarding the Total Scale and the Four Subscales Including Data Collection and Assessment, Planning, Implementation, and Evaluation Roles of Nurse in Promoting Exclusive Breastfeeding (n = 80)*

Roles of nurses	Staff nurses (n = 80)		
	M	SD	Level of perceptions
Subscale			
Data collection and assessment	67.35	5.05	High
Planning	11.41	1.15	High
Implementation	59.33	4.82	High
Evaluation	14.9	5.23	High
Total scale	152.99	12.57	High

*The level of staff nurses' perceptions in three hospitals regarding the roles of nurses in promoting exclusive breastfeeding*

The total scale of staff nurses' perceptions in three hospitals namely, DMCH, and SSMCH-1, and SSMCH-2 were at high level regarding the roles of nurses



in promoting exclusive breastfeeding (M = 152.80, SD = 12.91, M = 151.87, SD = 11.76, and M = 154.95, SD = 13.61) (Table 7).

Table 7

*Mean, Standard Deviations and Level of Staff Nurses' Perceptions in Three Hospitals Regarding the Roles of Nurses in Promoting Exclusive Breastfeeding (n = 80)*

Hospital	Staff nurses (n = 80)		
	M	SD	Level of perceptions
DMCH	152.80	12.91	High
SSMCH -1	151.87	11.76	High
SSMCH -2	154.95	13.61	High

*Comparisons of Perceptions Regarding the Roles of Nurses in Promoting Exclusive Breastfeeding*

The comparisons of perceptions regarding the roles of nurses in promoting exclusive breastfeeding were focused on four aspects including; 1) the comparison of perceptions between the mothers and staff nurses regarding the total scale, and subscale of the roles of nurses in promoting exclusive breastfeeding, 2) the comparison of mothers' perceptions among the three hospitals regarding the roles of nurses in promoting exclusive breastfeeding, 3) the comparisons of staff nurses' perceptions among the three hospitals regarding the roles of nurses in promoting exclusive breastfeeding, and 4) the comparison of staff nurses' perceptions within the

group of working experiences in the postnatal wards, job experience, and special training in breastfeeding.

*The comparison of perceptions between the mothers and staff nurses regarding the total scale and one subscale of roles of nurses in promoting exclusive breastfeeding*

The results showed that the staff nurses' perceptions were significantly higher on the total scale for the roles of nurses than the mothers' perception in promoting exclusive breastfeeding (M = 152.99, SD = 12.57, M = 92.56, SD = 35.10,  $t = 14.49$ ,  $p < .001$ ). The staff nurses' perceptions were significantly higher than the mothers' perceptions on the subscale of data collection and assessment role of nurses in promoting exclusive breastfeeding (M = 67.35, SD = 5.05, M = 44.78, SD = 15.81,  $t = 12.16$ ,  $p < .001$ ) (Table 8).

Table 8

*Comparisons Between Mothers' and Staff Nurses' Perception Regarding the Total Scale and Subscale of Data Collection and Assessment of the Roles of Nurses in Promoting Exclusive Breastfeeding (t-test) (n = 160)*

Roles of nurses	Mother (n = 80)		Staff nurses (n = 80)			
	M	SD	M	SD	t	p-value
<b>Subscale</b>						
Data collection and assessment	44.78	15.81	67.35	5.05	12.16	.000***
Total scale	92.56	35.10	152.99	12.57	14.49	.000***

\*\*\*  $p < .001$

*The comparison between mothers' and staff nurses' perceptions regarding the three subscales of the roles of nurses in promoting exclusive breastfeeding.*

The results showed the staff nurses' perceptions were significantly higher from the mothers' perceptions on the three subscales, namely, planning, implementation, and evaluation of the roles of nurses in promoting exclusive breastfeeding ( $Z = 9.20$ ,  $p < .001$ ), ( $Z = 9.05$ ,  $p < .001$ ), ( $Z = 9.21$ ,  $p < .001$ ) (Table 9).

Table 9

*Comparisons Between Mothers' and Staff Nurses' Perceptions Regarding the Subscales of Planning, Implementation, and Evaluation Roles of Nurses (Mann-Whitney U test) (n = 160)*

Roles of nurse Sub-scale	Mother (n = 80)			Staff nurses (n = 80)			Z	p-value
	Mean Rank	Min	Max	Mean Rank	Min	Max		
Planning	47.94	0	12	113.06	7	12	9.20	.000***
Implementation	47.58	0	63	113.43	36	63	9.05	.000***
Evaluation	47.96	0	18	113.04	0	18	9.21	.000***

\*\*\* $P < .001$

*The comparison of mothers' perceptions in three hospitals regarding the roles of nurses in promoting exclusive breastfeeding,*

The results showed that the mothers' perceptions were significantly different among three hospitals namely, DMCH and SSMCH-1 and SSMCH-2 ( $F = 25.25$ ,  $p < .001$ ) (Table 10). When the one way ANOVA was significant, then pair-wise

comparisons were conducted (Post-hoc) and the result showed that there were the least significant differences in the mean score of DMCH and SSMCH-1 ( $p < .001$ ) but that of DMCH and SSMCH-2 ( $p < .001$ ), and SSMCH-1 and SSMCH-2 was not significantly different ( $p > .05$ ) (Table 11).

Table 10

*Analysis of Variance of the Mothers' Perception Regarding the Roles of Nurses in Promoting Exclusive Breastfeeding Among Three Hospitals (ANOVA) (n = 80)*

Source of variance	SS	df	MS	F	P
Between Hospital	38546.92	2	19273.46	25.25	.000***
Within Hospital	58782.77	77	763.41		

\*\*\* $p < .001$

Table 11

*Pair-Wise Comparison of the Mothers' Perception Regarding the Roles of Nurses in Promoting Exclusive Breastfeeding Among Three Hospitals (Post-Hoc) (n = 80)*

Group	Hospital		M	Mean difference	SD	p-value	
Mothers	DMCH	SSMCH-1	DMCH	64.93	-39.17	7.13	.000**
	DMCH	SSMCH-2	SSMCH-1	104.10	-51.77	7.98	.000**
	SMCH-1	SSMCH-2	SSMCH-2	116.70	-12.60	7.98	.118 <sup>NS</sup>

\*\*\* $p < .001$

<sup>NS</sup>  $p > .05$

*The comparisons of staff nurses' perceptions in three hospitals regarding the roles of nurses in promoting exclusive breastfeeding*

The staff nurses' perceptions in three hospitals, including DMCH, SSMCH-1, and SSMCH-2, were not significantly different regarding the roles of nurses in promoting exclusive breastfeeding ( $F = .36, p = >.05$ ) (Table 12).

Table 12

*Analysis of Variance of the Staff Nurses' Perceptions Regarding the Roles of Nurses in Promoting Exclusive Breastfeeding Among Three Hospitals (ANOVA) (n = 80)*

Source of variance	SS	df	MS	F	P
Between Hospital	115.77	2	57.88	.36	.70
Within Hospital	12363.22	77	160.56		

*The comparison of staff nurses' perceptions within the group of working experiences in the postnatal wards, job experience, and special training in breastfeeding.*

Comparisons of perceptions among three characteristics' of staff nurses were focuses regarding the roles of nurses in promoting exclusive breastfeeding on working experience in postnatal wards, job experience, and special training in breastfeeding.

There was no statistically significant difference of staff nurses' perceptions among the group with work experience in the postnatal wards, job experience and special training in breastfeeding regarding the roles of nurses in promoting exclusive breastfeeding ( $F = 1.23, p = .30, F = .87, p = .42, F = 1.52, p = .23$ ) (Table 13).

Table 13

*Analysis of Variance of Staff Nurses Perceptions Regarding the Roles of Nurses in Promoting Exclusive Breastfeeding Among the Group with Working Experience in Postnatal Wards, Job Experience, and Special Training in Breastfeeding (ANOVA) (n = 80)*

Characteristics' of staff nurses	Staff Nurses (n=80)			
	M	SD	F	P
<b>Working Experiences in postnatal ward</b>				
< 6 months - 1 year	150.85	14.24	1.23	.30
> 1 - 2 years	156.18	7.96		
> 2 years	154.21	12.10		
<b>Job experience</b>				
<10 years	151.90	9.68	.87	.42
10 - 20 years	152.14	14.18		
> 20 years	156.69	10.90		
<b>Especial training on breastfeeding</b>				
no training	150.00	14.88	1.52	.23
< 1 week	154.23	11.02		
1 - 2 weeks	157.57	9.91		

### *Discussion*

Discussion of the results was focused on the main three parts including: (1) the levels of mothers' perceptions regarding the roles of nurses in promoting exclusive breastfeeding, (2) the levels of staff nurses' perceptions regarding the roles of nurses in promoting exclusive breastfeeding, and (3) comparisons of perceptions regarding the roles of nurses in promoting exclusive breastfeeding.

*The Level of Mothers' Perceptions Regarding the Roles of Nurses in Promoting Exclusive Breastfeeding*

The findings revealed that the total scale of mothers' perceptions was at moderate level. It can be explained by three reasons including (1) fatigue and discomfort of the mothers, (2) the length of stay in the hospital, and (3) the expectation of mothers from the nurses.

First, the mothers' physical condition may be cause of their moderate level of perceptions regarding the roles of nurses in promoting exclusive breastfeeding. According to in this study the immediate postnatal period was very difficult for the mothers and during this period physical discomfort and fatigue were common. The demographic characteristics of mothers may contribute to their discomfort and fatigue. The age of postnatal mothers ranged from 18 to 39 years with a mean age of 23.44 years. Most of the mothers' ages ranged from less than twenty to twenty five years (72.5 %) In addition, 16.3% of the mothers' age in this study was less than twenty years of age. The perceptions of this age group may be one influencing factor of mother's level of perceptions. As a previous study found, the teenage mothers faced more physical discomfort, fatigue, and difficulty learning about the technique of appropriate positioning that hampers the practice of exclusive breastfeeding. They were also unwilling to breastfeed their babies due to discomfort (Bowman, 2007). Mothers perceived that breastfeeding requires time for physical adjustment. In addition, 53.8% were first time mothers in the present study with no previous experience in breastfeeding. Another study revealed that first-time mothers were unprepared for the birth of their baby and motherhood (Cronin, 2003). They experienced physical, mental and social changes after birth. The context and the

attention of individuals are important for their level of perceptions (Robbins & Coulter, 2005). Therefore, due to the above physical and mental conditions of the mothers' immediate postnatal period, they may have paid less attention to the actual functions performed by the nurses.

Second, the length of stay in the hospital of the mothers may influence their perception at moderate level. In this study more than half the mother's spent six to twenty four hours the postnatal period (61.3 %) in the hospital. The findings of a study supported that length of the hospital stay was associated with satisfaction of care. Staying in the hospital for one to two days was associated with a negative care rating, because it is more common for the mothers to want to leave the hospital within eight hours after delivery (Forster et al., 2008). This shorter hospitalization contributes to possibility of postpartum crisis (Cronin, 2003). Besides the, clinician also perceived that during such short hospital stays, it is difficult to provide necessary care to each mother. Longer stays would allow nurses to perform their role in meeting mothers' psychosocial needs and expectation (Forster et al., 2008).

Third, the expectation of mothers toward the roles of nurses may influence their perceptions. Robbins and Coulter (2005) stated that perceptions of individuals may vary based on their expectations. A previous study found that the mothers perceived the nurses' roles were facilitating easier breast feeding (Adewale, 2007). The mothers expected that the nurses would help them during the immediate postnatal period in the hospital (Kelleher, 2006). However, the present study was supported by the previous study conducted by Moore (2004). In that study participants expressed that their hospital experience did not meet their expectation. Nurses were not provided enough help and spent little time with them. In addition, the maternal education level



may influence their expectation. Fawole, Okunlola, and Adekunle (2008) found that highly educated women and those from the upper socioeconomic classes were unsatisfied with their care in comparison with those with less formal education. In this study nearly fifty percent of mothers had attended primary and secondary school (45% and 47.5% respectively). The mother's education may persuade them to higher expectations. These higher expectations may influence mothers' moderate level of perceptions toward the roles of nurses in promoting exclusive breastfeeding.

Focused on the subscales namely the data collection and assessment, the roles of nurses were perceived at moderate level in this study. The findings can be supported in following way; the assessment must be relevant to a mother's particular health problems. Therefore, the nurses in usual actions in promoting exclusive breastfeeding may not be relevant for all mothers; for example, those who do not experience sore nipples or breast engorgement. The mothers' might not have perceived this item was not relevant for her. In addition, during the data collection and physical examination, the nurse needs to observe mothers' behavior including physical, psychological, and social aspects (Potter & Perry, 2003). It might have been difficult for mothers to perceive this observational role performed for them by the nurses.

The items analysis shows that mothers' perception was at high level in some items of data collection and assessment roles of nurses (Appendix F) for example checking babies' vital signs and weight, and asking mothers about baby's voiding. All of these are common and regular tasks for nurses which they practice regularly. However, after immediate delivery mothers perceived some items at a low level such as, nurses never asking the mothers' cultural beliefs regarding exclusive breastfeeding and mother's satisfaction with breastfeeding. These kinds of data collection and

assessment require time and establishment of good interpersonal relationship between mothers and nurses. The nurses' workload and the mothers' intention to leave the hospital within 24 hours, may conflict with the need for nurses to assess and collect information in all aspects within this limited period.

Focused on the subscale, namely the planning role of nurses, mothers also perceived at moderate level. Establishing goal setting with the mother is an important role of nurses (Timby, 2005). It may be difficult for mothers to perceive what nurses plan to do for them.

The result was showed in the implementation of the roles of nurses mothers' perceptions were at moderate levels. This might result from the mothers' high expectations towards the roles of nurses. The items analysis showed that some items of implementations of the roles of nurses (Appendix F) indicate that the nurses rarely perform certain tasks. For example, they seldom teach the mother that relaxation is necessary for effective breastfeeding. Moreover, they rarely teach mothers about the indicators of well feeding. Nursing care delivery systems vary based on facilities and resources in the hospital (Potter & Perry, 2003). Nurse-patient ratio and satisfaction within the work environment are factors in role performance. The problems of nurse shortage are a serious issue in most countries around the world including Bangladesh. Wang et al. (2003) found that the nurse shortage may affect the quality of patient care. In the present study these issues also may affect the quality of nursing care that mother perceived at moderate level. Therefore, due to above limitations nurses might perform roles that did not meet the mothers' expectations.

However, in some items the mother's perceptions were at high level. For example nurses help mother to initiate breastfeeding within one hour after birth and

explain reason for frequency of feeding. These nursing actions are crucial and necessary after the immediate postnatal period to established successful breastfeeding. It is also related to direct nursing care to the mother. Nurses needed to perform these actions repeatedly to help the mothers understand better so that they can perform this activity independently. These repeatedly performed tasks may be the cause of an increase in mothers' perceptions at high level in these items in roles of nurses in promoting exclusive breastfeeding.

Focused on the subscale, namely the evaluation roles of nurses' in this study, mothers' perceptions were at low level. (Appendix F). It might be the result of nurses' poor communication skills. Potter and Perry (1999) stated that effective communication is an important component for actual perception. If the nurses do not provide information clearly or not use simple words, it may be difficult for mothers to understand the information. Mothers in this study might not have understood about the meaning of words that nurses used to evaluate the mother such as, asking mothers to state available supporting person after discharge. This poor communication may be the cause of mother low perception in the evaluation of the roles of nurses.

To sum up, several reasons can explain for the mother's perception regarding the roles of nurses in promoting exclusive breastfeeding. It may be concluded that the mother's fatigue and discomfort during the immediate postnatal period, a short stay in the hospital, the mother's high expectation toward the roles of nurses, and ineffective communication might have influence on their moderate level of perceptions regarding the roles of nurses in promoting exclusive breastfeeding.

*The Level of Staff Nurses' Perceptions Regarding Roles of Nurses in Promoting Exclusive Breastfeeding*

The results showed that the staff nurses' perceptions regarding the roles of nurses in promoting exclusive breastfeeding were at high level regarding the total scale of roles of nurses. Also they perceived at high level on four subscales including data collection and assessment, planning, implementation, and evaluation about the roles of nurses in promoting exclusive breastfeeding. Two main reasons may support staff nurses' high perception regarding the roles of nurses including: 1) the characteristics of staff nurses, and 2) the facilities of the hospitals.

First, the characteristics of staff nurses in this study influenced them positively to perform their roles always rated with high perceptions in promoting exclusive breastfeeding which was perceived at high levels by them. The work experience of staff nurses in the postnatal ward ranged from six months to more than two years (98.7 %) and the majority had job experience from ten to more than twenty years (75 %). Moreover, most of them (63.7 %) had had special training in breastfeeding (Table 3). These statistics reflected that, work experience in postnatal ward and longer period of job experience with special training in breastfeeding can help make staff nurses knowledgeable and skillful in performing their roles as they perceived. According to another supporting study, the art of caregiving requires knowledge, skills and expertise, central to effective practice is the ability to problem-solve during implementation of care (Taylor, 1997). Dossey, Keegan, and Guzzetta (2005) stated that some advanced intervention may require additional training that can be obtained in practicum or continuing educational courses. Similarly, Clunie (2008) found that continuous professional education is of key important of promoting research and

adding to the knowledge based of nursing. The education level of nurses makes a difference to patient outcomes. Therefore, it can be concluded that in this study staff nurses experience, length of service and breastfeeding training may be important contributing factors for their high level of perceptions regarding the roles of nurses in promoting exclusive breastfeeding.

Second, the facilities of the hospitals may influence nurses to perform their role that they perceived at high level efficiently. This study was conducted in the three tertiary level medical college hospitals. The hospital environment, supplies, resources, and interpersonal relationships among the colleagues may motivate them to perform their roles at a high standard in promoting exclusive breastfeeding. In another study, nurses perceived that organizational structure can affect their work motivation. Perceived levels of autonomy, accesses to resources and information, and support from colleagues were positively associated with work effectiveness (Laschinger & Havenss, Beaulieu et al., as cited in Takase, Maude, & Manias, 2005). Moreover, another study found that perceived quality of care is closely linked to structural quality and health services personnel. The quality of performance was linked to the training level of the personnel. (Boller, Wyss, Mtasina, & Tanner, 2003). In brief, the finding was also consistent with the previous study conducted by Moore (2004). They found that nurses considered themselves expert in promoting comfort measures to the mothers.

Focused on subscale, data collection and assessment of the roles of nurses in this study; staff nurses were perceived at high level. This may be the result of staff nurses' better understanding about the importance of assessment in promoting exclusive breastfeeding. It can be supported by a previous study conducted by

Adewale (2007). It found that if the assessment, education and corrective interventions are provided early in the postpartum period, the percentage of breastfeeding mothers who stop breastfeeding can be reduced. However, this study finding was inconsistent with the previous study. In a study of nurses' responsibility, knowledge and documentation in another aspect of patient care, results showed that nurses focus on planning, implementation, and prevention aspects more than on the assessing phase of the systematic problem solving approach (Persenius, Larsson, & Hall-Lord, 2006).

Focused on planning and implementation roles of nurses, staff nurses perceived at high level. This may be the reflection of their awareness about the specific objectives of both the national strategy and the baby friendly hospital initiativeness (BFHI). These encouraged them to perform their roles at high level in promoting exclusive breastfeeding. The items analysis showed that they informed the mother about the six months for exclusive breastfeeding and initiated breastfeeding within one hour after birth. These are the important items for "Ten steps of successful breastfeeding," the national strategy of Bangladesh, to increase the initiation rate of breastfeeding within one hour of birth from 24% to 50% and exclusive breastfeeding rate of 42% to 60% by 2010. Furthermore, by 2005, 486 out of 550 government and private health facilities have been declared as a baby friendly. The national strategy is to ensure that every health facility practices all the "Ten steps to successful Breastfeeding" successfully and sustainably (Institute of Public Health Nutrition, 2007). Therefore, as health care providers nurses may be aware about these issues. These incentives may provide a positive impact on staff nurses practice in promoting exclusive breastfeeding.

*Comparisons of Perceptions Regarding the Roles of Nurses in Promoting Exclusive Breastfeeding*

The discussion of this topic focuses on three parts including: 1) comparisons between mothers and staff nurses' perceptions regarding the roles of nurses in promoting exclusive breastfeeding, 2) comparison of mothers' and staff nurses' perceptions among three hospitals regarding the roles of nurses in promoting exclusive breastfeeding, and 3) comparison of staff nurses' perceptions within the group of working experience in postnatal wards, job experience, and special training in breastfeeding.

*Comparisons between mothers and staff nurses' perceptions regarding the roles of nurses in promoting exclusive breastfeeding*

In this study staff nurses were reported with higher score for both total scale and subscale for the roles of nurses in promoting exclusive breastfeeding than mothers were. The staff nurses' demographic characteristics including work experience in the postnatal ward, length of service, and training in breastfeeding; and hospital facilities such as the favorable working environment, "baby friendly" atmosphere, good interpersonal relationships, and sufficient resources of the three settings may have influenced the staff nurses to perceive at high level in this study. In contrast, the mothers reported a moderate level of perceptions regarding the total scale and three subscales namely, data collection and assessment, planning, and implementation roles of nurses in promoting exclusive breastfeeding. This may be due to mothers' fatigue and discomfort immediately after birth which interfered with their attention to perceive the actual roles of nurses in promoting exclusive breastfeeding. In addition,

the short hospital stay and high expectation of mothers toward the roles of nurses may be contributing factors which influenced the mother's moderate level of perception.

Nurses' activities require assessment by observation and physical examination for example: checking vital signs, observing the baby's activities, and planning and evaluating data and progress. Mothers may not perceive these activities easily due to their lack of knowledge about nursing science, while nurses maintain a high perception level of their performance.

Focusing on the results in the subscale of evaluation of the roles of nurses' showed that the mothers perceived at a low level while the staff nurses perceived at a high level. It might have been the result of ineffective communication of nurses with the mothers. In addition, some techniques of breastfeeding are necessary to practice repeatedly to learn: this takes time. Although breastfeeding is a natural act, it is also complex of behavior that must be learned. This cannot be achieved through a single contact with a health care provider. A mother needs multiple contacts to acquire knowledge, reinforce positive behavior and solve problems (Institute of Public Health Nutrition, 2007). The limitation of time and ineffective communication may shape the mothers' perception at a low level in the evaluation of the roles of nurses in this study.

The findings of the present study were also supported by the previous study conducted by Kaewsarn and Moyle (2000) in Thailand. Mothers in that study perceived that breastfeeding require time for physical adjustment. In another study the mothers expressed their need for physical, emotional and social support throughout the birth (Schmied et al., 2008). The results of this study were consistent with the previous study conducted by Kritcharoen et al. (2005) in Thailand. They found that the mothers' perception was moderate to high level while the nurses' perceptions their



roles were at high level. Muntlin, et al. (2006) also stated that patients' perceptions may not be always congruent with the nurses' perception.

However, the social desirability of nurses may have an influence on their high rating in the items in roles of nurses. Social desirability is defined as the tendency of subjects to reply in a way that will be viewed sympathetically by others, according to cultural norms (Adams et al., 2005). This is a continued observable fact found in many research studies using the self-report method. In the items in roles of nurses including; the evaluation questionnaire to get high scores indicate they might not perform those roles. Therefore, it can be summarized that both the mothers' and staff nurses' individual contexts, environments, expectations and experiences influence their differing perceptions found in this study.

*Comparisons of perception among the three hospitals regarding the roles of nurses in promoting exclusive breastfeeding*

The analysis of this study showed that among the three hospitals the level of mother's perceptions of SSMCH-2 was high in promoting exclusive breastfeeding. SSMCH-2 mothers' perceptions were significantly higher than the DMCH and SSMCH-1 ( $F = 25.25, p < .001$ ). The following reason might have influenced the SSMCH-2 mothers' perceptions at high level: among the three hospitals, the SSMCH-2 is smaller than the other two (Allocated bed approximately 500). Previously it was the general hospital and it recently added a medical college hospital. Thus, this medical college hospital had a lower patient load than the other two hospitals and comparatively fewer patients admitted to the postnatal ward after normal delivery (fewer than five). Therefore, nurses in this hospital have more opportunity to perform their roles for this small group of mothers in promoting

exclusive breastfeeding. It may be the causes of mother's high perceptions in this hospital regarding the roles of nurses in promoting exclusive breastfeeding.

*Comparisons of perceptions of three characteristics' of staff nurses' regarding the roles of nurses in promoting exclusive breastfeeding*

In this study the results showed that the mean score of perceptions of staff nurses were high for those who had had more work experience in the postnatal wards than those who had had comparatively less work experience. It was also found that the total mean score of perceptions of those staff nurses with longer job experience were higher than those who had had less job experience. The staff nurses who had special training in breastfeeding less than one week, had a total mean score higher than those who had had no training. Those had training in breastfeeding for one to two weeks, had total mean scores higher than those who had had training in breastfeeding less than one week (Table 9). Although not statistically significant difference in this present study, these findings specify that the length of work experience in the postnatal ward, job experience and training in breastfeeding may positively influence the staff nurses in their rating regarding the roles of nurses that they perceived at high level in this study.

## CHAPTER 5

### CONCLUSION AND RECOMMENDATION

The contents of this chapter were focused on the conclusion of the study, implications and recommendations, and strengths and limitations of this study.

#### *Conclusion of the study*

A descriptive comparative study was designed to describe and compared the differences of mothers' and staff nurses' perception regarding the roles of nurses in promoting exclusive breastfeeding. This study was conducted at the three medical college hospitals in Dhaka, Bangladesh. Eighty postnatal mothers and eighty staff nurses were recruited using random sampling from three postnatal wards. Data were collected from December, 2009 to February, 2010, using self-report questionnaires. The results found that the total scale of mothers' perceptions regarding the roles of nurses in promoting exclusive breastfeeding was at moderate level. Their perceptions regarding three subscales namely data collection and assessment, planning, and implementation of the roles of nurses were also at moderate level and only in the subscale, evaluation of the roles of nurses, were their perceptions at a low level. In another view from staff nurses' perceptions, the results showed that they were perceived at a high level regarding the total scale and four subscales in the roles of nurses in promoting exclusive breastfeeding. In addition, staff nurses' perceptions were significantly higher than mothers' perceptions ( $t = 14.49, p < .001$ ) regarding the roles of nurse in promoting exclusive breastfeeding. The results indicate that most

nurses need to consider performing their role to increase the mothers' level of perceptions. The nurses who are working in the postnatal ward should give information about their roles in promoting exclusive breastfeeding to increase the level of mothers' perceptions regarding the roles of nurses in promoting exclusive breastfeeding.

### *Implications and Recommendations*

The implications of this study focused on four aspects including 1) nursing practice, 2) nursing education, 3) nursing administrator, and 4) nursing research are as follows:

#### *1. Nursing practice*

Implications of this study include facilitating the development of guidelines regarding assessment, planning, implementation, and evaluation roles of nurses in promoting exclusive breastfeeding; which is appropriate to both postnatal mothers and postnatal staff nurses' perceptions of those roles of nurses. Such knowledge would be helpful for postnatal staff nurses, clinical supervisors, and nursing students in understanding the actual roles of nurses to increase the rate of exclusive breastfeeding practices.

#### *2. Nursing education*

The findings of this study can be used for nursing education to emphasize the roles of nurses and nursing students in promoting exclusive breastfeeding. The nurse educator may include the systematic problem solving approach in theory and practice for nursing students in instruction and in-service training programs in

promoting exclusive breastfeeding including four steps of data collection and assessment, planning, implementation, and evaluation of the roles of nurses.

### *3. Nursing administrator*

These study findings can help the postnatal unit nursing administrator to assign the nurses, who have responsibility to provide care based on the expectations of individual mothers. This study provided knowledge regarding the use of the systematic problem-solving approach. The nursing administrator can apply this knowledge to identify the expectations and actual problems of mothers, to set the goals and formulate a plan of action to achieve them, provide nursing intervention based on individual problems and finally, to evaluate the expected outcomes and effectiveness of nursing care. Based on the results, nursing administrators may consult with the health care team and related staff as well as with individual mothers and their family in order to improve nursing care, especially for promoting exclusive breastfeeding.

### *4. Nursing research*

This study focused on the roles of nurses in promoting exclusive breastfeeding perceived by mothers who had been admitted to the postnatal ward and staff nurses who were working in the postnatal ward. This study can act as a baseline for future studies regarding the roles of nurses in promoting exclusive breastfeeding. The findings of this study suggest that further qualitative in-depth research is needed to explore the factors that increase the mother's perceptions regarding the roles of nurses in promoting breastfeeding.

### *Recommendation*

The results of this study recommend that further in-depth interview and qualitative study may be conducted to explore the factors that increase the mother's perception regarding the roles of nurses in promoting exclusive breastfeeding. It also recommend that nurses need to understand the expectations of the mothers during the immediate postpartum period and plan for intervention based on their expectation. Further study can be conducted to identify the mothers' expectations regarding the actual roles of nurses in promoting exclusive breastfeeding. This study suggested to improve in-service training, increased level of education, and provision of care based on specialty in nursing is important for better nursing care. The nurses also require improvement of their communication skills for effective communication. They also require sufficient knowledge regarding each step of the systematic problem solving approach in their regular practice in promoting exclusive breastfeeding. Nurses need to emphasis in evaluation of the roles of nurses to improve the mothers' perceptions. This study finding may not be generally applied to the whole population of Bangladesh. Therefore, further study is needed in broader aspects to generalize the findings. Revision of the instrument is needed before use in another sample and setting.

### *Strengths and Limitations of this Study*

The strengths of the findings of this study provide evidence regarding the roles of nurses in promoting exclusive breastfeeding performed by nurses. It also provides an information and direction for improvement, and maintenance of quality nursing care that increases the mothers' level of perceptions regarding the roles of nurse in

promoting exclusive breastfeeding. The data were collected from three settings by the researcher. This serves as a consistent way to approach subjects and ensures subjects' understanding of the questions. Subjects could directly approach the researcher if they had any problems in answering the questionnaires. Therefore, this method reduced the chance of data collecting error. The strength is the statistical analysis used in this study to compare the group mean difference.

The findings of this study have limitations and cannot be generalized for all health care settings. This study was conducted only in the three tertiary levels of public medical college hospitals in Dhaka, Bangladesh, where the mothers and staff nurses' demographic characteristics, health care facilities and hospital environment might have differ from the private hospitals, and primary and secondary levels of health care delivery systems. Another limitation was the conceptual framework used in this study. It may be difficult for the mothers' group to perceive all subscales of this framework in the same manners as perceived by staff nurses.

## REFERENCES

- Adams, S. A., Mattheews, C. E., Ebbeling, C. B., Moore, C.Q., Cunningham, J. E., Fulton, J., et al. (2005). The effect of social desirability and social approval on self-report of physical activity. *American Journal of Epidemiology*, *161*, 389-398.
- Adewale, O. R. (2006). The lived experience of first-times breastfeeding mothers. *Journal of Child Birth Education*, *23*, 21-25.
- Ahmed, S., Macfariane, A., Naylor, J., & Hastings, J. (2006). Evaluating bilingual peer support for breastfeeding in a local sure start. *British Journal of Midwifery*, *14*, 467-470.
- Alden, K. R. (2004). Newborn nutrition and feeding. In D. L. Lowdermilk & S. E. Perry (Eds). *Maternity & women's health care* (8th ed., pp. 755-788). St. Louis: Mosby.
- Arifeen, S. E. (2008). Child health and mortality. *Journal of Health Population Nutrition*, *26*, 273-279.
- Arthur, A., Unwin, S., & Mitchell, T. (2007). Teenage mothers' experiences of maternity services: A qualitative study. *British Journal of Midwifery*, *15*, 672-677.
- Blincoe, A. J. (2007). Advice about infant nutrition: A vital role for the midwife. *British Journal of Midwifery*, *15*, 582-586.
- Boller, C., Wyss, K., Mtasina, D., & Tanner, M. (2003). Quality and comparison of antenatal care in public and private provider in the United Republic of Tanzania. *Bulletin of the World Health Organization*, *81*, 116-122.



- Bowman, K. G. (2007). When breastfeeding may be a threat to adolescent mothers. *Issues in Mental Health Nursing, 28*, 89-99.
- Cadwell, K., Turner-Maffi, C., Blair, A., Brimdyr, K., & McInerney, Z. M. (2004). Pain reduction and treatment of sore nipples in nursing mothers. *The Journal of Perinatal Education, 13*, 29-35.
- Cairney, P. A., Alder, E. M., & Barbour, R. S. (2006). Support for infant feeding: Mothers' perception. *British Journal of Midwifery, 14*, 694-700.
- Cattaneo, A., & Quintero-Romero, S. (2006). Protection, promotion and support of breastfeeding in low-income countries. *Seminars in Fetal Neonatal Medicine, 11*, 48-53.
- Catalano, J. T. (2003). *Nursing now* (3rd ed.). Philadelphia: Davis Company.
- Chatman, L. M., Salihu, H. M., Roofe, M. E. A., Wheatle, P., Henry, D., Jolly, P. E., et al. (2004). Influence of knowledge and attitudes on exclusive breastfeeding practice among rural Jamaican mothers. *Birth, 31*, 265-271.
- Chung, M., Raman, G., Trikalinos, T., Lau, J., & LP, S. (2008). Interventions in primary care to promote breastfeeding: An evidence review for the U.S preventive services task force. *Annals of Internal Medicine, 149*, 565-582.
- Clunie, S. (2008). The current trend and importance of postgraduate education for nurses. *Nursing Journal Northland Polytechnic, 10*, 18-23.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale NJ: Lawrence Erlbaum Associates.
- Colson, S. D., Meek, J. H., & Howdon, J. M. (2007). Optimal positions for the release of primitive neonatal reflexes stimulating breastfeeding. *Journal of Early Human Development, 84*, 441-449.

- Cooke, M., Schmied, V., & Sheehan, A. (2006). An exploration of the relationship between postnatal distress and maternal role attainment, breastfeeding problems and breast feeding cessation in Australia. *Journal of Midwifery*, 23, 66-76.
- Cronin, C. (2003). First-time mothers-identifying their needs, perceptions and experiences. *Journal of Clinical Nursing*, 12, 260-267.
- Cummings, M. (2008). Best practice standards for breastfeeding education: A baby friendly approach. *Journal of Nurse Education Today*, 28, 895-898.
- Dahlen, H. G., & Homer, C. S. E. (2009). Infant feeding in the first 12 weeks following birth: A comparison of patterns seen in Asian and non-Asian women in Australia. *Women and Birth*. Retrieved September 26, 2009, from <http://www.sciencedirect.com/science/article/>.
- DiGirolamo, A. M., Grummer-Strawn, L. M., & Fein, S. B. (2003). Do perceived attitudes of physicians and hospital staff affect breastfeeding decisions? *Journal of Birth*, 30, 94-100.
- Dodgson, J. E., Tarrant, I. M., Fong, D. Y. T., Peng, X. & Hui, W. C. (2003). Breastfeeding patterns of primiparous mothers in Hong Kong. *Birth*, 30, 195-206.
- Doenges, M. E., Moorhouse, M. F., & Murr, A. C. (2005). *Nursing diagnosis manual: Planning, individualizing, and documenting client care*. Philadelphia: Davis.
- Dossey, B. M., Keegan, L., & Guzzetta, C. E. (2005). *Holistics nursing: A hand book for Practice* (4th ed.). London: Jones and Bartlett Publishers.

- Ekstro, A., Matthiesen, A., Widstro, M., & Nissen, E. (2005) Breastfeeding attitudes among counseling health professionals. Development of an instrument to describe breastfeeding attitudes. *Scandinavian Journal of Public Health*, 33, 353-359.
- Forster, D. A., McLachlan, H. L., Royner, J., Yelland, J., Gold, L., & Royner, S. (2008). The early postnatal period: Exploring women's views, expectations and experiences of care using focus group in Victoria, Australia. *Pregnancy and Childbirth*, 8, 1-11.
- Fawole, A. O., Okunlola, M. A., & Adekunle, A. O. (2008). Client's perceptions of the quality of antenatal care. *Journal of the National Medical Association*, 100, 1052-1058.
- Fraser, D. M., & Cullen, L. (2006). Postnatal management and breastfeeding. *Current Obstetrics & Gynaecology*, 16, 65-71.
- Galler, J. R., Harrison, R. H., Ramsey, F., Chawla, S., & Taylor, J. (2006) Postpartum feeding attitudes, maternal depression, and breastfeeding in Barbados. *Journal of infant Behaviour and Development*, 29, 189-203.
- Gatti, L. (2008). Maternal perception of insufficient milk supply in breastfeeding. *Journal of Nursing Scholarship*, 40, 355-363.
- Ghosh, R., Mascie-Taylor, N., & Rosetta, L. (2006). Longitudinal study of the frequency and duration of breastfeeding in rural Bangladeshi women. *American Journal of Human Biology*, 18, 630-638.
- Giashuddin, M. S., & Kabir, M. (2003). Breastfeeding duration in Bangladesh and factors associated with it. *Indian Journal of Community Medicine*, 28, 34-38.

- Gill, S. L., Reifsnider, E., Mann, A. R., Villarreal, P., & Tinkle, M. B. (2004). Assessing infant breastfeeding beliefs among low-income Mexican Americans. *The Journal of Perinatal Education, 13*, 39-50.
- Haider, R., Ashworth, A., Kabir, I., & Hutty, S. R. A. (2000). Effect of community-based peer counselors on exclusive breastfeeding practices in Dhaka, Bangladesh: A randomized controlled trial. *The Lancet, 356*, 1643-1647.
- Hannon, P. R., Willis, S. K., Bishop-Townsend, V., Martinez, I. M. & Scrimshaw, S. C. (2000). African-American and Latina adolescent mothers infant feeding decisions and breastfeeding practices: A qualitative study. *Journal of Adolescent Health, 26*, 399-407.
- Hannula, L., Kaunonen, M., & Tarkka, M. (2007). A systematic review of professional support interventions for breastfeeding. *Journal of Clinical Nursing, 17*, 1132-1143.
- Hauck, Y. L., & Irurita, V. F. (2003). Incompatible expectations: The dilemma, of breastfeeding mothers. *Health Care for Women International, 24*, 62-78.
- Hershbein, B. (2005). Nurse-to-Patients Ratios, 25<sup>th</sup> *Massachusetts Health Policy Forum*. New England Public Policy Center. Retrieved May 20, 2010 from <http://www.bos.frb.org/economic/neppc/briefs/2005/breifs051.pdf>
- Hill, P. D., & Johnson, T. S. (2007). Assessment of breastfeeding and infant growth. *Journal of Midwifery and Women Health, 52*, 571-578.
- Hoyer, S., & Pokorn, D. (1997). The influence of various factors on breast-feeding in Slovenia. *Journal of Advanced Nursing, 27*, 1250-1258.

- Imtiaz, Y. M., & Saleem. (2009). Exclusive breastfeeding and child survival in Pakistan and other South Asian Countries. *Pakistan Journal of Nutrition*, 8, 910-911.
- Inch, S. (2003). Feeding. In D. M. Fraser & M. A. Cooper (Eds.). *Myles textbook for midwives* (14 th ed., pp. 749-773). London: Churchill Livingstone.
- Indriyawati, N. (2004). *Needs of families who have members admitted to critical care units: Perceptions of families and nurses in central Java, Indonesia*. Unpublished Master's Thesis, Prince of Songkla University, Thailand.
- Ineichen, B., Pierce, M., & Lawrenson, R. (1997). Teenage mothers as breastfeeders: Attitudes and behaviour. *Journal of Adolescence*, 20, 505-509.
- Johnson, T. S., Mulder, P. J., & Karen, S. (2007). Mother-infant breastfeeding progress tool: A guide for education and support of the breastfeeding dyad. *Journal of Obstetric, Gynecology and Neonatal Nursing*, 36, 319-327.
- Johnston, J. (1996). Midwives, breastfeeding and baby friendly Australia. *Australian College of Midwives Incorporated Journal*, 9, 21-24.
- Jones, E., & Spencer, S. A. (2005). Dysfunctional feeding behaviour following term delivery- a case history. *Journal of Neonatal Nursing*, 11, 102-105.
- Kaewsarn, P., & Moyle, W. (2000). Breastfeeding duration of Thai women. *Australian College of Midwives Incorporated Journal*, 13, 21-26.
- Kaewsarn, P., Moyle, W., & Creedy, D. (2003). Thai nurses beliefs about breastfeeding and postpartum practices. *Journal of Clinical Nursing*, 12, 467-475.

- Kakute, P. N., Ngum, J., Mitchell, P., Kroll, K. A, Forgwei, G. W., Ngwang, L. K., et al. (2005). Cultural barrier to exclusive breastfeeding by mother in a rural area of Cameroon, Africa. *American College of Nurse- Midwives*, 50, 324-328.
- Kaneko, A., Kaneita, Y., Yokoyama, E., Miyake, T., Harano, S., Suzuki, K. et al. (2006). Factors associated with exclusive breastfeeding in Japan: For activities to support child-rearing with breast-feeding. *Journal of Epidemiology*, 16, 57-63.
- Kankaanranta, T. (2008). *Factors influencing Physician' and nurses' Labour supply decisions*, Academic dissertation, University of Tampere, Finland.
- Kelleher, C. M. (2006). The physical challenges of early breastfeeding. *Social Science and Medicine*, 63, 2727-2738.
- Kong, S. K. F., & Lee, D. T. F. (2004). Factors influencing decision to breastfeeding. *Journal of Advance Nursing*, 46, 369-379.
- Konstantinos, N., & Christina, O. (2008). Factors influencing stress and job satisfaction of nurses working in psychiatric units: A research review. *Health Science Journal*, 2, 183-195.
- Kritcharen, S., Ingkathawornwong, T., Singchungchai, P Limchaiarunruang, S., Intanon, T., Phanthong, U., et al. (2005). Perception of nurse-midwives' and clients on nurse-midwives roles. *Songkla Medical Journal*, 23, 269-276.
- Kronborg, H., & Vach, M. (2004). The influence of psychosocial factors on the duration of breastfeeding. *Scand Journal of Public Health*, 32, 210-216.
- Kruse, L., Denk, C. E., Feldman-Winter, L., & Rotondo, F. M. (2005). Comparison sociodemographic and hospital influence on breastfeeding initiation. *Birth*, 32, 81-85.

- Lephalala, R. P. (2006). *Factors influencing nursing turnover in selected private hospital in England*. Master's Thesis, University of South Africa.
- Leung, A. K. C., & Sauve, R. S. (2005). Breast is best for babies. *Journal of the National Medical Association, 97*, 1010-1019.
- Lewallen, L. P., Dick, M. J., Flowers, J., Powell, W., Zickefoose, K. T., Wall, Y. G., et al. (2006). Breastfeeding support and early cessation. *Journal of Obstetric, Gynecology and Neonatal Nursing, 35*, 166-172.
- Littleton, L. Y., & Engebretson, J. C. (2002). *Maternal, neonatal, and women's health nursing*. Australia: Delmer Thomson Learning.
- Marshal, J. L., Renfrew, M. J., & Godfrey, M. (2006). Using evidence in practice: What do health professionals really do? A study of care and support for breastfeeding women in primary care. *Clinical Effectiveness in Nursing, 952*, 81-190.
- McAllister, M. (eds. pp. 12) (2007). *Solution Focused Nursing: Rethinking Practice*. New York: Palgrave Macmillan.
- McInnes, R. J., & Chambers, J. A. (2008). Supporting breastfeeding mothers: Qualitatives synthesis. *Journal of Advanced Nursing, 62*, 407-427.
- McKinney, E. S., James, S. R., Murray, S. S., & Ashwill, J. W. (2005). *Maternal child nursing*. (2nd ed.). London: Saunders.
- McVeigh, C., & Smith, M. (2000). A comparison of adult and teenage mother's self-esteem and satisfaction with social support. *Midwifery, 16*, 269-276.
- Memon, Y., Sheikh, S., Memon, A., & Memon, N. (2006). Feeding beliefs and practices of mothers / caregivers for their infants. *Journal of Liaquat University of Medical and Health Sciences, 5*, 8-13.

- Mihrshahi, S., Ichikawa, N., Shuaib, M., Oddy, W., Ampon, R., Dibley, M. J., et al. (2003). Prevalence of exclusive breastfeeding in Bangladesh and its association with diarrhoea and acute respiratory infection: Results of the multiple indicator cluster survey. *Journal of Health Population Nutrition, 25*, 195-204.
- Montalto, S. A., Borg, H., Buttigieg-Said, M., & Clemmer, E. J. (2008). Incorrect advice: The most significant negative determinant on breast feeding in Malta. *Midwifery*. Retrieved June 2, 2008, from [www.sciencedirect.com](http://www.sciencedirect.com).
- Moore, M. L. (2004). Perceptions of nurses and mothers in four studies of the peripartum period. *The Journal of Perinatal Education, 13*, 55-57.
- Moore, E. R., & Coty, M. B. (2005). Prenatal and postpartum focus group with primiparas: Breastfeeding attitudes, support, barriers, self-efficacy, and intention. *Journal of Pediatric Health Care, 20*, 35-46.
- Murray, S. S., Mckinney, E. S., & Gorrie, T. M. (2002). *Foundations of maternal new born nursing* (3rd ed.). St. Louis: Saunders.
- Muntlin, A., Gunningberg, L., & Carlsson, M. (2006). Patients' perceptions of quality of care at an emergency department and identification of areas for quality improvement. *Journal of Clinical Nursing, 15*, 1045-1056.
- Institute of Public Health Nutrition. (2007). *National strategy for infant and young child feeding in Bangladesh*. Dhaka-1212, Bangladesh.
- National Institute of Population Research and Training (2009). Bangladesh demographic and health survey 2007. *Mitra and Associates*, Dhaka, Bangladesh.
- Nelson, A. M. (2007). Maternal-newborn nurses experiences of inconsistent professional breastfeeding support. *Journal of Advanced Nursing, 60*, 29-38.



- Okamoto, M., & Matsuaka, M. (2009). Causal model structure analysis of emotional unrest in first time mothers faced with persistent infant crying 6-7 weeks postpartum. *Asian Nursing Research*, 3, 1-14.
- Owens, B. J. (2008). Parents' experiences of feeding a baby with cleft lip and palate. *British Journal of Midwifery*, 16, 778-784.
- Page, L. A., & Percival, P. (Eds.). (2000). *The new midwifery science and sensitivity in practice* (1st ed., pp. 369-384). London: Churchill Livingstone.
- Pender, N. J., Murdaugh, C. L., & Parsons, M. A. (2002). *Health promotion in nursing practice* (4th ed.). Upper saddle river: Prentice Hall.
- Persenius, M. W., Larsson, B. W., & Hall-Lord, M. (2006). Enteral nutrition in intensive care nurses, perception and bedside observations. *Intensive and Critical Care Nursing*, 22, 82-94.
- Pillitteri, A. (2003). *Maternal and child Health nursing: Care of the childbearing & childrearing family* (4th ed.). Philadelphia: Lippincott Williams & Wilkins.
- Polit, D. F., & Beck, C. T. (2008). *Nursing research: Generating and assessing evidence for nursing practice* (8th ed.). New York: Lippincott Williams & Wilkins.
- Potter, P. A., & Perry, A. G. (1999). *Basic Nursing: A critical thinking approach* (4th ed.). St. Louis: Mosby
- Potter, P. A., & Perry, A. G. (2003). *Basic nursing essentials for practicum* (5th ed.). London: Mosby.
- Robbins, S. P., & Coulter, M. (2005). *Mmanagement* (8th ed.). Upper Saddle River: Prentice Hall.

- Schmied, V., Cooke, M., Gutwein, R., Steinlein, E., & Homer, C. (2008). Time to listen: Strategies to improve hospital-based postnatal care. *Women and Birth, 21*, 99-105.
- Smith, J. W., & Tully, M. R. (2001). Midwifery management of breastfeeding using the evidence. *Journal of Midwifery and Women's Health, 46*, 423- 438.
- Sperder, A. D., & Devellis, R. E. (1994). Cross-cultural translation. *Journal of Cross-Cultural Psychology, 25*, 501-525.
- Stewart-Glenn, J. (2008). Knowledge, Perceptions, and attitudes of managers, coworkers, and employed breastfeeding mothers. *American Association of Occupational Health Nurses, 56*, 423- 429.
- Stewart-knox, B., Gardiner, k., & Wright, M. (2003). What is the problem with breast-feeding? A qualitative analysis of infant feeding perceptions. *Journal of Human Nutrition Dieters, 16*, 265-273.
- Sweet, L. (2008). Breastfeeding advocacy: Who is responsible? *Women and Birth, 21*, 139-140.
- Takase, M., Maude, P., & Manias, E. (2005). Explaining nurses, work behavior from their perception of the environment and work values. *International Journal of Nursing Studies, 42*, 889-898.
- Tarkka, M. T., Paunonen, M., & Laippala, P. (1999). Factor related to successful breastfeeding by first time mothers when the child is 3 months old. *Journal of Advance Nursing, 29*, 113-118.
- Taveras, E. M., Li, R., Grummer-Strawn, L., Richardson, M., Marshal, R., Rego, V. H., et al. (2004). Opinions and practices of clinicians association with continuation of exclusive breastfeeding. *Padiatrics, 113*, 283-290.

- Taylor, C. (1997). Problem solving in clinical nursing practice. *Journal of Advanced Nursing*, 26, 329-336.
- Taylor, C., Lillis, C., LeMone, P., & LeBon, M. (2005). *Fundamentals of Nursing: The art and science of nursing care* (5 th ed.). Philadelphia: Lippincott Williams & Wilkins.
- Timby, B. K. (2005). *Fundamental nursing skills and concepts* (8th ed.). Philadelphia: Lippincott Williams & Wilkins.
- United States Breastfeeding Committee. (2002). Workplace breastfeeding support, *U.S Department of Health and Human Services*.
- Varcoe, C. (1996). Disparagement of the nursing process: The new dogma? *Journal of Advanced Nursing*, 23, 120-125.
- Wallace, L. M., Dunn, O. M., Alder, E. M., Inch, S., Hills, R. K., & Law, S. M. (2005). A randomized-controlled trial in England of a postnatal midwifery intervention on breastfeeding duration. *Journal of Midwifery*, 22, 262-273.
- Wang, S. H., Sermsri, S., Sirisook, V., & Sawangdee, Y. (2003). Job satisfaction of staff nurses and their perception on head nurses' Leadership: A study in Sakaeo provincial hospital, Thailand. *Journal of Public Health and Development*, 11, 87-100.
- Whelan, A., & Lupton, P. (1998). Promoting successful breastfeeding among women with a low income. *Journal of Midwifery*, 14, 94-100.
- Workplace Stress. (2004). Retrieved May 20, 2010, from [http://www.csp.org.uk/uploads/documents/csp\\_erus\\_brief\\_WorkplaceStress.pdf](http://www.csp.org.uk/uploads/documents/csp_erus_brief_WorkplaceStress.pdf).

**APPENDICES**

## APPENDIX A

Form no... Code...

Ward ... Hospital no...

Date.....

### **Part I: A: Demographic Questionnaire for Mothers**

This instrument is divided in to two parts. Part I: Demographic data. Part II: The roles of nurse in promoting excusive breastfeeding.

Introduction: “√” the number that best describes the level of your perception

1. Age: .....Years

2. Religion: ( ) 1. Islam ( ) 2. Hindu ( ) 3. Christian ( ) 4. Buddhist

3. Marital status: ( ) 1. Married ( ) 2. Unmarried ( ) 3. Divorced ( ) 4. Widowed

4. Level of education

( ) 1. Illiterate 2. ( ) Primary school ( ) 3. Secondary ( ) 4. Diploma

( ) 5. Higher secondary 6. ( ) Bachelor degree 7. ( ) Master degree

5. Occupation

( ) 1. Housewife ( ) 2. Student ( ) 3. Service 4. ( ) Business 5. ( ) Others

6. Family income per month..... Taka

7. Number of baby

( ) 1. First ( ) 2. Second 3. ( ) Third 4. ( ) Fourth 5. ( ) > Fourth

8. Postpartum period: ( ) 1..... Hours ( ) 2..... Day

9. Age of last baby: ( ) 1. ....Months ( ) 2. ....Years

## APPENDIX B

Form no.... Code.....

Ward..... Hospital no.....

Date.....

### **Part I: B: Demographic Questionnaire for Staff Nurses**

This instrument is divided in to two parts. Part I: Demographic data. Part II: The roles of nurse in promoting exclusive breastfeeding

Introduction: “√” the number that best describes the level of your perception

1. Age:.....Years

2. Religion:

( ) 1. Islam      ( ) 2. Hindu      ( ) 3. Christian      ( ) 4. Buddhist

3. Marital status:

( ) 1. Married    2. ( ) Unmarried    3. ( ) Divorced    4. ( ) Widowed

4. Level of education

( ) 1. Diploma in general nursing ( ) 2. Diploma in midwifery

( ) 3. Bachelor of nursing    ( ) 4. Master of nursing    5. ( ) Others

5. Monthly family income: .....Taka

6. Working experience in post partum ward: 1. ....Months    2. ....Years

7. Job experience: ..... year

8. Special training in breastfeeding: ( ) 1...Day ( ) 2....Months ( ) 3.... Years

## APPENDIX C

### Part II: Roles of Nurses Questionnaire (RNQ)

Instruction: We are interested in knowing your perception about the roles of nurses in promoting exclusive breastfeeding. Please read each of the following statements and check “√” the number that best describes the level of your perception.

Items	Never (0)	Rare (1)	Sometimes (2)	Always (3)
1. Check mother's vital signs				
2. Ask mother about fatigue				
3. Check mother's breast and nipple condition				
4. Exam the breast engorgement				
5. Ask mothers signs of adequate breast milk supply				
6. Ask mother's comfort or difficulties during breastfeeding				
7. Ask mother's intention to breastfeeding				
8. Ask mother's feels satisfied with breastfeeding				
9. Ask mother's about choice of baby's feeding				
10. Ask mother about the family to support for breastfeeding				
11. Ask mother about cultural beliefs regarding exclusive breastfeeding				
12. Ask about the importance of breastfeeding for mother and baby				
13. Ask about importance of maternal diet				
14. Ask mother about the meaning of exclusive breastfeeding				
15. Ask mother time of initiation for exclusive breastfeeding				
16. Ask mother's disadvantage of artificial nipple				
17. Observe activities of baby				

Items	Never (0)	Rare (1)	Sometimes (2)	Always (3)
18. Check baby's congenital problems such as cleft lip and palate				
19. Listen to audible swallowing during baby's feeding.				
20. Observe baby's alertness				
21. Observe baby's sleeping pattern				
22. Check baby's weight				
23. Ask mother about baby's voiding				
24. Ask mother about baby's stool				
25. Encourage mother to participate in mutual goals setting for six months of exclusive breastfeeding with staff nurse				
26. Inform mother about the advantages of six month's exclusive breastfeeding				
27. Involve supporting person for exclusive breastfeeding				
28. Planning for teaching about breastfeeding information				
29. Give information regarding the importance of breastfeeding				
30. Initiate breastfeeding within one hour after birth				
31. Explain importance for frequency of feeding				
32. Take action to solve the breastfeeding problems				
33. Assist mother's positioning and attachment to initiate breastfeeding				
34. Offering help to assist with next feeding				
35. Teach mother how to recognize signs of hunger in a new born				
36. Advising diet to maintain breastfeeding for six months				
37. Suggest a lot of liquid diet				
38. Support mother to maintain breastfeeding				



Items	Never (0)	Rare (1)	Sometimes (2)	Always (3)
39. Keep mother and baby together				
40. Facilitate the environment for mother rest				
41. Encourage family member to support mother breastfeeding at home				
42. Reassurance about the success of breastfeeding				
43. Refer to support groups, if required				
44. Provide information about lactation management center for breastfeeding support				
45. Demonstrate correct position and attachment of breastfeeding				
46. Demonstrate how to express breast milk for next feeding				
47. Tell mother to offer one breast usually in each feeding and another breast on demand				
48. Teach mother about the indicator of well feeding				
49. Teach mother that relaxation is necessary for effective breastfeeding				
50. Ask mother to tell the importance of exclusive breastfeeding				
51. Observe mother to return demonstrate of breastfeeding technique				
52. Ask mothers to state available supporting person after discharge.				
53. Ask mother to list the signs that her baby getting adequate breast milk.				
54. Ask mother to demonstrate manual pumping technique.				
55. Ask mother to state management of common breastfeeding problem.				

**APPENDIX D**  
**CONSENT FORM**

Research Title: The Roles of Nurses in Promoting Exclusive Breastfeeding Perceived by Mothers and Staff nurses in Bangladesh.

My name is Pronita Rani Raha. I am student of master of Nursing Science, Faculty of Nursing, Prince of Songkla University, Thailand. I am also a clinical Nurse. My working place is Sir Salimullh Medical College and Mitford Hospital Dhaka. I am conducting a research study on “To identify the role of nurses in promoting exclusive breastfeeding perceived by mothers and staff nurses in Bangladesh.” I need information about the roles of nurses in promoting exclusive breastfeeding from mothers those who are admitted to the postnatal ward of Dhaka Medical College Hospital, Dhaka, Sir Salimullah Medical College and Mitford Hospital, and Shahid Sarowardy Medical College Hospital, Dhaka. This research study is necessary for the partial fulfillment of the requirement of Master of Nursing Program at Prince of Songkla University, Hatyai, Thailand. The study and its procedures have been approved by the Institutional Ethics Committee of the Faculty of Nursing, Prince of Songkla University, Thailand. The study procedure does not involve any risk or harm to you or your organization. You are requested to respond to these questions and give your personal information about the roles of nurses in promoting exclusive breastfeeding. It should take approximately 30-60 minutes to complete the questionnaire. A code is used so that your identity will be kept confidential. The information gathered will be used to write a research report. The study findings will be helpful to provide quality nursing care in the clinical and



## **APPENDIX E**

### **LIST OF CONTENT VALIDITY EXPERTS**

Three experts examined the content validity of the instruments for the roles of nurses in promoting exclusive breastfeeding.

1. Assist. Prof. Dr. Sasikarn Kala, Faculty of Nursing, Prince of Songkla University, Thailand.
2. Sumonta Kabinlapat RN, Antenatal care unit, Songkhla Hospital, Thailand.
3. Ava Adhikari, Senior Staff Nurse, Sir-Salimullah Medical College and Mitford Hospital, Dhaka, Bangladesh.

## APPENDIX F

Analysis Regarding the Items with Highest and Lowest Mean Score, SD, and Level of the Roles of Nurses in Promoting Exclusive Breastfeeding Perceived by Mothers and Staff Nurses (Table 14)

Table 14

*Mean, SD, and Level of Items with Highest and Lowest Score Regarding the Roles of Nurses in Promoting Exclusive Breastfeeding Perceived by Mothers (n = 80)*

<i>Five Items with Highest of Data Collection and Assessment Roles of Nurses</i>	Mothers		
	Mean	SD	Level
Check baby's weight	2.60	0.56	High
Check baby's congenital problems such as cleft lip and plate	2.55	0.61	High
Ask mother about baby's voiding	2.51	0.69	High
Check babies vital sign	2.48	0.76	High
Ask about the importance of breastfeeding for mother and baby	2.42	0.78	High
<hr/>			
<i>Five Items with Lowest of Data Collection and Assessment Roles of Nurses</i>			
Ask mother cultural beliefs regarding exclusive breastfeeding	0.53	0.99	Low
Ask about mother's choice of baby's feeding	1.05	1.11	Moderate
Ask mother's feels satisfied with breastfeeding	1.06	1.10	Moderate
Ask mother about the family to support for continue breastfeeding	1.08		Moderate
Ask mother's intention to breastfeeding	1.10	1.18	Moderate

Table 14 (Continued)

	Mother		
	Mean	SD	Level
<i>Two Items with highest of Planning Roles of Nurses</i>			
Inform mother to healthy baby six months duration of exclusive breastfeeding	1.99	1.06	Moderate
Planning for teaching about breastfeeding information	1.46	1.10	Moderate
<i>Two Items with Lowest of Planning Roles of Nurses</i>			
Encourage mother to participate in mutual goals setting for six months of exclusive breastfeeding with staff nurse.	1.29	1.00	Moderate
Involve supporting person for exclusive breastfeeding	1.44	1.11	Moderate
<i>Five Items with Highest of Implementation Roles</i>			
Keep mother and baby together	2.84	0.51	High
Initiate breastfeeding with one hour after birth	2.75	0.65	High
Explain reason for frequency of feeding	2.66	0.79	High
Suggest a lot of liquid diet	2.21	0.87	High
Take action to solve the breastfeeding problems	2.39	0.85	High
<i>Five Items with Lowest of Implementation Roles</i>			
Teach mother that relaxation is necessary for effective breastfeeding	1.19	1.11	Moderate
Teach mother about the indicator of well feeding	1.24	1.07	Moderate
Reassurance about the success of breastfeeding	1.41	1.07	Moderate
Provide information about community resources for breastfeeding support	1.20	1.09	Moderate
Refer to support groups, if required	1.25	1.10	Moderate

Table 14 (Continued)

<i>Two Items with Highest of Evaluation Roles of Nurses</i>	Mothers		
	Mean	SD	Level
Ask mother to return demonstrate of breastfeeding technique	0.56	0.82	Low
Ask mothers to state available supporting person after discharge.	0.54	0.81	Low
<i>Two Items with Lowest of Evaluation Roles of Nurses</i>			
Tell mother to demonstrate pumping technique.	0.54	0.81	Low
Ask mother to state management of common breastfeeding problem.	0.54	0.81	Low

Table 15

*Mean, SD, and Level of Items with Highest and Lowest Score Regarding the Roles of Nurses in Promoting Exclusive Breastfeeding Perceived by Staff Nurses (n = 80)*

<i>Five Items with Highest of Data Collection and Assessment Roles of Nurses</i>	Staff Nurses		
	Mean	SD	Level
Ask mother time of initiation for exclusive breastfeeding	2.95	0.22	High
Check baby's congenital problems such as cleft lip and plate	2.93	0.38	High
Check babies vital sign	2.91	0.28	High
Ask about importance of maternal diet	2.91	0.24	High
Ask mothers signs of adequate breast milk supply	2.91	0.28	High

Table 15 (Continued)

<i>Five Items with Lowest of Data Collection and Assessment Roles of Nurses</i>	Staff nurses		
	Mean	SD	Level
Listen to audible swallowing during baby's feeding.	2.64	0.62	High
Observe baby's sleeping pattern	2.73	0.50	High
Ask mother about baby's stool	2.79	0.44	High
Ask mother cultural beliefs regarding exclusive breastfeeding	2.55	0.78	High
Ask mother about the family to support for continue breastfeeding	2.74	0.54	High
<i>Two Items with Highest of Planning Roles</i>			
Inform mother to healthy baby six months duration of exclusive breastfeeding	2.93	.26	High
Encourage mother to participate in mutual goals setting for six months of exclusive breastfeeding with staff nurse.	2.85	.45	High
<i>Two Items with Lowest of Planning Roles</i>			
Involve supporting person for exclusive breastfeeding	2.80	.49	High
Planning for teaching about breastfeeding information	2.84	.37	High
<i>Five Items with Highest of Implementation Roles of Nurses</i>			
Explain reason for frequency of feeding	2.99	0.11	High
Initiate breastfeeding within one hour after birth	2.99	0.11	High
Give information regarding the importance of breastfeeding	2.98	0.16	High
Support mother to maintain breastfeeding	2.98	0.16	High
Suggest a lot of liquid diet	3.00	0.00	High



Table 15 (Continued)

<i>Five Items with Lowest of Implementation Roles of Nurses</i>	Staff Nurses		
	Mean	SD	Level
Refer to support groups, if required	2.48	0.90	High
Provide information about community resources for breastfeeding support	2.50	0.90	High
Facilitate the environment for mother rest	2.69	0.63	High
Encourage family member to support mother breastfeeding at home	2.69	0.63	High
Offering help to assist with next feeding	2.71	0.48	High
<i>Two Items with Highest of Evaluation Roles of Nurses</i>			
Ask mother to tell the importance of breastfeeding	2.55	0.90	High
Ask mother to state management of common breastfeeding problem.	2.53	0.90	High
<i>Two Lowest Items of Evaluation Roles of Nurses</i>			
Ask mother to return demonstrate of breastfeeding technique	2.44	3.00	High
Ask mother to list the signs that her baby getting adequate breast milk.	2.46	0.91	High

## VITAE

**Name** Pronita Rani Raha

**Student ID** 5110420085

### **Educational Attainment**

<b>Degree</b>	<b>Name of Institution</b>	<b>Year of Graduation</b>
Diploma in Nursing	Nursing Institute, Medical College and Hospital, Dhaka	1989
Diploma in Midwifery	Nursing Institute, Medical College and Hospital, Dhaka	1990
Bachelor of Arts	National University	1993
Bachelor of Public Health Nursing	Dhaka University	2000

### **Scholarship Awards during Enrolment**

June, 2008-2010 scholarship awarded by The Government of the People's Republic of Bangladesh for the Degree of Master of Nursing Science (International Program), Faculty of Nursing, Prince of Songkla University, Thailand.

### **Work –Position and Address**

Senior Staff Nurse  
Sir-Salimullah Medical College and Mitford  
Hospital, Dhaka, Bangladesh