

EXCLUSIVE BREASTFEEDING EXPERIENCES AMONG
MOTHERS IN BANGKOK, THAILAND: FINDINGS FROM
A MIXED-METHODS STUDY

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วัตถุประสงค์ของการศึกษาด้วยวิธีการผสมผสานนี้เพื่อศึกษาความรู้ ทักษะ และการปฏิบัติทั้งในการเลี้ยงลูกด้วยนมแม่อย่างครบถ้วนและการเลี้ยงลูกด้วยนมแม่ไม่ครบถ้วน พร้อมทั้งหาปัจจัยสนับสนุนและอุปสรรคในการเลี้ยงลูกด้วยนมแม่ในกลุ่มมารดาที่อาศัยอยู่ในกรุงเทพมหานคร การศึกษาแบบภาคตัดขวางกับมารดาหลังคลอด จำนวน 208 คน โดยใช้แบบสอบถามเชิงปริมาณประเมินความรู้ ทักษะ และการปฏิบัติพร้อมทั้งหาปัจจัยสนับสนุนและอุปสรรคในการเลี้ยงลูกด้วยนมแม่อย่างครบถ้วน การวิเคราะห์ในเชิงคุณภาพด้วยการสัมภาษณ์เชิงลึกกับมารดาหลังคลอดจำนวน 7 คน และผู้เชี่ยวชาญด้านการเลี้ยงลูกด้วยนมแม่จำนวน 2 คน การวิเคราะห์ข้อมูลใช้สถิติเชิงพรรณนา การทดสอบไค-สแควร์ และการวิเคราะห์พหุตัวแปร

ในการวิเคราะห์ข้อมูลเชิงปริมาณ พบว่า ผู้หญิงไทยในกรุงเทพมหานครจำนวน ร้อยละ 14 มีการเลี้ยงลูกด้วยนมแม่อย่างครบถ้วนในบางช่วงเวลา ซึ่งมีอยู่จำนวนร้อยละ 10.1 ที่เลี้ยงลูกด้วยนมแม่อย่างครบถ้วนเป็นระยะเวลา 6 เดือน ได้มีการพูดคุยกันในช่วงที่มีการนัดหมายก่อนคลอดและการฝากคลอดในเรื่องระดับของรายได้ ความรู้ในเรื่องการเลี้ยงลูกด้วยนมแม่ และระยะเวลาในการเลี้ยงลูกด้วยนมแม่ซึ่งพบว่ามีความสัมพันธ์ในเชิงบวกกับการเลี้ยงลูกด้วยนมแม่อย่างครบถ้วน โดยจำนวนครั้งของการเลี้ยงลูกด้วยนมแม่ที่ได้มีการพูดคุยกันมีความสัมพันธ์กับผู้ที่ให้คำแนะนำสูงสุด (จำนวน 2 ครั้ง: OR 3.798, 95% CI: 1.039, 13.879; จำนวน 3 ครั้งหรือมากกว่า: OR 3.374, 95% CI: 1.034, 11.016) ข้อมูลเชิงคุณภาพได้แสดงให้เห็นถึงปริมาณน้ำนมที่น้อย การทำงานนอกบ้าน การให้อาหารเสริมอื่นๆ (โดยเฉพาะน้ำ) และขาดการได้รับการสนับสนุนจากอุปสรรคต่างๆและพ่อแม่เจ้าหน้าที่โรงพยาบาลและ ความรู้ในการเป็นผู้ให้คำแนะนำที่เข้มแข็งด้านการเลี้ยงลูกด้วยนมแม่อย่างครบถ้วน ดังนั้นการมีความรู้เพิ่มมากขึ้นในเรื่องของความสามารถของทารกที่จะเจริญเติบโตด้วยการกินนมแม่เพียงอย่างเดียวเป็นระยะเวลา 6 เดือน และการเพิ่มการให้คำแนะนำพูดคุยในช่วงที่มีการฝากครรภ์ เป็นสิ่งสำคัญที่จะช่วยเพิ่มการเลี้ยงลูกด้วยนมแม่อย่างครบถ้วนได้

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The purpose of this mixed-methods study was to investigate knowledge, attitude and exclusive breastfeeding practice, as well as, facilitators and barriers to exclusive breastfeeding in Bangkok. This cross-sectional study of 208 postpartum mothers used a quantitative questionnaire to assess knowledge, attitude and practice, as well as facilitators and barriers to exclusive breastfeeding practices. Qualitative analyses were based on in-depth interviews of 7 postpartum mothers and 2 breastfeeding experts. Data were analyzed using descriptive statistics, Chi square and multivariable analyses.

In the quantitative analyses, 14% of Thai women in Bangkok did exclusive breastfeeding for some duration of time, with 10.1% exclusively breastfeeding for 6 months. Income level, knowledge of breastfeeding, number of times breastfeeding was discussed during antenatal visits and caesarean deliveries were positively associated with exclusive breastfeeding, with number of times breastfeeding discussed being the most highly associated facilitator (two times: OR 3.798, 95% CI: 1.039, 13.879; 3 or more times: OR 3.374, 95% CI: 1.034, 11.016). Qualitative data showed low milk supply, working outside the home, supplemental feedings (especially water) and perceived lack of supports as barriers and parents, hospital staff and knowledge as strong facilitators to an exclusive breastfeeding practice. Increased knowledge regarding an infant's ability to thrive on breast milk alone for 6 months and enhanced discussions during antenatal care are important to increase exclusive breastfeeding.

Field of Study :Public Health..... Student's Signature.....

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CHAPTER I

INTRODUCTION

Background and Significance of the Problem

Breastfeeding has the potential to save neonatal, infant and young child lives and to reduce morbidity. It is estimated that promotion of exclusive breastfeeding for six months could prevent 13% of global annual child mortality (Jones, et al., 2003). More than 10 million children under five die each year with 41% of these deaths occurring in sub Saharan Africa and 34% happening in South Asia. A major cause of these deaths is inadequate breastfeeding practices and high levels of disease (Quinn, Guyon, and Ramiandrazafy, 2010). Breastfeeding is ranked as one of the safest and most efficient health interventions to achieve the Millennium Development Goal 4: reduce child mortality (Bryce, et al., 2006).

Breast milk is widely accepted as the best type of nutrition for newborns and infants, with many health organizations like the World Health Organization (WHO) and the United Nation's Children's Fund (UNICEF) recommending exclusive breastfeeding for all babies until they reach six months old and additional foods are introduced. It is also their recommendation to continue partial breastfeeding until children are at least two years old (WHO, 2003). Exclusive breastfeeding is breastfeeding while giving no other food or liquids, not even water, with the exception of liquid vitamins or medicines. Partial breastfeeding is giving breast milk to children in addition to solid or semi solid foods (WHO, 2003).

Exclusive breastfeeding has been associated with many benefits, including a decrease in infant death. A study in Bangladesh showed increased incidences of infant death for babies who were not exclusively breastfed as compared to those who were

(Arifeen, et al, 2008). Exclusive breastfeeding has been associated with a decreased number of ear infections, pneumonia and meningitis, as well as decreased diseases like diarrhea, asthma, allergies, diabetes, some childhood cancers, as well as multiple sclerosis and arthritis (California Department of Public Health, 2010). A reduction in infections may be due to the role of breast milk in immunity building and/or it could be due to reduced exposure to contaminated supplemental feedings (Molbak, et al, 1997). Either way, breastfeeding reduces infections.

Breast milk has the correct proportions of fat, carbohydrates and proteins new babies need (American Academic of Pediatrics, 1997). Breast milk has a high concentration of lactose, or milk sugar, which is an excellent source of carbohydrates. The high amount of whey protein in human milk (versus casein protein in animal milk) helps infants digest milk more easily (Lawrence, 2011). Additionally, breastfeeding offers wonderful benefits to the mother, such as increased weight loss post pregnancy, reduced blood loss post delivery, reduced levels of both breast and ovarian cancers, and can be effective in family planning and child spacing (California Department of Public Health, 2010).

Complementary feeding, too early, can greatly impact the health and development of infants. Oftentimes, feeding occurs too early and the foods are nutritionally inadequate and unsafe (WHO/UNICEF, 2003). Continuing breastfeeding, especially in developing nations where many mothers cannot afford or gain access to quality and hygienic foods becomes a significant investment in child health.

Some of the most commonly known benefits to breastfeeding include: enhanced nutrition, cognitive development, emotional development, decreased risk of infections for infant, decreased rate of sudden infant death syndrome (SIDS), increased bonding between mother and child, boost to mother's well-being, improved child spacing, improved bone structure for mother, reduction in some cancers for mother, weight loss and uterine strengthening for mother, free of costs, convenient,

reduced health care costs, decreased infant death and improved interaction and communication between mother and child (Bottorff, 1990).

Decreased diarrheal disease has been well documented as a result of exclusive breastfeeding. Diarrhea, in developing nations, is a leading cause of infant morbidity and mortality (Bryce, et al, 2005). Globally, 1.87 million children under five die each year with 19% of those deaths attributable to diarrhea (Boschi-Pinto, 2008). Exclusive breastfeeding has been shown to reduce infant malnutrition and mortality due to a reduction of diarrhea and acute respiratory infections (Arifeen, et al., 2001), whereas early weaning is associated with increased incidence of both (Melo, et al, 2008). The Millennium Global Development goal to reduce child mortality by 2/3 by 2015 depends heavily on the prevention and control of diarrhea, pneumonia and malnutrition (Bryce, et al., 2005). Increased rates of breastfeeding, particularly exclusive breastfeeding, for six months would play a considerable role in this improvement.

Worldwide breastfeeding

Even with the recommendations of organizations like WHO and UNICEF, exclusive breastfeeding during the first six months of life only occurs for 38% of infants in the developing world (UNICEF, 2007). Breastfeeding is increasingly important for developing nations, where requirements for safe bottle-feeding cannot always be met. To successfully feed an infant formula or non-human milk, a person needs clean water, the milk or formula, money, a means of storage, containers and feeders, and effective cleaning methods. In the more developed parts of the world, these conditions can usually be met, but in developing nations or nations dealing with natural disasters or military conflict, they often cannot. This makes it even more imperative for women in developing nations to breastfeed their infants (Lawrence, 2011).

In the developed world, numbers of breastfeeding women are not much better. A UK study showed the pattern of exclusive breastfeeding decreasing from 54.8% in the first month to 31% in the third and only 9.6% in the fourth month due to the introduction of solids (Pontin, et al., 2007). In the United States, the rate of exclusive breastfeeding at three months is 33% and at six months is a relatively low 13.3% (CDC, 2010). In Hong Kong, only 10% and 2% of mothers exclusively breastfeed their infants at three and six months, respectively (Wong, et al., 2007).

Thailand breastfeeding

Thailand's National Statistics Office (NSO) conducted the Thailand Multiple Indicator Cluster Survey (MICS) with support from UNICEF Thailand to collect data on Thailand's children that could be used as tools in monitoring and evaluation of child development. Prior to this study, data on children in Thailand was quite limited. Thailand recognized the need for improved quality studies and therefore from December 2005 to February 2006, the NSO surveyed 43,400 households throughout the country on several key indicators related to the well being of both women and children (Thailand National Statistical Office, 2006).

The MICS data showed only 7.6% of infants being exclusively breastfed during the first three months and an even lower rate of 5.4% for infants from zero to five months of age (Thailand National Statistical Office, 2006). Central Thailand (including Bangkok) had the lowest level of exclusive breastfeeding in the country with only 2.4% of women exclusively breastfeeding at six months postpartum. The Northern region had the highest level, with 10.9% of infants being exclusively breastfed at six months (NSO, 2006). About half of the mothers did initiate breastfeeding within one hour after delivery and by 12-15 months, 31.6% were still nursing at some level and 18.7% were nursing at 20-23 months postpartum (NSO, 2006). This shows that many women are breastfeeding in combination with giving water and other foods; they just are not abiding by the recommended exclusive breastfeeding for infants.

There has been much work in Thailand to promote breastfeeding. The National Breastfeeding Project began in 1989 with the major objective to encourage postpartum mothers to exclusively breastfeed for the first six months and breastfeed with supplementary food until infants reached two years of age (Kupratakul, et al., 2010). The main activities of the National Breastfeeding Project are the promotion of the Baby-Friendly Hospital Initiative, improved legislation for maternity leave, and support toward the Code of Marketing of Breast Milk Substitutes and their related products (Kupratakul, et al., 2010).

The Baby Friendly Hospital initiative (BFHI) was established in Thailand in 1991, as a joint effort by WHO and UNICEF to ensure that all maternities, whether free standing or in a hospital, become centers of breastfeeding support (WHO/UNICEF, 1989). In Thailand, the BFHI works to encourage mothers to exclusively breastfeed for at least four months and then breastfeed while giving food until the baby reaches 2 years (Office of Policy and Planning, Ministry of Public Health, 1998 TH). Shortly after its initiation in Thailand, one study showed that the implementation of BFHI in a regional Thai hospital increased exclusive breastfeeding rates at four months by 23% from pre-implementation levels (Buranasin, 1991). Any maternity center can be 'baby friendly' if it does not accept free or low cost breast milk substitutes and supplies and when it has implemented the following ten steps to support successful breastfeeding:

- 1) Have a written breastfeeding policy that is routinely communicated to all staff;
- 2) Provide training in implementation skills to all health staff;
- 3) Inform all pregnant women about the benefits and management of breastfeeding;
- 4) Promote initiation of breastfeeding within had an hour of birth;
- 5) Show mothers how to breastfeed and maintain lactation, even if they are separated from their infants;
- 6) Provide breast milk only, unless medically indicated;
- 7) Allow mothers and their infants to remain together 24 hours a day;

- 8) Encourage breastfeeding on demand
- 9) Provide no artificial teats or dummies; and
- 10) Foster the establishment of and referral to breastfeeding support groups (WHO/UNICEF, 1989).

A national target of 30% of babies being exclusively breastfed through six months of age was decided at the Ninth National Health Development Plan (NHDP), which was a plan for the years 2002-2006 (Kupratakul, et al., 2010). A recent study of the prevalence of exclusive breastfeeding, reported 11% of women in Bangkok were exclusively breastfeeding at six months (Laisiriruangrai, et al, 2008). While this is an increase since the 2006 MICS results of just 2.4% of Bangkok mothers exclusively breastfeeding for six months, this is still far from the targeted 30%.

Additionally, in 2009, NSO, the Department of Health (DOH), the United Nations Population Fund (UNFPA) and the College of Population Studies at Chulalongkorn University developed and implemented a study in reproductive health (RH) to assess the access to and status of RH in Thailand. This study was conducted in May 2009 and covered the topics: family planning, maternal and child health, AIDS, breast and cervical cancer, infertility, sex education and adolescent health (The National Statistical Office, 2009). This survey showed that 15.1% of women in Thailand provided exclusive breastfeeding to their infant for the first six months of life (NSO, 2009). This is half way to Thailand's goal of 30% exclusive breastfeeding for six months.

Rationale for this study

While several studies have shown the low prevalence of exclusive breastfeeding in Thailand, there has not been much research done specifically on women living in Bangkok or why certain demographic groups in Bangkok have lower rates than women anywhere else in the country (MICS, 2006). Knowledge about the significance of demographic characteristics, as well as, antenatal care as they relate to exclusive breastfeeding could help advocates push for new programs and legislation

that would be more supportive of breastfeeding. Additionally, knowledge about why women in Bangkok are not exclusively breastfeeding, not merely that they are not, would be very significant in restructuring antenatal care and follow up programs to directly meet the needs of this population of women. The purpose of this study is to investigate exclusive breastfeeding practices and the barriers and facilitators to this practice in Thai mothers living in Bangkok. Additionally, most studies of women's breastfeeding practices in Thailand are done quantitatively with questions that don't allow for much expansion or explanation of barriers to exclusive breastfeeding, while this study combines both quantitative and qualitative methods to elaborate on this very significant topic.

Research Questions

Which factors are significantly associated with exclusive breastfeeding practices in mothers living in Bangkok?

Which factors contribute to mothers in Bangkok having some of the lowest prevalence of exclusive breastfeeding in Thailand?

What are the knowledge, attitude and practice of exclusive breastfeeding, non-exclusive breastfeeding and no breastfeeding among mothers living in Bangkok?

Hypothesis

There is a significant relationship between exclusive breastfeeding and education level in Bangkok.

There is a significant relationship between socio-economic status and exclusive breastfeeding in Bangkok.

There is a lack of support available for women who plan to exclusively breastfeed in Bangkok.

There is a significant relationship between Thai women's knowledge of breastfeeding and their practice of exclusive breastfeeding.

There is a significant relationship between Thai women's attitude toward breastfeeding and their practice of exclusive breastfeeding.

Objectives

To determine the knowledge, attitude and practice of exclusive breastfeeding and non-exclusive breastfeeding among postpartum women living in Bangkok.

To determine the prevalence of and the factors significantly associated with exclusive breastfeeding and non-exclusive breastfeeding in postpartum women in Bangkok.

Assumption

The data obtained from the subjects of this study is assumed to be completely accurate.

Operational Definitions

Diarrhea: defined as passage of three or more loose stools a day or blood in stool in the last two weeks as reported by caregiver

Exclusive breastfeeding: infants are fed only with the mother's breast milk, either through breastfeeding or expressed and bottle-fed. No other food or liquid (including water) are given to the child, with the only exceptions being liquid vitamins or medicine or oral rehydration solution. In this study, exclusive breastfeeding refers to the practice and does not specify duration of time.

Non-exclusive breastfeeding: giving a baby some breastfeeds, and some artificial feeds (formula), milk or cereal, water, juices or other food or liquids

No breastfeeding: refers to infants that are fed no breast milk; only formula milk and other liquids or foods. For this study, no breastfeeding means baby never put to breast.

Knowledge about breastfeeding: refers to mothers' understanding of the benefits of breastfeeding, as well as, the techniques for proper breastfeeding measured through a quantitative questionnaire developed by researcher

Attitude toward breastfeeding: refers to belief, feeling and acceptance of breastfeeding as measured by a quantitative survey developed by researcher

Practice of breastfeeding: refers to past or current experience breastfeeding, either exclusively or otherwise

Reasons for not exclusively breastfeeding: refers to barriers to exclusive breastfeeding apparent in Bangkok, Thailand and was measured by qualitative questioning of mothers in Bangkok.

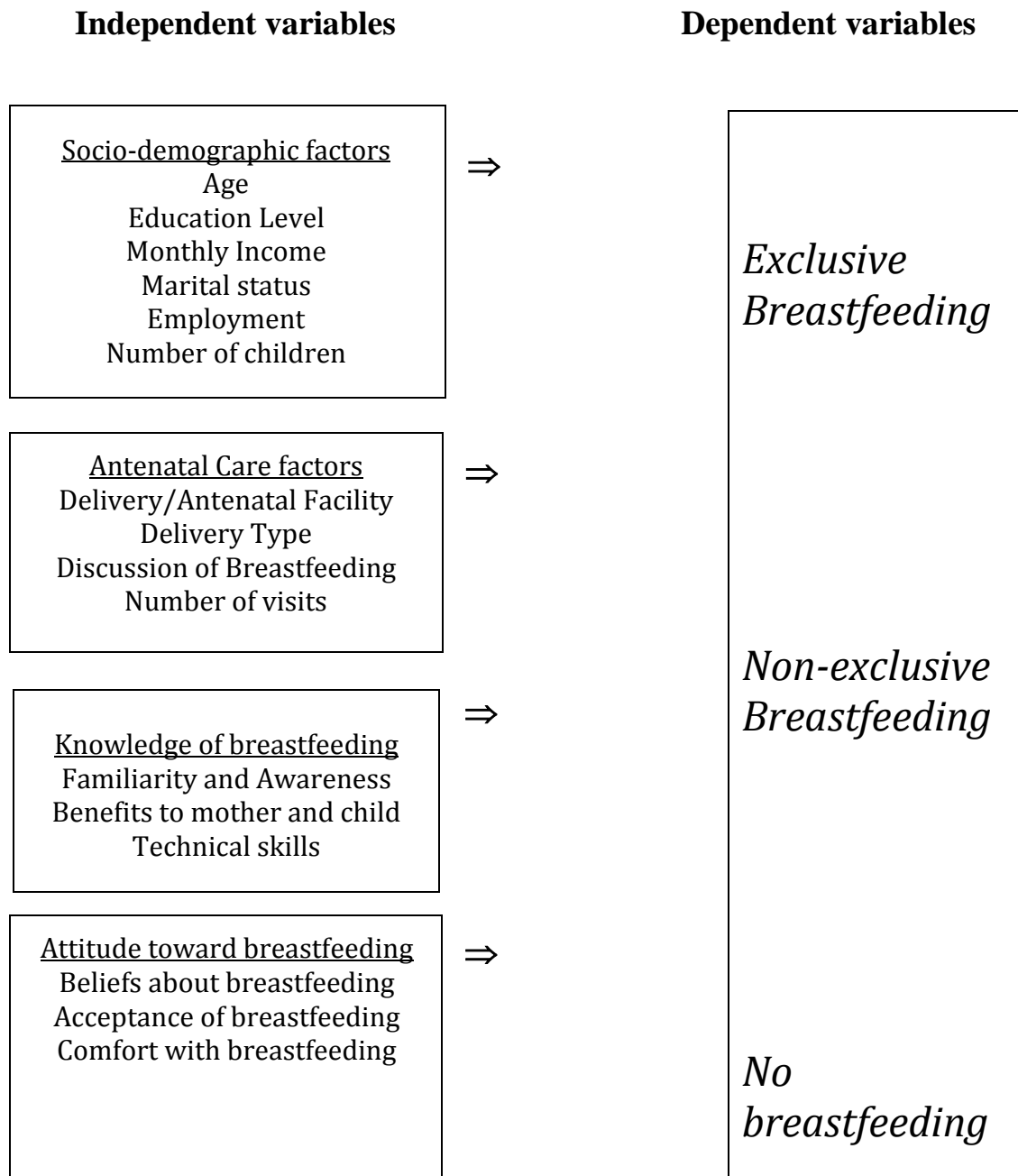
Prelacteal feeds are those foods given to newborns before breastfeeding is established or before breast milk "comes in," usually on the first day of life. Depending on one's culture, prelacteals can include honey, water, sugar water, rice and various other substances.

Expected Benefit and Application

Exclusive breastfeeding has been proven to have multiple benefits to both mother and child. This study shows factors contributing to the low number of women exclusively breastfeeding their babies from zero to six months. With these findings,

policies and programs can be put in place to further educate the public about breastfeeding advantages and facilitate exclusive breastfeeding. Findings will hopefully strengthen outreach to various populations and influence policies that currently inhibit women's ability to exclusively breastfeed.

Figure 1: Conceptual Framework of the study



CHAPTER II

LITERATURE REVIEW

Barriers to women choosing exclusive breastfeeding

Throughout the world, there is ample information available about the importance of exclusive breastfeeding, the health benefits to both mother and child, the cost benefits and the convenience. So why then are so many women reluctant to exclusively breastfeed and for those who start, why do they stop before the targeted six months? There are many barriers to women's ability and desire to breastfeed. Some notable barriers are: lack of information, lack of support, family or peer influence, discomfort with nursing, lack of confidence in self or milk supply, difficulty with technique, caesarean deliveries or multiple births, body image and feelings about breasts, working outside the home, whether mother was breastfed herself, maternal age and the use of prelacteal feeds.

Lack of confidence in self and supply

Lack of confidence can be associated with shortened duration of breastfeeding (Blyth, 2002). Studies have shown that many women feel they would be unable to make enough milk for their baby or that they would be unable to successfully breastfeed their baby because their sisters did not make enough milk or their mother reported that she could not breastfeed her children successfully (Bryant, 1992). A lack of confidence has shown to be associated with stopping breastfeeding before two weeks postpartum (Ertem, 2001). In China, a study found that 41.1% of women, at discharge, already felt that their milk supply was insufficient to feed their babies (Qiu, et al., 2009).

Confidence is also connected with comfort level in breastfeeding. In the

United States, 37% of people answering a survey about breastfeeding thought that mothers who breastfeed should do so in private places only, and only 48% of respondents reported being comfortable when "a mother breastfeeds her baby near me in a public place" (Li, 2001). However, as of 2010, 49 of the 50 states and Washington D.C. have laws protecting a mother's right to breastfeed her baby in a public place (CDC, 2010). This type of security for nursing mothers can significantly impact a woman's confidence and ability to breastfeed.

Cultural beliefs about feeding and prelacteal feeds

Prelacteal feeds are those foods given to newborns before breastfeeding is established or before breast milk "comes in," usually on the first day of life. Depending on one's culture, prelacteals can include honey, water, sugar water, rice and various other substances. Some believe prelacteals are a necessary substitute for colostrum. In Laos, women often discard colostrum because they believe it causes diarrhea. They replace this milk with prelacteal feeds, usually of honey until their milk comes in (Holmes, et al., 2007). Burmese women also provide prelacteal feeds, usually of rice, to their babies (Lefèber and Voorhoeve, 1999). Other studies have also reported "insufficient milk supply" as a reason for providing prelacteals (McKenna, 2009). Water is a very common prelacteal feed and commonly its usage continues even once breast milk 'comes in.' Studies have shown, that even in hot and humid climates, water is not necessary when breastfeeding or giving formula feeds. Extra water can actually be detrimental to the infant and should be avoided (Sachdev, et al., 1991 and Almroth and Bidinger, 1990).

Lack of support in hospital

Studies have shown that antenatal education, postnatal support, peer counseling and knowledge sharing with empowerment strategies significantly improve exclusive breastfeeding rates at six months postpartum (Su, et al, 2007; Anderson, et al., 2005; and Kupratakul, et al., 2010). When women are informed about breastfeeding and its benefits it impacts their ability to plan whether to

breastfeed or not. There is a strong correlation between a woman's planned duration of breastfeeding and the length of time she actually breastfeeds (Kaewsarn and Moyle, 2000; O'Brien and Fallon, 2003). In a study from China, while 96.9% of women surveyed initiated breastfeeding in the hospital, by discharge only 50.3% of women were exclusively breastfeeding (Qiu, et al., 2009).

Providing formula in hospitals

The WHO estimates 1.5 million babies could be prevented from dying, each year, if women exclusively breastfed their infants for up to six months and then continued breastfeeding while giving solids until the infant was two years (WHO, 1993). If women choose to use an alternative to breast milk, she should do so voluntarily and not as a result of pressure from commercial promotions. WHO International Code on marketing of breast milk substitutes was established in 1981 to encourage breast feeding and to protect mothers from pressure to use alternative sources of feeding (WHO, 1981). Thailand supports this code, but it was found that in 1998, 97 out of 370 mothers in Bangkok reported receiving free samples of items meant to encourage substitute feeding (Taylor, 1998).

Lack of family/friends support

Partner support, family support and friend support have all been shown to be influential in a woman's decision to initiate breastfeeding and whether she exclusively breastfeeds (Fallon, 2005).

Separation of mother and child post delivery

There is some evidence supporting that early skin to skin contact after birth, keeping mother and baby together during hospital stay and early discharge have an influence on whether a mother initiates breastfeeding and maintains exclusive breastfeeding (Wright, Rice and Wells, 1996).

Cesarean delivery/ Multiples/ premature

An Australian study of 3600 children found that infants born before 40 weeks had an increased risk of being artificially fed than infants born full term and later (Donath and Amir, 2008). In China, it has also been found that infants born vaginally are more likely to be exclusively breastfed than those born via cesarean delivery (Qiu, et al., 2009). Mothers of multiple births tend to breastfeed less often than mothers with single births.

Mothers working outside the home

In the UK, a study showed that women with routine jobs with the least favorable working conditions, were more than four times less likely to initiate breastfeeding as compared with women in more professional occupations and were less likely to exclusively breastfeed their baby at one month postpartum (Kelly and Watt, 2005). Additional studies have supported the finding that early return to work hinders breastfeeding practices (Fallon, et al., 2005). In Malaysia, women are given different length maternity leaves depending on whether they work in the public or private sector with women in the private sector receiving three months leave while women in the public sector receiving only two (Amin, et al., 2011).

For those mothers returning back to work, a supportive workplace and working environment are essential in determining the success of breastfeeding. Women need flexible time to express milk other than the usual rest time and they need somewhere to store the milk, like a refrigerator. Time and storage are associated with breastfeeding discontinuation (Amin, et al., 2011). Interestingly enough, mothers surveyed in Malaysia with longer maternity leaves due to working in private sector, discontinued breastfeeding earlier than those who had a shorter leave. The private sector is less supportive towards breastfeeding practices in this area, so the working environment had an even greater impact on breastfeeding practices than leave time alone (Amin, et al., 2011).

Barriers for Thai women and exclusive breastfeeding

While much work has been done in Thailand to encourage exclusive breastfeeding, Thai women are still exclusively breastfeeding at low rates. Thai women are faced with many of the same barriers mentioned above and have inequities in their experiences, as well. Many factors have been discussed as to why so few women are exclusively breastfeeding their babies in Thailand. One study showed that mothers with higher income tended to breastfeed less and those mothers who worked at home tended to breastfeed more (Zainal, et al., 2004), while another described low maternal self efficacy and lactation problems as associations to low levels of exclusive breastfeeding (Aung, 2007). Additionally, while almost all women receive antenatal care during pregnancy, studies have shown new mothers are given little encouragement from medical staff to breastfeed and little attention as to proper techniques and practices (Keenapan, 2008).

Limited work leave allowances have also been shown to play a role in the duration women are able to breastfeed in Bangkok (Laisiriruangrai, et al, 2008). Also, in Thailand, due to rapid development, more women have begun to work outside the home, which presents a barrier to exclusive breastfeeding practices (Keenapan, 2008). One study showed that 51% women participants discontinued exclusive breastfeeding because they returned to work and 32% reported problems with breastfeeding as their reason for weaning (Somchai, 1998). In the 2009 Reproductive Health Survey, as well as in the MICS data from 2006, wealthier women tended to exclusively breastfeed less than poorer women (Kongsri, et al., 2011). Reasons for this may be a wealthier woman's ability to purchase formula, the status of using formula versus nursing and a wealthier woman's quick return to the paid work force.

In Thailand, a National Health Commission study found that violation of the code against advertising and supplying milk substitutes occurred in 31% of hospitals, pharmacies and private clinics surveyed (Bangkok Post, 2010). Additionally, during their hospital stay roughly 30% of new mothers gave water to their infant in the

hospital. 51% of these mothers were afraid the infant would be thirsty, 38% wanted to ensure the infant's good health and 11% wanted to prevent dry mouth in the infant (Somchai, 1998).

The 2009 Reproductive Health Survey in Thailand found that 12.4% of infants born were low birth weight. This implies that one out of eight pregnant Thai women have such low nutrition that the baby's health is also impacted. Mothers with poor health have more difficulties with breastfeeding, mainly due to confidence in supply and ability to maintain supply (Kongsri, et al., 2011). In neighboring Laos, women report eating well during pregnancy, but have many restrictions including healthy foods, like bananas, for the fear that they will make their baby too large (Holmes, et al., 2007).

The National Statistical Office surveys women's reproductive health every couple of years. The latest two surveys were from 2006 and 2009. Rates of exclusive breastfeeding at six months decreased from 25.1% in the 2006 Reproductive Health Survey to 15.5% in 2009. This could be due to the way the questions about exclusive breastfeeding were asked, with the 2009 data, most likely, more accurate due to more detailed questioning (Kongsri, et al., 2011). Additionally, this decrease could show that breastfeeding alternatives were promoted more in 2009, breastfeeding was promoted less during antenatal visits, or new mothers were not able to breastfeed exclusively in 2009 due to changes in working environments or other barriers (Kongsri, et al., 2011).

CHAPTER III

METHODOLOGY

Research Methodology

This cross-sectional study uses a mixed-methodology to assess new mothers' living knowledge, attitude and practice toward exclusive breastfeeding in Bangkok, Thailand. This study involves a quantitative component involving a self-administered questionnaire designed to assess Thai women's knowledge, attitude and practice of exclusive breastfeeding, as well as, a qualitative component of in depth interviews of women and their breastfeeding/infant feeding experiences.

The use of mixed methods in statistical studies is quite helpful. The qualitative data provides context for the quantitative findings and illuminates barriers and facilitators to breastfeeding from the women's perspective. Qualitative findings add depth and dimension to the quantitative findings.

Research Design

Primary data was collected via self-administered questionnaires and in depth interviews were completed by postpartum Thai women living in Bangkok and by breastfeeding experts. The questionnaire and interview weredesigned to assess women's attitude, knowledge and practice regarding exclusive breastfeeding, as well as, the barriers and facilitators to exclusive breastfeeding for Thai women in Bangkok.

Study Area

Primary data was collected from Thai women living in Bangkok, Thailand who were either 1) receiving postnatal care for themselves or pediatric care for their

child at Samitivej Hospital or Queen Sirikit National Institute of Child Health (QSNICH) or 2) from non-hospital sites, such as schools, parks, offices and local neighborhoods. Women from non-hospital sites were approached by researcher and/or Thai assistants if they were seen with children on an appropriate age or if there were large groups of women, like in a school or office setting. Chulalongkorn University and the principal researcher requested formal permission to conduct this research at both Samitivej Hospital and QSNICH and were given approval in both hospitals.

Study Population

The primary data comes from Thai postpartum women, living in Bangkok, with infants from zero to twenty-four months of age. Women in this study were those attending pediatric appointments for their baby, postpartum appointments for themselves or were approached by the research team in various venues throughout Bangkok.

Inclusion criteria: Women must have delivered a live baby who at the time of study is between 0 and 24 months of age and both mother and baby must not have had any serious illnesses post delivery. Women must be Thai, live in Bangkok and speak either Thai or English. Women who had a cesarean delivery will be included in this study even though cesarean deliveries are often associated with low prevalence of exclusive breastfeeding. This inclusion is due to the high number of elective caesareans in Bangkok and a desire to learn more about this population and how caesareans impact a woman's decision to exclusively breastfeed.

Exclusion criteria: Women who suffered themselves or their infant suffered from a serious illness post delivery will be excluded from the study. These characteristics have been shown to greatly reduce ability to exclusively breastfeed. Women who cannot read, write or speak in either English or Thai will not be included in this study. Women who gave birth to multiples will be noted in the findings.

Sampling Technique

This study used purposive sampling of postpartum women in Bangkok, with a variety of economic and educational backgrounds, who seek health services at one of two local hospitals or women in the Bangkok community seen with their child of an appropriate age or in a place with a large number of women. For in-depth interviews, participants were the same as those who completed the survey, except the breastfeeding experts, who were found through community contacts. This technique is similar to snowball technique because the two breastfeeding experts were recommended to me by a number of participants, academics, hospital staff and various breastfeeding support groups in Bangkok.

Sample and Sample Size

This study involved postpartum women who received care for themselves or their child at a Bangkok hospital or who are approached by the research team.

Sample size for the questionnaire was calculated using Cochran's method:

$$\text{Cochran} = \frac{z^2 pq}{e^2} = \frac{(1.96)^2 (.15)(.85)}{(.05)^2} = \mathbf{204 \text{ participants}}$$

For the qualitative interviews, the sample had the same parameters as the quantitative sample and the size was determined by the set of responses received. The breastfeeding experts were recommended by 1) study participants; 2) academic staff at Chulalongkorn and other universities; 3) staff from hospitals; and 4) various breastfeeding support groups in Bangkok. Once saturation of responses was achieved, principal researcher concluded interviews. 7 postpartum mothers and 2 breastfeeding experts were interviewed = **9 participants**

Measurement Tools

This study measured women's knowledge, attitude and practice of exclusive breastfeeding through a self-administered questionnaire and in depth interviews. The questionnaire was available in both Thai and English languages. The interviews were conducted in both Thai and English, depending on the participants' preference. Six women were comfortable enough and had a good enough command of the English language to have interviews conducted entirely in English, while three women preferred their interviews in Thai. At Samitivej Hospital, staff assisted the principal researcher with Thai language and translation, when necessary. A team of three research assistants assisted the principal researcher in data collection at QSNICH, due to the necessity of Thai language. Interviews were open-ended and were designed based on the results of the questionnaire. Three experts in breastfeeding reviewed and approved the validity of the questionnaire.

Validity and Reliability of the Instruments

1. Content validity was conducted by asking the following three experts to validate the breastfeeding questionnaire:

- A prominent lactation consultant and childbirth educator
- A medical doctor with expertise in breastfeeding
- A professor with PhD focused on breastfeeding

The experts reviewed the content validity of the questionnaire in both English and Thai languages and gave comments and recommendations for its revision.

2. Reliability was tested using Cronbach's alpha coefficient to determine the reliability of the questionnaire in measuring the mothers' knowledge and attitude toward breastfeeding and exclusive breastfeeding. The researcher measured Cronbach's alpha coefficient using SPSS 16.0 program. The questionnaire, which had

been revised to ensure content validity, was tested with 27 women/cases each with characteristics similar to those of the study sample.

The reliability of the questionnaire measuring the 13 items assessing knowledge towards breastfeeding practices = 0.71; and the reliability of the questionnaire measuring 9 items assessing attitude towards breastfeeding practices also = 0.71.

Data Collection

For the self-administered questionnaire: data was collected from postpartum women receiving postpartum care or pediatric care in Bangkok or postpartum women approached by the research team at non-hospital sites. At hospital sites, women completed the questionnaire while waiting for their appointment with their doctor or following their appointment. At the non-hospital sites, women completed the questionnaire wherever they were located and most comfortable with. The in depth interviews were held either at the hospital or in another private location, depending on mother's preference and availability. If held at the hospital, interviews took place in a private setting. Principal researcher had a Thai assistant to administer questionnaire, conduct in-depth interviews and explain the study to all non-English speaking participants. Interviews, in Thai, were recorded and then translated into English.

For this study, principal researcher collected the vast majority of data from Samitivej Hospital and was able to use English language with some Thai to communicate. Samitivej staff assisted researcher when necessary and made space available for women to complete the questionnaire. In cooperation with researcher, staff at Samitivej gave questionnaire to colleagues who fit the inclusion criteria and all were supportive of the study. Researcher went to Samitivej well baby clinic during open hours, both in the morning and the afternoon, during holidays and non-holidays, on each day: Monday through Friday. The number of Thai women attending Samitivej's well baby clinic was quite small. Due to this difficulty, researcher applied to collect data at various hospitals throughout Bangkok and went through a formal

review process at Queen Sirikit National Institute for Child Health (QSNICH). Researcher gained approval from their ethical committee and began data collection on April 4, 2012.

The principal researcher and research team composed of three native Thai speakers, who were all well versed in study objectives and the topic of exclusive breastfeeding, spent two days at QSNICH collecting data from women in the pediatric clinic, as well as, the well child clinic. They went in the morning and the afternoon. All questionnaires were explained and written consent given in Thai at QSNICH.

While waiting for approval from QSNICH, principal researcher organized a team of native Thai speakers to assist her in data collection throughout the city of Bangkok. The team went door to door in their neighborhoods, approached women in parks and other community areas and went to schools and office buildings to access women who fit the inclusion criteria of this study.

Data collection started immediately after the Chulalongkorn Ethics Committee approved this study (February 27, 2012) and continued until mid April, 2012.

Data Analysis

After the completion of data collection, participant responses to the questionnaire questions/statements related to knowledge, attitude and practice (KAP) were scored. For knowledge, correct answers were summed and participants scored good, moderate or poor in their breastfeeding knowledge. Positive, moderate and negative scores were assigned to participants based on their scores on questions/statements pertaining to attitude. Practice of exclusive breastfeeding, non-exclusive breastfeeding and no breastfeeding was defined by questions about infant feeding practice. Quantitative data related to demographic characteristics and antenatal factors were entered and analyzed; all quantitative and qualitative data from the questionnaire were analyzed using SPSS 16.

Descriptive statistics of frequency, percentage and mean were used for data classification and Pearson's chi-square test was used to compare practice and non-practice of exclusive breastfeeding. Fisher's Exact Test was used for all data where subgroups were too small to use Pearson's. A p value of <0.05 was considered statistically significant. Binomial regression and multivariable analysis were also conducted to show association and strength of association between independent and dependent variables.

Free text comments were coded and the frequencies and percentages of the comments reported.

The qualitative data received from the in-depth interviews was scored manually. Interviews were recorded and transcribed. Interviews were also translated from Thai to English when necessary. After several readings, responses were coded and grouped based upon similarities. The descriptive statistic of frequency was used for data classification of qualitative data. To provide context, quotes presented in the thesis are labeled with descriptions of participant details relevant to the quotation topic.

Once collected, the qualitative data was read several times before identifying the main topics (domains) from the data. Researcher created a table with a list of topics discussed and key words, as well as, a further breakdown of topics to highlight the most dominant themes of the interviews. Researcher then created a taxonomy to illustrate the domains, their subgroups and their relationships. From this figure, researcher was able to more clearly understand the themes of importance to women in the interviews and set up results and discussion accordingly.

Limitations

For this study, the limitations include sampling techniques and sample size. Due to the limited time of this study and the findings from the MICS survey, which found income and education to be significantly associated to the practice of exclusive breastfeeding practices and found Bangkok to have some of the lowest rates of exclusive breastfeeding, the researcher decided to use purposive sampling and select women in various socio economic and education levels living in Bangkok. Purposive sampling limits the generalizability of the findings from this study. Due to the small sample size and that all participants are Thai women living in Bangkok, these findings cannot necessarily be used to describe women abroad or living in other regions in Thailand.

Ethical Considerations

All participants gave written consent to allow the researcher to use the collected data. The participation of respondents was voluntary and their decision to participate or not was not disclosed to any authority. The objectives of the study were explained and consent was obtained before initiation of interview. The respondent had the right to choose not to answer any questions that made her uncomfortable. If any question or aspect of the study was unclear, the interviewer was available to assist. The names of the respondents were not included in the questionnaires and were not used during the interview. Participants were given the option of leaving their name/nickname and phone number if they were interested in participating in the in depth interviews. All the questionnaires were accessible only by the researcher and advisors and were kept in a safe place and password protected. All the respondents' answers were kept confidential. The interviews were recorded and data destroyed after project completion. This study was reviewed and evaluated by the ethics committee at Chulalongkorn University and principal researcher was given approval by the International Review Board on February 27, 2012.

CHAPTER IV

RESULTS

This study investigated postpartum mothers' breastfeeding practices and determining factors related to exclusive breastfeeding, non-exclusive breastfeeding and no breastfeeding in Thai mothers living in Bangkok. The quantitative sample consisted of 208 postpartum mothers of children 2 years and under. The qualitative sample was made up of 7 postpartum women and 2 breastfeeding experts. The research findings will be presented under the following headings:

Quantitative results from questionnaire: Descriptive Statistics

- Part 1: Predisposing factors related to demographic characteristics
- Part 2: Predisposing factors related to type of antenatal care received
- Part 3: Predisposing factors related to knowledge of breastfeeding practices
- Part 4: Predisposing factors related to attitudes toward breastfeeding practices
- Part 5: Exclusive breastfeeding and non-exclusive breastfeeding practices
 - Part 5.1: Supplement usage for infants less than 6 months
 - Part 5.2: Duration of non-exclusive breastfeeding and determining factors
- Part 6: Relationship between predisposing factors of knowledge and attitude and exclusive breastfeeding and non-exclusive breastfeeding practices

Quantitative results from questionnaire: Logistical Regression

- Part 7: Binary Logistical Regression of demographic and antenatal characteristics, and knowledge and attitude
- Part 8: Multiple Regression of independent variables related to dependent

Qualitative results from questionnaire and interviews

- Part 9: Exclusive breastfeeding difficulties
- Part 10: Support Networks
- Part 11: Reasons for choosing breastfeeding practice
- Part 12: Reasons for stopping breastfeeding practice
- Part 13: Interview results and finding
 - Part 13.1: Categorization of qualitative data
 - Part 13.2: Written Results

Quantitative Results

Part 1. Predisposing factors related to demographic characteristics

Demographic and antenatal characteristics were determined by Section A on the quantitative, self-administered questionnaire. The women in this study were all postpartum Thai mothers, living in Bangkok, who gave birth in the last 24 months. Data collection took place throughout Bangkok with the greatest majority of women coming from Queen Sirikit National Institute of Child Health (16.8 percent) and Samitivej Hospital (16.3 percent). The remaining 66.8 percent of cases were collected throughout Bangkok in parks, at schools, in neighborhoods and various other venues. (See Table 1)

Table 1: Number and percentage of the sample cases collected at various sites

Data Collection Sites	Number	Percentage
Queen Sirikit National Institute of Child Health	35	16.8
Samitivej Hospital	34	16.4
Other, non-hospital sites throughout Bangkok	139	66.8
Total	208	100.0

1.1 Age of mother at time of interview

More than half of the cases (58.4%) were between 25 and 34 years of age, 23.7% of women were 35 years and older and 17.9% of cases were women under the age of 25. The youngest mother was 14 years of age and the oldest was 45. The mean age of the sample was 30 years of age. Age is not statistically significant to exclusive breastfeeding (p value = .570), but the findings do show a positive relationship, meaning the older the woman, the more likely she is to do exclusive breastfeeding. (See Table 2)

1.2 Education level completed

Almost half the cases (48.1%) reported their education level to be junior high or high school diploma and some college educated and beyond represented more than one third of the remaining sample (39.4%). Those completing only a primary school education were 12.5% of the sample. Education level was not statistically significant to exclusive breastfeeding (p value .052) but was extremely close and is an interesting factor. The data shows a positive relationship between education and exclusive breastfeeding with more educated women doing more exclusive breastfeeding. (See Table 2)

1.3 Marital Status

The vast majority of women in this study were married (84.6%). The next most significant group were those cohabitating or other (9.6%) and divorced or separated represented just 5.8% of cases. Marital status was not statistically significant to exclusive breastfeeding (p value = .842) and there was a negative relationship between marital status and exclusive breastfeeding in this study. This sample had the greatest percentage of women doing exclusive breastfeeding in the divorced or separated category. There were only 12 women in this category, so this finding is not generalizable to other populations. (See Table 2)

1.4 Monthly family income level

The sample was quite divided in terms of income with the greatest group being those with a monthly, family income of 10,000-19,999 Thai Baht (34.2%),

followed by the highest income bracket of 50,000 Thai Baht and above (17.6%), 20,000-29,999 (16.1%), less than 10,000 Thai Baht (15.1%), 30,000-39,999 (10.1%) and 40,000-49,999 (6.8%). Income level was statistically significant to exclusive breastfeeding (p value = .035). There was a positive association between income and exclusive breastfeeding, with wealthier women doing more exclusive breastfeeding than women of lower socioeconomic status. (See Table 2)

1.5 Number of live births

Over half the women in this study had only one child (56.8%) and those with more than one child represent (43.2%). Number of children was not statistically significant to exclusive breastfeeding (p value = .480), but the women with more than one child did do more exclusive breastfeeding than those women with only one child. (See Table 2)

1.6 Employment type

Almost three-quarters of the women in this study were employed outside the home at the time of the study (72.4%); the remaining cases were unemployed or housewives (27.6%). The most prominent profession was government employee (47.8%), with business owner (11.9%), other (7.0%) and civil servant (5.5%) less common. Employment type is not statistically significant to exclusive breastfeeding (p value = .119), but is close enough to be quite interesting. The group with the lowest percentage of exclusive breastfeeding mothers was the government employees at 11.5%. (See Table 2)

Table 2: Socio-demographics and Exclusive Breastfeeding

Characteristics	n of women	%	Exclusive Breastfeeding			
			Yes	% Yes*	χ^2	p value
Age of mother at Interview						
24 years or less	37	17.9	4	10.8	1.123	.570
25-34 years	121	58.4	16	13.2		
35 or more years	49	23.7	9	18.4		
Missing	(1)					
Total	207	100.0				
Education level						
Primary school	26	12.5	2	7.7	5.931	.052
Junior high, high school	100	48.1	10	10.4		
Some college & beyond	82	39.4	17	20.7		
Total	208	100.0				
Marital status						
Married	176	84.6	24	13.6	.365 [^]	.842
Separated or divorced	12	5.8	2	16.7		
Cohabiting or other	20	9.6	3	15		
Total	208	100.0				
Monthly family income (Thai baht)						
<10,000	31	15.1	2	6.5	11.205 [^]	.035
10,000 - 19,999	70	34.2	8	11.4		
20,000 - 29,999	33	16.1	8	24.2		
30,000 - 39,999	21	10.2	0	0		
40,000 - 49,999	14	6.8	3	21.4		
50,000 and above	36	17.6	8	22.2		
Missing	(3)					
Total	205	100.0				

[^]Fisher's exact test used; *Calculated % by row

Table 2: Socio-demographics and Exclusive Breastfeeding (continued)

Characteristics	n of women	%	Exclusive Breastfeeding		χ^2	p value
			Yes	% Yes		
Number of children						
1	117	56.8	15	12.8	.498	.480
2 or more	89	43.2	14	15.7		
Missing	(2)					
Total	206	100.0				
Employment status						
Yes	147	72.4	20	13.6	.201	.654
No	56	27.6	9	16.1		
Missing	(5)					
Total	203	100.0				
Employment type						
Stay at home mother	56	27.9	9	16.1	6.797	.119
Government employee	96	47.8	11	11.5		
Business owner	24	11.9	6	25		
Other	14	7.0	0	0		
Civil servant	11	5.5	3	27.3		
Missing	(7)					
Total	201	100.0				

^Fisher's exact test used; *Calculated % by row

Part 2. Predisposing factors related to Antenatal Care of women

2.1 Place of antenatal care/ delivery: Government or privately owned

The majority of women in this study received prenatal care in a government run hospital (47.0 %), with private hospitals representing (33.3%). Others stated simply hospital (8.6%), clinic (1 %) or designated facilities outside of Bangkok proper (10.1 %). The largest majority of exclusive breastfeeding was from the group of

women who received care in the private hospital (16.7%). Place of delivery was not statistically significant to exclusive breastfeeding (p value = .741). (See Table 3)

2.2 Delivery type

Just over half of the women delivered vaginally (57.8%), while the remaining 42.2% delivered via caesarean. 19.8% of those women delivering via caesarean did exclusive breastfeeding, while 10.2% of those women delivering vaginally did the same. Type of delivery was statistically significant to exclusive breastfeeding (p value = .047) with significantly more women with caesareans practicing exclusive breastfeeding. (See Table 3)

2.3 Number of antenatal appointments attended

73.4% of women had 9 or more antenatal visits, 21.2% had 4-8 antenatal appointments and just 11 women (5.4%) had less than the suggested 4 antenatal visits. Number of antenatal appointments was not statistically significant to exclusive breastfeeding (p value = .757). (See Table 3)

2.4 Discussion of breastfeeding during antenatal appointments

The great majority (81.8%) of women in this study stated that breastfeeding was indeed discussed in their antenatal appointments, while other women reported that it was never discussed (18.2%). Whether breastfeeding was discussed or not, was not statistically significant to exclusive breastfeeding (p value = .839). (See Table 3)

2.5 Number of times breastfeeding discussed during antenatal appointments

Breastfeeding was discussed 0-1 times almost half of the time, according to this sample (44.2%), while 23.8% of women said breastfeeding was discussed twice and 32% said it was discussed 3 or more times. Number of times breastfeeding was discussed was statistically significant to exclusive breastfeeding (p value = .050). The more times breastfeeding was discussed, the more likely a woman practiced exclusive breastfeeding. (See Table 3)

2.6 I have good knowledge about breastfeeding

The vast majority of women in this study (78.4%) felt they had good knowledge about breastfeeding, while a smaller percentage of women (21.6%) felt they had insufficient knowledge about breastfeeding. The belief that the women themselves did have good knowledge was not statistically significant (p value = .536), but there was a positive relationship with women who felt they had a good knowledge about breastfeeding doing more exclusive breastfeeding. (See Table 3)

2.7 I would have liked more information about breastfeeding

Almost $\frac{2}{3}$ of the women in this study stated they would have liked more breastfeeding information during their prenatal appointments (65%), while the remaining $\frac{1}{3}$ felt they received sufficient information during their antenatal appointments (35%). Whether they would have liked more breastfeeding information was not statistically significant to exclusive breastfeeding (p value = .436). (See Table 3)

Table 3: Antenatal care (ANC) and Exclusive Breastfeeding

Characteristic	n of women	%	Exclusive Breastfeeding		χ^2	p value
			Yes	% Yes*		
Type of facility						
Private hospital	66	33.3	11	16.7	.109	.741
Government hospital	93	47.0	14	15.1		
Hospital/clinic (not specify)	19	9.6	1	5.3		
Facility outside Bangkok	20	10.1	2	10.0		
Missing	(10)					
Total	198	100.0				
Delivery type						
Vaginal	118	57.8	12	10.2	3.946	.047
Caesarean	86	42.2	17	19.8		
Missing	(4)					
Total	204	100.0				
# of ANC appointments						
Less than 4	11	5.4	2	18.2	.556	.757
4-8	43	21.2	5	11.6		
9 or more	149	73.4	22	14.8		
Missing	(5)					
Total	203	100.0				
Was BF discussed?						
Yes	162	81.8	21	13	.041	.839
No	36	18.2	4	11.1		
Missing	(10)					
Total	198	100.0				
# of times BF discussed?						
0-1	87	44.2	5	5.8	8.974 [^]	.050
2	47	23.8	7	14.9		
3 times or greater	63	32.0	10	15.9		
Missing	(11)					
Total	197	100.0				
I have good BF knowledge						
Yes	160	78.4	24	15	.382	.536
No	44	21.6	5	11.4		
Missing	(4)					
Total	204	100.0				
I would have liked more information about BF						
Yes	132	65.0	17	12.9	.607	.436
No	71	35.0	12	16.9		
Missing	(5)					
Total	203	100.0				

[^]Fisher's exact test, *Calculated % by row

Type of Delivery

According to these findings, exclusive and non-exclusive breastfeeding are negatively associated with type of delivery, meaning that women with caesarean deliveries are MORE likely to exclusively breastfeed than those women who had vaginal deliveries. Since this is contrary to other studies, the researcher further examined the participant characteristics splitting the data by type of delivery and analyzing the correlations between income, education and type of hospital (government versus private). Income, education and hospital type are highly significant (p value < .01) with high χ^2 of 22.275, 20.897 and 21.667 respectively. (See Table 4)

As was shown in Table 2, education (p value = .052) and income (p value = .035) are factors related to exclusive breastfeeding with income being statistically significant. Since women with higher educations and higher incomes are more likely to exclusively breastfeed, the fact that they have a caesarean delivery does not have any negative affect on the overall sample.

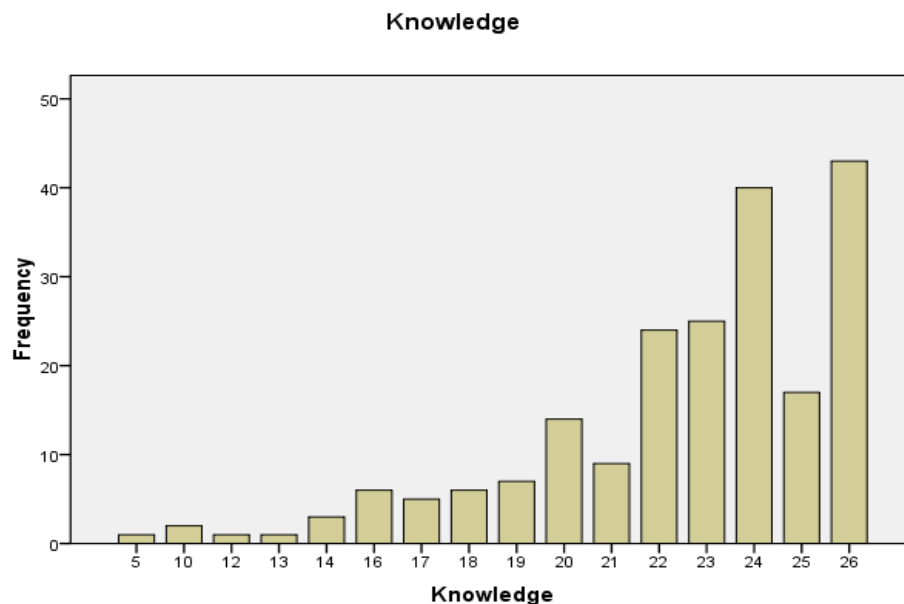
Table 4: Association of Education and Income levels and Type of Delivery

Characteristic	Type of Delivery	
	χ^2	p value
Education	22.275	.000
Income	20.897	.001
Hospital Type	21.667	.000

Part 3: Predisposing factors related to knowledge of breastfeeding practices

Part B of the questionnaire elicited knowledge of breastfeeding practices via 13 questions covering breastfeeding benefits, duration of breastfeeding, value of exclusive breastfeeding and methods for successful breastfeeding. Each item required a response of ‘yes,’ ‘no,’ or ‘don’t know.’ If the answer was ‘yes,’ the score was equal to 2; if the answer was ‘don’t know,’ the score was equal to 1; and if the answer was ‘no,’ the score was equal to 0. The total scores, with the highest possible score being 26 and the lowest possible score being 0, were then calculated and the women’s knowledge was broken into three groups: poor knowledge (scores from 0-19), moderate knowledge (scores 20-23), and good knowledge (scores of 24-26). These ratings were determined following the graphed results of the sample’s knowledge. (Please see Figure 2)

Figure 2: Postpartum women’s scores from Knowledge section of questionnaire



When categorizing the cases according to their knowledge of breastfeeding practices, it was found that just under half of the women (49%) had a good level of

knowledge, 35.3% had moderate knowledge and only 15.7% had poor knowledge. The mean score for knowledge was 22.5, with the lowest score equal to 5 and the highest equal to 26. The mode was a perfect score of 26, with 43 women (21.1%) achieving a score of 26. 204 women completed Section B: Knowledge of Breastfeeding in questionnaire. (See Table 5)

Table 5: Number and percentage of sample characterized by level of breastfeeding knowledge

Level of Knowledge	Total n	Percentage	Exclusive Breastfeeding	
			χ^2	p value
Good (scores 24-26)	100	49.0	22.545 [^]	.045
Moderate (scores 20-23)	72	35.3		
Poor (scores 0-19)	32	15.7		
Missing	(4)			
Total	204	100.0		

[^]Fisher's exact test used

Table 6 shows the women's level of knowledge as categorized based upon breastfeeding practices of exclusive breastfeeding, non-exclusive breastfeeding and no breastfeeding. Of those women who did exclusive breastfeeding (n=29), 72.4% had a good knowledge of breastfeeding, while 13.8% had moderate knowledge and another 13.8% had poor knowledge. Women with non-exclusive breastfeeding (n=174) also had the majority of women with good knowledge (45%), followed by moderate knowledge at 39.8% and poor knowledge at 15.2%. (See Table 6)

Table 6: Number and percentage of sample's breastfeeding knowledge as categorized according to their level of breastfeeding practice

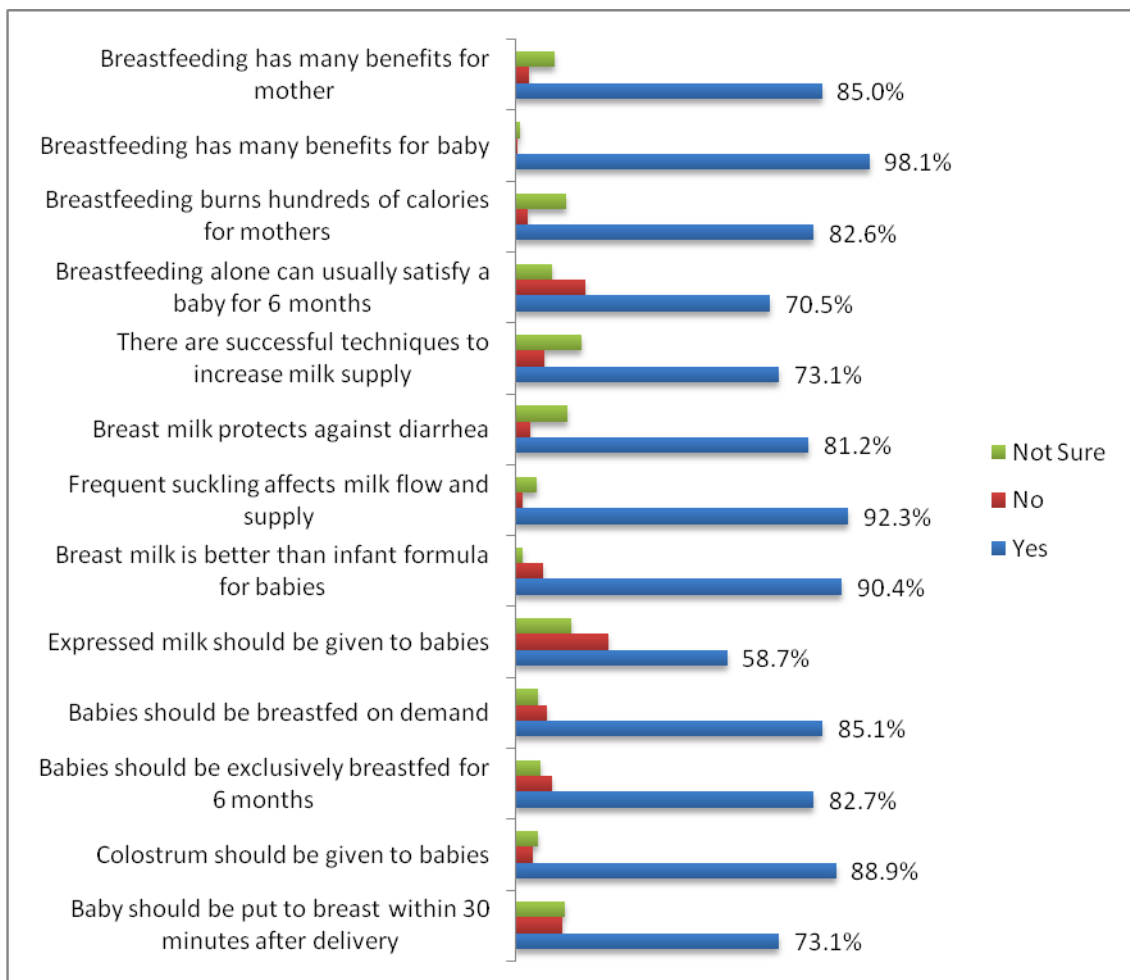
Level of Knowledge	Exclusive Breastfeeding		Non-exclusive Breastfeeding		No Breastfeeding	
	n	%	n	%	n	%
	Good (scores 24-26)	21	72.4	77	44.3	2
Moderate (scores 20-23)	4	13.8	68	39.1	0	n.a.
Poor (scores 0-19)	4	13.8	26	15.2	2	n.a.
Missing			(3)			
Total	29	100.0	171	100.0	4	

The knowledge section of the questionnaire was made up of 13 statements, which each mother was asked to rate as 'yes,' 'no,' or 'don't know.' For the knowledge section, the correct answer for each statement was 'yes.' While, the overall knowledge scores were quite high, with almost half the women showing 'good knowledge' of breastfeeding (49.0%), there was a greater variance of response on selective statements. The statements most commonly answered correctly were: 1) Number 12: 'Breastfeeding has many benefits for baby' with 98.1% of women agreeing with this statement; 2) Number 7: 'Frequent sucking affects milk flow and supply with 92.3% agreeing with this statement; 3) Number 6: 'Breast milk is better than infant formula for baby' with 90.4% of women saying 'yes;' and 4) Number 2: 'Colostrum should be given to babies' with 88.9% of women answering 'yes' to this statement. (See Figure 3)

In contrast, those responses most commonly answered incorrectly were: 1) Number 5: 'Expressed milk should be given to babies' with only 58.7% of women saying 'yes' and 41.2% either saying 'no' or 'don't know;' 2) Number 10:

‘Breastfeeding alone can usually satisfy a baby for six months’ with 70.5% of women answering correctly with ‘yes,’ leaving almost one third (29.4%) of women disagreeing or being unsure of this question; 3) Number 1: ‘Baby should be put to breast within 30 minutes after delivery,’ had over one quarter of women disagreeing or not sure (26.9%) and 73.1% agreeing that babies should be put to breast within 30 minutes past delivery; and 4) Question 9: ‘There are successful techniques to increase milk supply,’ had over one quarter of women (26.6%) saying ‘no’ or ‘don’t know,’ leaving 73.4% of women knowing there are ways to increase milk supply. (See Figure 3)

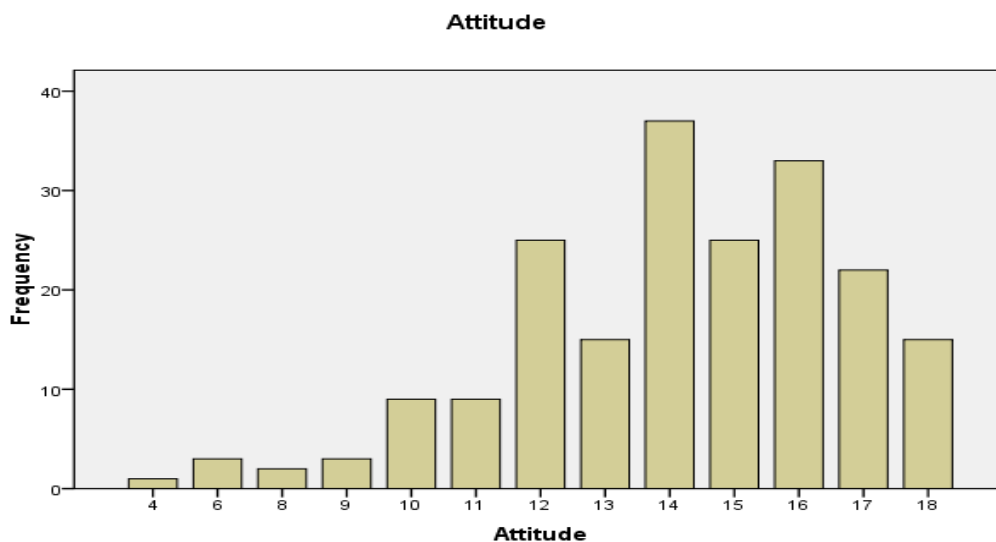
Figure 3: Responses to 13 Knowledge related statements



Part 4: Predisposing factors related to attitudes toward breastfeeding practices

Part C in the questionnaire consisted of 9 statements that elicited attitudes toward breastfeeding. The statements allowed for responses of ‘yes,’ ‘no,’ and ‘don’t know.’ Each statement was scored on whether the response showed a positive or a negative attitude toward breastfeeding, 2 points and 0 points respectively. If ‘don’t know’ was chosen, 1 point was given. The total scores with the highest possible score being 18 and the lowest possible score being 0 were then calculated and the women’s attitude was broken into three groups: negative attitude (scores from 0-11), moderate attitude (scores 12-15), and positive attitude (scores of 16-18). These ratings were determined following the graphed results of the sample’s attitude. (Please see Figure 3)

Figure 4: Postpartum women’s scores from Attitude section of questionnaire



When categorizing the cases according to their attitude of breastfeeding, it was found that just over half of the women (51.3%) had a moderate attitude toward breastfeeding, 35.2% had a positive attitude toward breastfeeding and only 13.6% had

a negative attitude toward breastfeeding. The mean score for attitude was 14.1 (moderate attitude), with the lowest score equal to 4 and the highest 18. The mode was a score of 14 (moderate attitude) and only 7.5% of women received a perfect score of 18. 199 women's scores used below: 9 women's data for attitude section not complete. (See Table 7)

Table 7: Number and percentage of the sample characterized according to level of attitude toward breastfeeding

Level of Attitude	Total n of		Exclusive Breastfeeding	
	women	Percentage	χ^2	p value
Positive (scores 16-18)	70	35.2	5.989 [^]	.926
Moderate (scores 12-15)	102	51.3		
Negative (scores 0-11)	27	13.6		
Missing	(9)			
Total	199	100.1		

[^]Fisher's exact test used

Table 8 shows the women's level of attitude as categorized based upon breastfeeding practices of exclusive breastfeeding, non-exclusive breastfeeding and no breastfeeding. Of those women who did some exclusive breastfeeding (n=29), 42.9% had a positive attitude toward breastfeeding, while 46.4% had a moderate attitude and another 10.7% had a negative attitude toward breastfeeding. Women with non-exclusive breastfeeding (n=174), had half of their cases with moderate attitude toward breastfeeding (52.4%), followed by positive attitude at 33.9% and negative attitude at 13.7%. (See Table 8)

Table 8: Number and percentage of the sample's attitude toward breastfeeding as categorized according to their level of breastfeeding practice

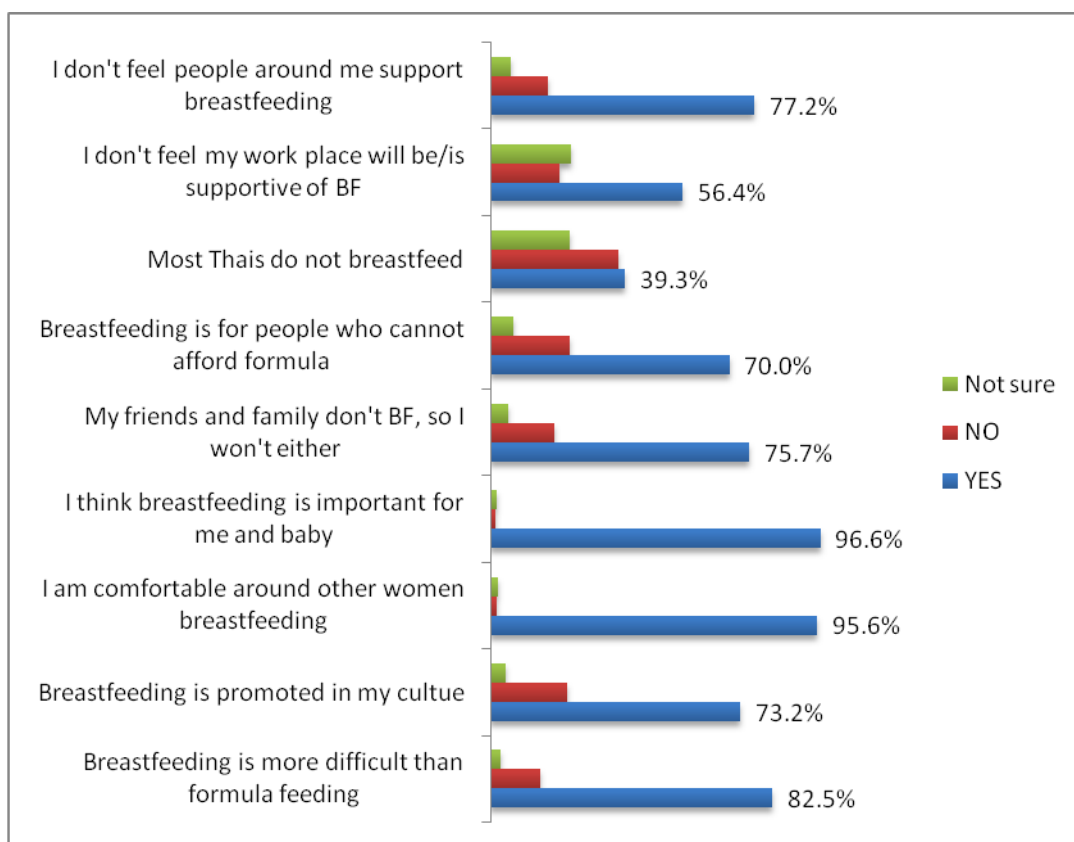
Level of Attitude	Exclusive Breastfeeding		Non-exclusive Breastfeeding		No Breastfeeding	
	n	%	n	%	n	%
Positive (scores 16-18)	12	42.9	57	32.8	1	n.a.
Moderate (scores 12-15)	13	46.4	88	50.6	1	n.a.
Negative (scores 0-11)	3	10.7	23	13.2	1	n.a.
Missing	(1)		(6)		(1)	
Total	28	100.0	168	100.0	3	

Scores of attitude toward breastfeeding were lower than that of knowledge with only 35.3% of women scoring in the positive attitude category. The attitude section of this questionnaire consisted of 9 statements about breastfeeding. Correct answers varied throughout the section between 'yes' and 'no.' 'Don't know' was also an option in this section. The statements most commonly answered showing a positive attitude were 1) Statement 6: 'I think breastfeeding is important for my baby and me' with 96.6% of women agreeing that 'yes' breastfeeding is important and 2) Statement 5: 'I am comfortable around other women breastfeeding' with 95.6% of women agreeing. (See Figure 5)

In contrast, several statements showed negative attitudes toward breastfeeding and perceptions of how others regard breastfeeding. The most common negative answers were to 1) Statement 9: 'Most Thais do not breastfeed' resulted in 60.7% of women agreeing or being unsure with only 39.3% of women believing that most women DO breastfeed; 2) Statement 10: 'I do not feel my workplace will be/is supportive of breastfeeding' with 43.6% agreeing and 56.4% disagreeing (therefore

believing their workplace is supportive); 3) Statement 8: ‘Breastfeeding is for people who cannot afford formula,’ had 30% of women agreeing; and 4) Statement 3: ‘Breastfeeding is promoted in my culture,’ had 26.8% of women studied disagreeing and therefore believing that Thai/Bangkok culture does not promote breastfeeding. (See Figure 5)

Figure 5: Responses to 9 Attitude related statements



Part 5: Exclusive breastfeeding and non-exclusive breastfeeding practices

Part D of the questionnaire elicited responses that showed the level of breastfeeding practice each woman experienced. Part D, the practice section of the questionnaire, consisted of 9 questions each with a ‘no’ or ‘yes’ portion as well as several questions that gave other options, such as checking the number of months of

exclusive breastfeeding or checking the types of supplements offered to an infant under 6 months of age. Additionally, there were 6 opportunities for women to hand write in their experiences related to difficulties with breastfeeding, support systems, length of breastfeeding and reasons for stopping breastfeeding and reasons for choosing to breastfeed. (See Appendix B and C for full list of questions in English and Thai)

For Part D, scoring was done similarly as previous sections with correct answers receiving 2 points and incorrect answers receiving 0 points. Several questions were added together to decipher whether women did indeed practice exclusive breastfeeding. Responses from Questions 2, 4, 5 and 6 were added together and if a woman received an 8, she showed that she did do exclusive breastfeeding for some duration of time. A score from 2-6 showed that a woman did non-exclusive breastfeeding for some duration of time and a score of 0 means that a woman never put her baby to her breast: no breastfeeding practice.

When categorizing the cases according to their practice of breastfeeding, it was found that 14% of the women had a practice of exclusive breastfeeding for some duration of time, while 84.1% had a practice of non-exclusive breastfeeding and only 1.9% had absolutely no breastfeeding practice. The median and mode for practice was 4 with 38.2% of women scoring 4 out of 8 (non-exclusive breastfeeding). The lowest score was equal to 0 and the highest 8. Percentages were determined by the number out of 207, since one participant's data was missing. (See Table 9)

Table 9: Number and percentage of types of breastfeeding practice represented by sample of postpartum mothers in Bangkok

Type of Breastfeeding Practice	Number of sample	Valid percentage of sample
Exclusive breastfeeding	29	14.0
Non-exclusive breastfeeding	174	84.1
No breastfeeding	4	1.9
Missing	(1)	
Total:	207	100.0

Part 5.1: Supplemental Feeds for infants less than 6 months

While a large number of women did breastfeed some (n=174; 84.1%), the large majority also noted giving additional supplements to their infant while nursing (63.9%). The most common supplement given was water with 81.4% of those mothers doing non-exclusive breastfeeding giving their infant water. Formula was the second most common supplement with 50.4% of mothers using formula while breastfeeding their infant. Another question asked about EVER using formula with infant and when looking at only those babies under 6 months of age, 58.2% of women said they EVER gave formula to their baby.(See Table 10)

Table 10: Number and percentages of women giving additional supplements to infants under 6 months of age

‘I gave my baby foods other than breast milk during first 6 months’	n	%
Yes	133	63.9
No	71	34.1
Missing	(4)	
Total	204	100.0
If Yes, I gave*:		
Water	119	89.5
Formula	65	48.9

*Multiple responses

Part 5.2: Duration of non-exclusive breastfeeding and determining factors

It is recommended that women do 6 months of exclusive breastfeeding. The findings of this study show that 10.1% of Thai women living in Bangkok did exclusive breastfeeding for a duration of 6 months. Additionally, 30.3% of this same sample of women did non-exclusive breastfeeding for at least 6 months. While numbers of exclusive breastfeeding were quite low (only 29 out of 208), the mean, median and mode of the duration of exclusive breastfeeding were all 6 months, which is quite impressive and important to note. Of the 25 women exclusively breastfeeding (who gave response), 21 (84%) marked ‘yes’ that they exclusively breastfed their infant for at least 6 months, while the remaining 4 (16%) did less than 6 months of exclusive breastfeeding. (See Table 11) (See Table 11)

Table 11: Duration of exclusive breastfeeding and non-exclusive breastfeeding for postpartum women in Bangkok

Duration of breastfeeding	Exclusive Breastfeeding			Non-exclusive Breastfeeding		
	Frequency	% of	% of	Frequency	% of	% of
			n=208			n=208
1 month or less	1	4.0		27	21.3	
More than 1 month to 3 months	2	8.0		28	22.0	
More than 3 months, but less than 6	1	4.0		9	7.1	
6 months or more	21	84.0	10.1	63	49.6	30.3
Missing:	(4)			(47)		
Total:	25	100.0		127	100.0	

This study sample includes women with infants from 0 to 24 months, which means that some babies have not yet reached 6 months at the time of this study (n=53; 25.5%). To show if there are any discrepancies between these two groups, Table 12 shows a comparison between these two groups on duration of feeding and supplement usage. Breastfeeding abbreviated to BF. (See Table 12)

Table 12: Comparison between women with babies under 6 months and those with babies older than 6 months at the time of the study

	Less than 6 months old n=53		6 months to 2 years n=151	
	n	%	n	%
Gave supplements & BF	34	64.2	96	64.9
EVER used formula	32	61.5	101	66.9
Breastfed at least 6 months	15	28.3	71	47.0
Stopped BF by 3 months	25	47.2	31	20.5
Stopped BF by 2 months	16	30.2	36	23.8

According to Table 12, there are no real differences between formula usage and giving supplements in the two groups. As would be assumed, there is a difference in women who breastfed at least 6 months (since some babies are not yet 6 months, this is difficult for the younger group to answer). One category that was different between the two groups was that the younger baby's mothers stopped breastfeeding by 3 months more often; 47.2 % vs. just 20.5%.

Duration of breastfeeding is also interesting to look at in terms of knowledge and attitude, as well as, demographic variables and variables associated with antenatal care. Table 13 looks at which variables are statistically significant and statistically interesting in terms of non-exclusive breastfeeding for at least 6 months. The duration of 6 months is significant because it is commonly understood and research supports that at 6 months, infants are ready for solid foods. Many organizations urge 6 months

of exclusive breastfeeding before introducing solids and while Table 13 is not looking solely at exclusive breastfeeding, but at non-exclusive breastfeeding, it is still very important as it shows the which variables influence a mother giving breast milk for at least 6 months. (See Table 13)

When looking at 6-month duration of non-exclusive breastfeeding, it was found that several independent variables were statistically significant. Age (p value = .017), education (p value = .003), income (p value = .023), knowledge (p value = .002) and if the women had a prior practice of exclusive breastfeeding (p value = .000) were all statistically significant to a 6-month duration of non-exclusive breastfeeding, with all but marital status being significant at the .01 level. Marital status and a feeling of good knowledge of breastfeeding were both close to being statistically significant and are interesting to this study. Successful non-exclusive breastfeeding is quite dependent upon several variables. The women with the most non-exclusive breastfeeding are older women with higher education and income, higher knowledge of breastfeeding, those who did some duration of exclusive breastfeeding and those who are confident in their knowledge of breastfeeding. (See Table 13)

Table 13: Variables associated with successful 6-month duration of non-exclusive breastfeeding

Variable	Non-exclusive breastfeeding	
	χ^2	p value
Age	8.111	0.017
Education	19.794	0.003
Income	9.551	0.023
Marital status	5.386	0.068
Times breastfeeding discussed	7.564	0.109
Knowledge	29.555	0.002
Attitude	7.301	0.623
Practice of Exclusive Breastfeeding	19.718	0.000
I have good knowledge about breastfeeding	3.717	0.054

Part 6: Relationship between predisposing factors of knowledge and attitude and exclusive breastfeeding and non-exclusive breastfeeding practices

To compare the knowledge and attitude of exclusive breastfeeding mothers and those of non-exclusive breastfeeding mothers (the small sample of no breastfeeding mothers, n=4 was too small to use in these correlations), the mean scores of the knowledge and the attitude sections of the quantitative questionnaire were compared and a Mann-Whitney test was used. This test showed that scored knowledge differences were significant with exclusive breastfeeding mothers having more knowledge about breastfeeding than non-exclusive breastfeeding mothers (p value = 0.014). Attitude was not found to be significant when comparing exclusive breastfeeding mothers and non-exclusive breastfeeding mothers (p value = .449). (See Table 14)

Table 14: Comparison of means of Exclusive breastfeeding and Non-exclusive breastfeeding mothers' levels of Knowledge of breastfeeding and Attitude toward breastfeeding

Type of score	Exclusive breastfeeding	Non-exclusive breastfeeding	p value
Knowledge mean score	124.53	96.42	.014
Attitude mean score	105.95	97.26	.449

This shows how important knowledge is to women's breastfeeding practice. It is statistically significant to exclusive breastfeeding (p value = .045) and to non-exclusive breastfeeding (p value = .002), as well as statistically significant when comparing the knowledge of a non-exclusive breastfeeding woman and an exclusive breastfeeding woman (p value = .014). Knowledge about breastfeeding, is therefore, quite necessary when considering ways to improve prevalence of exclusive breastfeeding.

Quantitative results from questionnaire: Logistical Regression

Part 7: Binary Logistical Regression of demographic and antenatal characteristics, knowledge and attitude

Part 8: Multiple Regression of independent variables related to dependent

Part 7: Binary Logistical Regression of demographic and antenatal characteristics, knowledge and attitude

To determine which independent variables are most highly associated to exclusive breastfeeding, principal researcher ran both a binary regression looking at socio-demographic characteristics, as well as, antenatal characteristics and knowledge and attitude. Age was shown to not be statistically significant to exclusive breastfeeding, but did have a positive association, meaning that older women did do more exclusive breastfeeding than their younger counterparts. Education was shown to not be statistically significant, but the higher educated groups did do more exclusive breastfeeding than the primary education (reference) group. Those with a junior high or high school educations were 1.348 times more likely to exclusively breastfeed than primary only and if women had some college or more, the odds of them doing exclusive breastfeeding was 3.344 times that of a woman who completed only primary school. This regression does not show income as statistically significant, but it does show that women with higher incomes were more likely to exclusively breastfeed. The group with the greatest odds of exclusive breastfeeding was women with family income of 20,000-29,999 per month; OR 4.640. Number of children was not statistically significant to exclusive breastfeeding, but women with more than one child did tend to do more exclusive breastfeeding. And employment status was also not statistically significant, but women who stayed at home did more exclusive breastfeeding than women working outside the home (See Table 15).

Table 15: Binary Logistical Regression: Demographics
Exclusive and Non-exclusive Breastfeeding

Characteristics	OR	p value	CI 95%	
			Lower	Upper
Age of mother at interview	1.015	.654	.949	1.086
Education level completed				
Primary school	1			
Junior high & high school	1.348	.711	.277	6.570
Some college & beyond	3.344	.124	.717	15.590
Monthly family income (baht)				
<10,000 (reference)	1			
10,000 - 19,999	1.902	.434	.380	9.526
20,000 - 29,999	4.640	.067	.901	23.901
30,000 and above	2.848	.192	.591	13.717
Number of children				
First Child	.753	.481	.342	1.658
Employment status				
Employed outside home	.822	.654	.350	1.934

The binary regression showing antenatal care characteristics is detailed in Table 16. While hospital type was not statistically significant to exclusive breastfeeding, women who attended a private hospital had a greater odds of doing exclusive breastfeeding than women who attended a government hospital (OR = .268). Type of delivery was not statistically significant in this regression, but women who had caesarean delivery were more than twice as likely to do exclusive breastfeeding than women with vaginal deliveries. If breastfeeding was discussed, women did more exclusive breastfeeding, but not to a significant level. The number of times breastfeeding was discussed was also not statistically significant in this regression, but if breastfeeding was discussed 3 or more times, women were 3 times

as likely to do exclusive breastfeeding than if breastfeeding was never discussed or discussed only once. Those women who felt they had a good breastfeeding knowledge did more exclusive breastfeeding than those women who did not, but not to a statistical level and those women who felt they needed more breastfeeding information did less exclusive breastfeeding, but it was not a significant difference with group who did not want more breastfeeding information. (See Table 16).

Table 16: Binary Logistical Regression: Antenatal Care
Exclusive and Non-exclusive Breastfeeding

Characteristics	OR	p value	CI 95%	
			Lower	Upper
Type of facility				
Private hospital (reference)	1			
Government hospital	.301	.268	.036	2.514
Delivery type				
Vaginal (reference)	1			
Caesarean	2.220	.051	.998	4.941
Breastfeeding discussed	1.125	.839	.360	3.516
Number of times breastfeeding discussed?				
0-1 (reference)	1			
2	2.730	.104	.815	9.148
3 times or greater	3.000	.057	.970	9.281
I have good knowledge about breastfeeding	1.382	.538	.494	3.866
I would have liked more information about breastfeeding	.727	.437	.325	1.625

Next, knowledge and attitude were applied to exclusive breastfeeding in a binary logistical regression and neither was found to be statistically significant.

Women with good knowledge and a positive attitude toward breastfeeding did more exclusive breastfeeding, but the difference was not statistically significant.

Table 17: Binary Logistical Regression: Knowledge and Attitude
Exclusive and Non-exclusive Breastfeeding

Characteristics	OR	P value	CI 95%	
			Lower	Upper
Knowledge	1.145	.077	.985	1.331
Attitude	1.075	.383	.914	1.263

Part 8: Multiple Regression of independent variables related to dependent

Those variables with a p value of .15 or less were then included in multivariable analyses to show strength of association. In the binary regression, education, income, delivery type, times breastfeeding was discussed, and knowledge fit this criteria and were selected for the multivariable analyses. (See Tables 15 -17) The multivariable analyses used dependent variables of exclusive breastfeeding and non-exclusive breastfeeding. No breastfeeding group (n=4) was too small to use in these calculations and were therefore eliminated from analysis. A Hosmer and Lemeshow Test was performed and had a significance of .405 and 88.2% rating for predicted percentage correct. (See Table 18)

Results from the multivariable analyses showed number of times breastfeeding was discussed during antenatal care as the most strongly associated independent variable to exclusive breastfeeding practice: 2 times discussed (OR = 3.798) and 3 times or more (OR = 3.374). If breastfeeding is discussed more than once during antenatal visits, women do significantly more exclusive breastfeeding. If breastfeeding is discussed twice, the odds of a woman doing exclusive breastfeeding are 3.798 times more likely than if breastfeeding was never discussed or only

discussed once. Similarly, if breastfeeding is discussed three or more times, the odds of a woman doing exclusive breastfeeding are 3.374 times more likely than if breastfeeding was never discussed or only discussed once. (See Table 18)

Type of delivery was not statistically significant in this analysis, but it did show that women who had caesarean deliveries are more than twice as likely to do exclusive breastfeeding as women who had vaginal deliveries. Education did not show a consistent pattern, but women with some college or more did more exclusive breastfeeding than women who only completed primary school. Women who did some college or more were 1.629 times more likely to do exclusive breastfeeding than those women who only completed primary education. Income level was not statistically significant in this analysis.

Table 18: Multivariable Analyses

Characteristics	B	p value	OR	CI 95%	
				Lower	Upper
Delivery Type	.874	.110	2.396	.821	6.994
Knowledge	.139	.156	1.150	.948	1.393
Number of times breastfeeding discussed					
Never or 1 time(reference)		.077	1		
2 times	1.281	.044	3.798	1.039	13.879
3 or more times	1.234	.044	3.374	1.034	11.016
Education Completed					
Primary (reference)			1		
Junior HS and High School	-.206	.815	.814	.145	4.561
Some college and beyond	.488	.604	1.629	.258	10.291
Income					
<10,000			1		
10,000 – 19,999	-.207	.819	.813	.139	4.762
200000 – 29,999	.314	.744	1.369	.208	9.028
30,000 and above	-.304	.753	.738	.112	4.880

Qualitative Results

The qualitative findings from this study come from two tools: the self administered questionnaire and in-depth interviews. The questionnaire, though a quantitative tool had several opportunities for participants to include responses where no option was provided. This allows women more opportunity to articulate their personal experience and removes influences from the research tool. The open ended questions in this questionnaire were all located in Section D: Practice of Breastfeeding and were 1) ‘My main difficulty in exclusive breastfeeding was;’ 2) ‘I received help with this issues from whom;’ 3) ‘Reason for stopping (breastfeeding);’ and 4) ‘Reason for choosing to breastfeed.’ The results from these questions are discussed in the following sections Part 9- Part 12.

In addition, principal researcher conducted in-depth interviews with 7 participants and 2 breastfeeding experts. These interviews took place in a variety of private locations and lasted, on average, one hour per interview. Three of the interviews were conducted in Thai by a Thai research assistant and then translated into English. The remaining 6 interviews were done in English by the principal researcher. These semi-structured in-depth interviews took place in Bangkok in April 2012. The results from these interviews are presented in Part 13.

Qualitative results from questionnaire and interviews

Part 9: Exclusive breastfeeding difficulties

Part 10: Support Networks

Part 11: Reasons for choosing breastfeeding practice

Part 12: Reasons for stopping breastfeeding practice

Part 13: Interview results and finding

Part 13.1: Categorization of qualitative data

Part 13.2: Written Results

Part 9: Exclusive breastfeeding difficulties most expressed from women in sample

The questionnaire used for this study included several questions which allowed participants to freely answer without restriction of choices. The first of these questions was about women's personal difficulties with breastfeeding. Women expressed a variety of difficulties, with the most paramount being returning to work (43.8%) and low milk supply (29.5%). 105 women chose to answer this question. (See Table 19)

Table 19: Most commonly noted difficulties in breastfeeding for mothers living in Bangkok

Main difficulty with breastfeeding	Frequency	Valid Percent
Working	46	43.8
Low milk supply	31	29.5
Living away from baby	5	4.8
Nipple pain or dysfunction	4	3.8
No time or inconvenient	4	3.8
Baby sucking issues	3	2.9
Mother's health	2	1.9
Mother tired	2	1.9
Twins	2	1.9
Baby not sleeping well	1	1.0
Lack of help	1	1.0
Incarcerated	1	1.0
Premature baby	1	1.0
No storage	1	1.0
Not giving additional foods	1	1.0
Total number responded:	105	100.0

Part 10: Support Networks

Women were then asked to share who, if anyone, was a source of support during their breastfeeding time and specifically with their stated difficulty. Only 26 women responded to this open-ended question, but results were quite similar across the 26. The most common responses were parents (42.3%), hospital staff (34.6%) and self (11.5%). Only 26 women from the sample chose to answer this question. (See Table 20)

Table 20: Support systems for breastfeeding mothers living in Bangkok

Support received from:	Frequency	Valid Percent
Parents	11	42.3
Hospital staff	9	34.6
Self	3	11.5
Friends	1	3.8
Mother	1	3.8
No one	1	3.8
Total	26	98.8

Part 11: Reasons for choosing breastfeeding

In addition, women were asked to share the main reason they chose to breastfeed. Of the 208 women in the sample, 45 responded to this open-ended question with the large majority expressing ‘good for baby’ (42.2%) and ‘antibodies’ (20%) as their main reason for breastfeeding. (See Table 21)

Table 21: Reasons for mothers in Bangkok to choose to breastfeed their infant

Reason to breastfeed:	Frequency	Percent
Good for baby	19	42.2
Antibodies	9	20
Easy	5	11.1
Save money	5	11.1
Good attachment	3	6.7
Important	2	4.4
Baby refuses bottle	1	2.2
Emotional attachment	1	2.2
Total	45	99.9

Part 12: Reason for stopping breastfeeding

Mothers were also asked their main reason they stopped their breastfeeding practice. 76 women responded to this open-ended question. The strong majority of these women stated they stopped breastfeeding due to working and low milk supply (61.6%) and (21.9%) respectively. This question was answered by 76 women from the sample. (See Table 22)

Table 22: Reason for stopping breastfeeding practice for women living in Bangkok

Reason stopped breastfeeding:	Frequency	Valid Percent
Working	46	60.5
Low milk supply	16	21.1
Baby stopped by self	3	3.9
Baby sucking difficulties	2	2.6
Difficult	2	2.6
Inconvenient/No time	2	2.6
Live away from baby	1	1.3
Mother sick	1	1.3
Nipple pain	1	1.3
Reflux	1	1.3
Started solids	1	1.3
Total	76	99.8

Part 13: Interview results and findings

Principal researcher and Thai research assistant conducted 9 semi-structured, in-depth interviews with mothers already completing the quantitative study and breastfeeding experts. At the back of each quantitative questionnaire, women were given the option to leave their name or nickname and mobile phone number to participate in interview. Principal researcher chose women who provided this information and arranged interviews until data received became saturated.

Seven women, who had already completed the quantitative questionnaire, agreed to do the in-depth interview. Two interviews were conducted with breastfeeding experts. One expert is a lactation consultant, childbirth educator and renowned in Bangkok as the most qualified breastfeeding expert available. The second expert is the executive administrator for a Thai breastfeeding website and a well-known support for Thai mothers. The total number of interviews was $n = 9$.

The interviews lasted from 30 to 100 minutes and were recorded when permission was granted. Three of the interviews were conducted in Thai language by a Thai research assistant. Responses were translated into English and both principal researcher and assistant were present. The interviews were composed of 18 questions directed toward the breastfeeding practices of mothers, their perceptions of breastfeeding in Bangkok, the difficulties they faced while breastfeeding, support they received, duration and type of breastfeeding the practiced, use of supplements and attitude about breastfeeding. (Please see Appendix D for complete list of questions in English and Thai)

Part 13.1: Organization of qualitative data

The sample of women used in the interviews were diverse and a good representation of the sample in this study. Transcripts were read multiple times, tables were made of topics discussed and primary domains, and a taxonomic analysis constructed. This method of analyses follows that described by Atkinson and Haj's

article about domain analysis and how to prepare qualitative data (Atkinson and Haj, 1996). (See Table 23-24 and Figure 6)

Table 23: Preliminary list of topics discussed

Antenatal Care:

Good doctor/midwife, level of care, number of appointments, knowledge from doctor

Delivery Type:

Planned caesarean, pain and fear of caesarean, difficult pregnancy, vaginal birth, lack of intervention, doctor influence, hospital type, luck of date and time

Breastfeeding experience:

Breastfeeding and water, using formula, family influence, doctor suggestions, exclusive breastfeeding, pain, comfortable, low milk supply, want to do more

Feelings about breastfeeding:

Good feelings, difficult with work, good for baby, antibodies, lose weight, breasts, time, best for kids

Thai acceptance of breastfeeding:

Bangkok not supportive, lack of private place to feed, no support at work, good for high society, limited support, parents support, hospital encourage or discourage, doctor/hospital give formula

Why some women breastfeed and others not:

Women think about themselves, don't know about milk, worry baby hungry, low milk supply, worry about breasts, no time, working, no access to information, education, high society

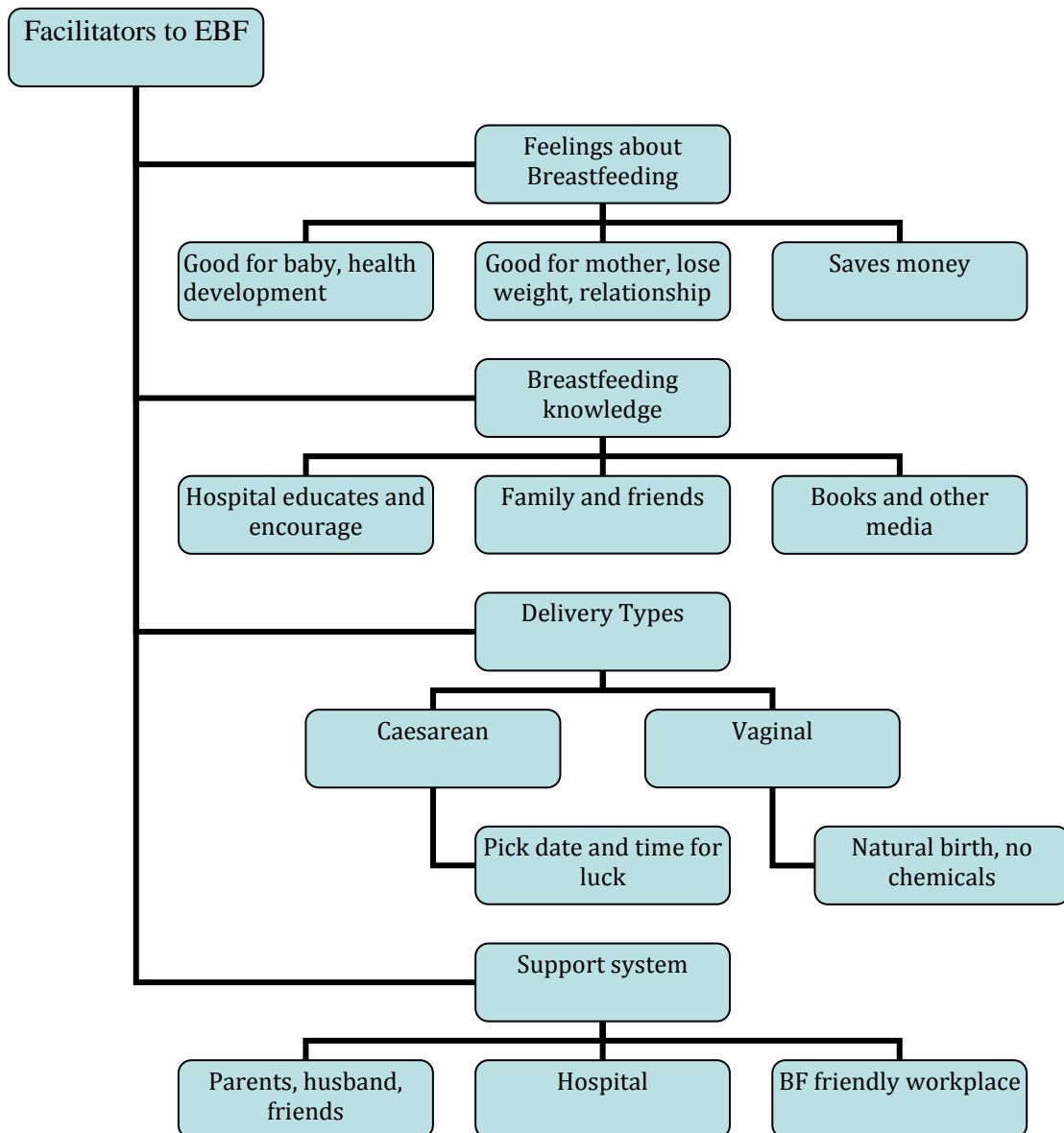
These key words were then grouped together by commonality and topic domains were created to show which topics were most commonly discussed and viewed as most important to the women interviewed. (See Table 24)

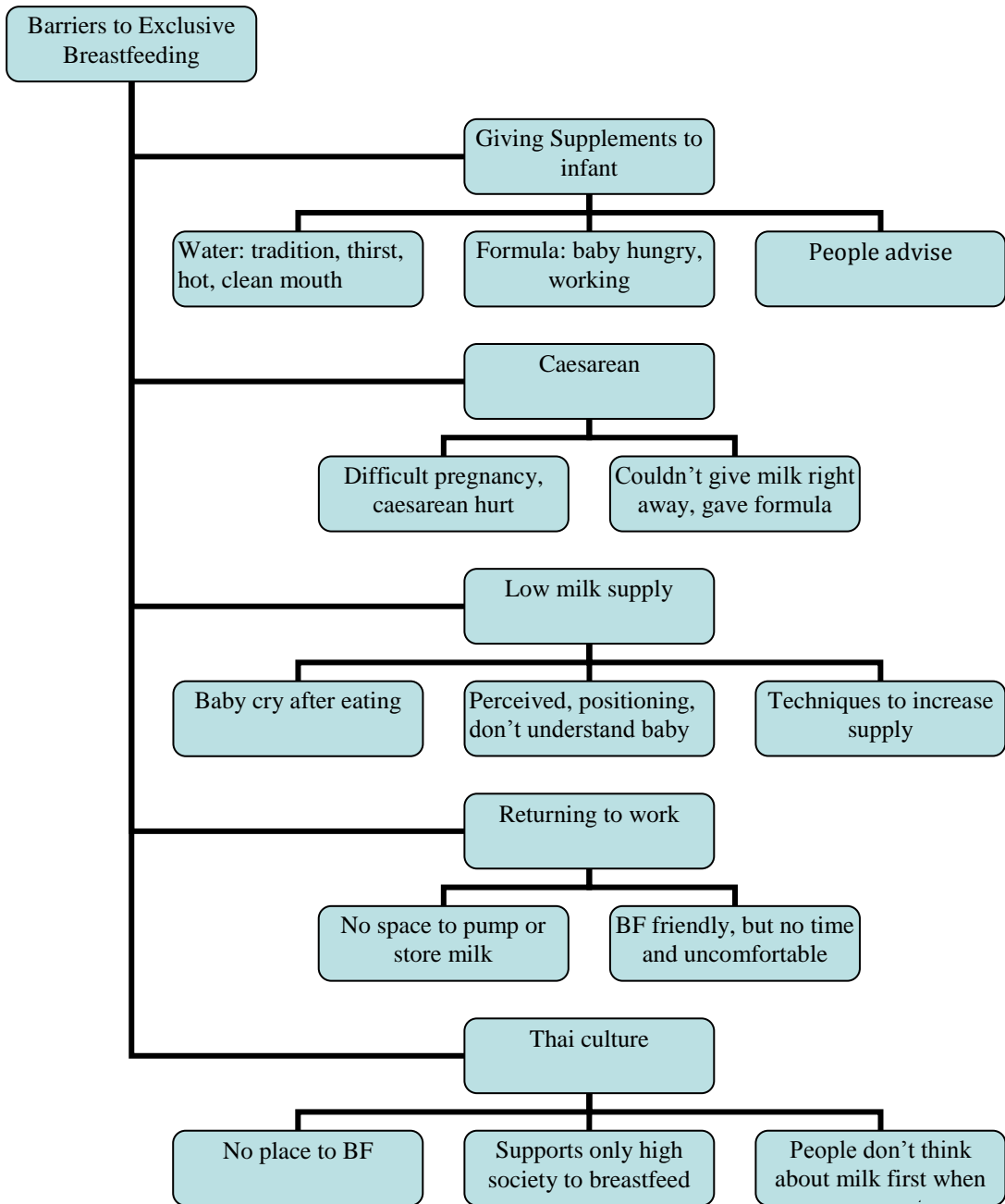
Table 24: Primary domains identified from interviews

- 1) Feelings about the benefits of breastfeeding;
 - 2) The tradition of and perceived value in giving water to infants;
 - 3) The popularity of caesarean deliveries in Bangkok;
 - 4) Difficulties encountered while breastfeeding: Low milk supply;
 - 5) Difficulties returning to work and breastfeeding;
 - 6) Available support systems for women who want to breastfeed;
 - 7) Thai society and breastfeeding; and
 - 8) Why some women breastfeed and other do not
-

Once the domains were identified, a taxonomy was created to show sub-groups and to highlight those topics most important to the interviewees. Abbreviations for exclusive breastfeeding (EBF) and breastfeeding (BF) are used when space is limited.

Figure 6: A Taxonomic Analysis of Qualitative Breastfeeding Data: Facilitators and Barriers to Exclusive Breastfeeding





Part 13.2: Written Qualitative Results

In the written results for the qualitative component, qualitative findings were classified by descriptors relevant to the topic discussed. Part 13.2 is organized by the most common and most important topics identified by the women interviewed (See Part 13.1) for tables and figures detailing these findings.

Feelings about the benefits to breastfeeding

In the qualitative study, each of the women had positive feelings regarding breastfeeding. In the sample of 7 postpartum women, 1 woman did exclusive breastfeeding for 6 months and then continued breastfeeding for 14 months, 5 women did non-exclusive breastfeeding durations ranging from 20 days to one year, and 1 woman did no breastfeeding. Both breastfeeding experts were extremely supportive of women doing exclusive breastfeeding.

The main feelings about breastfeeding agreed with the quantitative findings, which found 98.1% of women agreeing that ‘There are many benefits to breastfeeding’ and 96.6% agreeing ‘Breast milk is important for me and my baby.’ In the interviews, women talked at length about the positives of breastfeeding and commented that breastfeeding is the “best thing you can give a kid.” Another woman said, “I love my kids and want kids healthy. Wish to do (breastfeeding) longer,” and another said, “Breastfeeding good for kids, comfortable and saves money.”

The tradition of giving water to infants

In the qualitative interviews, only one woman refrained from giving water in the first 6 months. Each woman was encouraged to give water by family members, especially elders, and their friends. Doctors and hospital staff, as well as books, were the places women learned not to give water. Many women had not planned to give water, but similarly to the quantitative findings (81.5% of women giving supplements in first 6 months gave water), felt a pressure to give water. The woman gave many reasons why they gave water, like “to clean the mouth,” “prevent dehydration,”

“because hot,” “refresh,” “baby is thirsty and throat dry,” and “in the past we feed like this and are okay.” One woman also felt that her pumped milk was thicker than when taken from the breast, so used water.

The experts interviewed in this study, discussed the significance of giving water to infants stating that many moms, “give a sip of water if very hot, to help refresh.” Also, when discussing why this tradition has lasted past the recommendations to not give water, the experts talked about the influence of family members and having access to this information. One expert stated, “people who have old belief, cannot access this new information... there are large gaps between socioeconomic groups,” which limits some family’s access. Another expert explained, “Thai families live with in-laws or parents who give opinion on breast milk and formula and encourage water, so mothers give a little water.”

These findings support those found in the questionnaire showing that the greatest support to women was from their families, specifically their parents. Old beliefs and traditions are most commonly passed from parents and older relatives, so it is quite natural that women are continuing this practice of giving water.

The popularity of caesarean deliveries in Bangkok

In the qualitative sample, 3 women talked about their caesarean deliveries and each of the 7 women commented on her beliefs of why women have caesarean deliveries in Bangkok. In the quantitative findings, 42.2% of the sample had caesarean deliveries. Caesarean deliveries were found to be positively associated with exclusive breastfeeding in the quantitative study. This finding is not fully supported by the qualitative interviews, since only one woman with a caesarean delivery did exclusive breastfeeding, but may it be noted that she was the only woman in the sample who did exclusive breastfeeding and she did it for 6 months.

Women talked about the perceived ease of having a caesarean delivery. One woman talked about the importance in Thailand of luck and that days and times are

deemed lucky or unlucky. She said, “You can select a date and time for luck,” which makes many women want to have a planned birth, which is possible if electing to have a caesarean delivery. One expert stated that in her work with many new mothers, some women with caesareans do quite well with breastfeeding and others do not. She commented, “Maybe it is not so important for how baby is born, more of how the mother is supported; if she gets the right information and support.”

This comment is quite supported by the quantitative findings, which found that women with more knowledge did more exclusive breastfeeding. If women know a lot about the importance of breastfeeding, the type of delivery could have less of an impact on her breastfeeding practice. Also, the one woman who had a caesarean and a very difficult pregnancy (resulting in the loss of one fetus), did exclusive breastfeeding for 6 months because she had support from her family, knowledge from her doctors and she herself gained additional knowledge through reading books.

Two women talked about how their caesarean delivery had a negative impact on their ability to exclusively and non-exclusively breastfeed. Often times, caesarean deliveries cause milk to ‘come in’ later than after a vaginal delivery. Many women become concerned with this and in these interviews, the women talked of this issue. “I had a caesarean and it really hurt, I gave first milk at 2 days,” and “I did no breastfeeding because caesarean and doctor advised me to use formula.” The use of formula was sited in the quantitative results, as 50.4% of the women giving supplements in the first 6 months, gave formula.

Difficulties encountered while breastfeeding: low milk supply and working

The qualitative interviews supported the findings in the quantitative questionnaire, which highlighted low milk supply and working as the two greatest barriers to women’s ability to exclusively breastfeed. When discussing breastfeeding barriers, each non-exclusive breastfeeding woman talked about issues with supply. One breastfeeding expert stated that it is common in “First few weeks women often feel full and baby cannot suck well and gets only foremilk, so becomes gassy and

crying. Not a problem of undersupply,” and the other expert added that many new mothers, “don’t understand baby. He cries and doesn’t sleep through the night and mothers assume they don’t have enough milk.”

Other breastfeeding mothers talked about women’s perception of no milk. One woman said, “I wanted to breastfeed, but no milk. I know breast milk is healthy.” Another woman said, “I felt my milk supply was low. Baby was crying after breastfeeding, so I added formula,” and yet another “I breastfed only 20 days due to low supply. Baby was upset and very hungry. Doctor said to start to give formula.” The lactation consultant and breastfeeding expert cited low milk supply as the number one reason women come to see her and she has found that low supply is not the problem, but poor positioning and limited knowledge of technique are main problems.

Difficulties returning to work and continuing breastfeeding

70.7% of the women in the quantitative study were employed and employment, while noted as a major barrier to exclusive breastfeeding, was not statistically significant to exclusive breastfeeding (p value = .201). While not statistically significant, it is no mystery that returning to work is difficult on breastfeeding mothers. In the qualitative findings, women expressed their difficulties when returning to work as well as the variety of workplaces and their attitudes toward women expressing milk at work.

Two women talked about having workplaces that allowed time for expressing milk, though only one of the women actually utilized this time. The other woman felt that even though she was told she could express milk at work, “I was not comfortable and felt I would be taking advantage. Other colleagues did pump. My work was competitive so no time for pumping.” Another woman said, “at work I can pump and store in the refrigerator,” which allowed her to do non-exclusive breastfeeding for nine months. Another woman said returning to work lowered her supply so she stopped breastfeeding at 4 months. A stay at home mom said, “I think helpful that I

am a housewife. I can fully support breastfeeding. For the parents who have to work, they have to prepare.”

Available support systems and Thai society and breastfeeding

The quantitative questionnaire asked women to provide their support in breastfeeding and dealing with breastfeeding difficulties. 42.3% of women who responded, said that their parents were their greatest support. 34.6% said hospital staff were a great support when they were having breastfeeding difficulties. These findings are supported by the qualitative interviews. Women talked a great deal about the support they received or did not receive in the hospital. As stated previously, some women were encouraged to use formula before their milk ‘came in’ and some were encouraged by doctors. The ability to exclusively breastfeed and the ability to breastfeed well after a caesarean delivery depend a great deal on the support from hospital staff. One woman commented, “and the doctor help encourage to breastfeed. I would trust the doctor.” Another woman admitted, “Hospital encouraged me to breastfeed. I didn’t know the importance of breastfeeding before.” The lactation consultant interviews, works in a private hospital and also stated that one’s ability to have a successful initiation of breastfeeding depends a lot on how a doctor views breastfeeding.

Thai society and support of breastfeeding was not addressed in the quantitative component of this study, but became a common theme during the qualitative interviews. Women, for the most part, did not see Bangkok as a supportive breastfeeding city. Women complained that “no place for breastfeeding, government places do not have, there should be more places for breastfeeding” and “Thai society not support me for breastfeeding. I took care of myself.” Another woman of a high socio-economic background remarked, “Bangkok supportive for higher income women with breastfeeding stations in high end shopping centers... when normal Thai women go to Big C or Carrefour, don’t have this.” Both breastfeeding experts talked about how some private hospitals and other businesses are working toward becoming more breastfeeding friendly.

CHAPTER V

DISCUSSION, SUMMARY & RECOMMENDATIONS

Discussion of Findings

In this chapter, the discussion of findings are presented in agreement with the said objectives of this study:

1. To determine the knowledge, attitude and practice of exclusive breastfeeding among postpartum women living in Bangkok
2. To determine the prevalence of and factors associated with exclusive and non-exclusive breastfeeding in postpartum women in Bangkok

1. Knowledge, attitude and practice of exclusive and non-exclusive breastfeeding

1.1 Knowledge of breastfeeding

In this study, knowledge of breastfeeding was statistically significant with exclusive breastfeeding practices (p-value = .045). 72.4% of women with a practice of exclusive breastfeeding had 'good knowledge' as compared with 49% of the entire sample.

When comparing levels of knowledge of breastfeeding with type of breastfeeding, it is interesting to note that 72.4% of women with exclusive breastfeeding practices had good levels of knowledge as compared to 44.3% of non-exclusive breastfeeding mothers. The non-exclusive breastfeeding group had their largest majority of women receiving good knowledge scores, but had almost as many women (68 as compared with 77) having just moderate knowledge (39.1%). It is possible that if this group of women's knowledge was increased in the importance of exclusive breastfeeding, the prevalence of exclusive breastfeeding would increase.

Interestingly, in this study, there was a difference in knowledge and which level of breastfeeding the sample practiced. When comparing the mean scores of knowledge for exclusive and non-exclusive breastfeeding mothers, it was found that the level of knowledge of breastfeeding was significant with exclusive breastfeeding practice when compared to non-exclusive breastfeeding. The women with the highest scores on knowledge of breastfeeding, tended to do more exclusive breastfeeding than those with lower scores who did non-exclusive breastfeeding (p -value = .014). This shows that while knowledge is significant to exclusive breastfeeding practice (p value = .045), it is actually more significant when comparing non-exclusive breastfeeding and exclusive breastfeeding. To further improve the prevalence of exclusive breastfeeding practice, specific knowledge to exclusive breastfeeding is necessary. It is not enough to know to breastfeed, it is important to understand the increased value in exclusive breastfeeding and not introducing supplementary feeds, water or formulas until at least 6 months of age.

These findings are quite interesting to this study because they are often in contradiction with one another and with women's level of practice. Most significant is that this study shows 41.2% of women either don't agree or don't know if expressed milk should be given to babies. Since the large majority, (70.2%), of women in this study are employed, understanding the use and value of expressed milk could greatly improve the prevalence of exclusive breastfeeding in this sample. Also, 29.4% of women don't agree or are unsure if breast milk alone can satisfy an infant for six months. This is the fundamental knowledge necessary to promote exclusive breastfeeding. While 88.9% of women said that colostrums should be given to baby, only 73.1% of women thought babies should definitely be put to breast within 30 minutes after delivery. Additionally, 92.3% of women know that frequent suckling increases milk supply, while only 73.4% of this same group of women thought they knew ways to increase milk supply. Since, in this study, the two top exclusive breastfeeding difficulties reported were returning to work (43.8%) and low milk supply (29.5%), this information is paramount for new mothers.

1.2 Attitude toward breastfeeding

In this study, attitude was not found to be statistically significant to exclusive breastfeeding (p -value = .926). Scores received for women's attitude toward breastfeeding were lower than those received for knowledge. While 49% of women had good knowledge, only 35.2% had a positive attitude toward breastfeeding. The majority, 51.3% ($n=102$) of women had a moderate attitude toward breastfeeding and 13.6% had a negative attitude toward breastfeeding. Only 7.5% of women received a perfect score of 18 for their attitude of breastfeeding.

It is interesting to note that 60.7% of women in this study agreed with the statement, 'Most Thais do not breastfeed,' while within this study, almost every mother (98.1%) at least tried breastfeeding once, 30.3% of women did non-exclusive breastfeeding for at least 6 months and 10.1% did exclusive breastfeeding for 6 months. So while women are indeed breastfeeding in Thailand, it is not the perception of women that others around them are also breastfeeding. During the interviews, one woman who did some exclusive breastfeeding and then did non-exclusive breastfeeding for one year, said, "When I was a kid, I saw families and it (breastfeeding) was the natural way to take care of the kids, but now moms not thinking about the milk." This attitude may cause women to shorten the duration of breastfeeding or discontinue breastfeeding as soon as problems present themselves. Increasing awareness of the prevalence of breastfeeding, might improve this prevalence of exclusive breastfeeding and the duration of both exclusive and non-exclusive breastfeeding.

1.3 Practice of breastfeeding

In this study, breastfeeding practices of postpartum mothers living in Bangkok were divided into three categories:

1) Exclusive breastfeeding meant infants are fed only with the mother's breast milk, either through breastfeeding or expressed and bottle-fed. No other food or liquid (including water) are given to the child, with the only exceptions being liquid vitamins or medicine or oral rehydration solution. The dependent variable of exclusive breastfeeding refers to any duration of time, from birth until 6 months.

2) Non-exclusive breastfeeding meant giving baby some breastfeeds, but also using additional supplements like formula, cereal, water, juices or other foods or liquids

3) No breastfeeding meant infants were given no breast milk, only formula milk and other liquids or foods. The baby was never put to breast.

It is the recommendation of WHO and many other international organizations that women should do exclusive breastfeeding for 6 months and then introduce age appropriate foods while continuing to breastfeed up to 2 years. Thailand's Ministry of Public Health and the Baby Friendly Hospital program also agree with this suggestion.

1.3.1 Prevalence of exclusive and non-exclusive breastfeeding

This study showed 14% of postpartum Thai women living in Bangkok did some duration of exclusive breastfeeding and 10.1% of women did exclusive breastfeeding for a duration of 6 months. In addition, 84.1% of the sample did non-exclusive breastfeeding for some duration of time and 30.3% of women did non-exclusive breastfeeding for at least 6 months. These findings are higher than those found through the MICS survey, which found that only 5.4% of Thai women exclusively breastfed their infants for the first 6 months. The Thai government has set a goal of exclusive breastfeeding for 6 months to be practiced by 30% of women, which is three times the level currently achieved by women in this sample.

Also interesting is that of the 208 women in this study, only 4 women never put their baby to their breast and therefore scored a 0 in practice or 'no breastfeeding' categorization. This means that Thai women living in Bangkok are open to the

practice of breastfeeding and are attempting the practice, if only for short periods of time. One woman who did exclusive breastfeeding for 6 months said, ‘In my friends, we try to give (milk). I feel it is natural that mothers should give the milk.’ This is supported by the high levels of knowledge women in Bangkok have about breastfeeding and that 96.6% of the women agreed with the statement, ‘I think breastfeeding is important for my baby and me,’ and 98.1% of women replied ‘yes’ the statement ‘breastfeeding has many benefits for baby’ and 90.4% agreed that ‘breast milk is better than infant formula for baby.’

1.3.2 Prevalence and percentages of women giving additional supplements to infants under 6 months of age

This study found that 63.9% of participants gave some form of supplement to their infant in addition to breast milk. The most common supplements were water and formula: 89.5% of those who answered yes to giving supplemental feedings in addition to breast milk saying gave water and 48.9% gave formula. These findings were further examined in the qualitative section of this study, as water was discussed in each interview. Only 1 of the 7 women interviewed gave absolutely no water for 6 months and all 7 were encouraged by family members and friends to give their infant water. One woman stated, ‘I plan to give no water, but people encourage me to give, so I gave a little.’ The most common reasons noted for giving water in addition to breast milk were to follow tradition, to please family members, to clean the mouth and tongue, because of heat and dehydration, to quench thirst and relieve dry throat, to refresh and one mother believed her expressed milk was thicker than when she fed from her breast, so water was necessary.

One woman stated, ‘The doctor told me no water until six months, but my parents encouraged me a lot to give water, because hot.’ This mother gave ‘some water’ and breast milk from birth and then introduced formula at about 2 ½ months postpartum. The contradiction between the knowledge given from doctor versus baby’s grandmother or other relatives is very interesting. Giving water seems to be a

practice that has lasted for generations and will be difficult to overcome unless education is directed specifically at this issue. Doctors should encourage women to breastfeed without additional water and inform women that breast milk itself has enough water to satisfy baby, hydrate him and refresh him. As breastfeeding expert noted, ‘people who have old belief (about giving water) cannot access this new information. There are large gaps between socioeconomic groups,’ which limits some women’s access. She also commented that often women just give a ‘sip’ of water. Amount of water given and further examination into reasons for water would be helpful information to have for anyone working to increase levels of exclusive breastfeeding in Bangkok.

Formula feeds were the second most common form of supplement given, with 61.5% of women with infants less than 6 months stating they EVER used formula with their infant and 48.9% of women who agreed that they breastfed and gave supplements said they gave formula. Often times, women supplement their breastfeeding with formula due to returning to work and low milk supply. A woman’s perception of her milk supply is quite important. One breastfeeding expert stated ‘Questions about milk supply are the number one reason mothers visit me’ and the ‘first two weeks women often feel full and baby cannot suck well and gets only foremilk so becomes very gassy and crying, but not a problem of undersupply.’ In agreement, one woman said ‘I breastfed only first 20 days due to low supply. Baby was upset and very hungry’ and another said, ‘I felt my milk supply was low. Baby was crying after breastfeeding, so I added formula.’ Two women commented that their doctor suggested using formula: ‘I did no breastfeeding because caesarean and doctor advised me to use formula’ and ‘Baby was upset and very hungry (at 20 days). Doctor said to start to give formula.’ Another woman questioned the reality of low milk supply in women in Bangkok: ‘They think they don’t have the milk. I also don’t know how hard they try.’

Also, in Thailand, free samples of formula are sometimes given in hospitals post birth. One woman said, ‘Maybe others don’t breastfeed because they get free samples of formula in hospital’ and another when talking about what it says to women when a

hospital gives formula, 'Mothers why don't you give formula? Once the mothers are desperate about giving the breastfeeding maybe they just go easier if they already have the sample of milk (formula) in their hand.'

2. Prevalence of and factors associated with exclusive and non-exclusive breastfeeding practices

2.1 Prevalence of exclusive and non-exclusive breastfeeding

In the present study, it was found that only 14% of the subjects did any exclusive breastfeeding and 10.1% were exclusively breastfeeding at 6 months. This finding is higher than the results of the MICS study which showed only 2.4% of women in the central region doing exclusive breastfeeding at six months postpartum (Thailand National Statistical Office, 2006) and comparable to the 2008 study which found 11% of women living in Bangkok doing exclusive breastfeeding at 6 months postpartum (Laisiriruangrai, et al., 2008). The finding is less than that of the latest large scale reproductive health study done in cooperation between NSO, the Department of Health, the United Nations Population Fund and the College of Populations Studies at Chulalongkorn University, which found 15.1% of women in Thailand providing exclusive breastfeeding to their infant at the first 6 months of life (NSO, 2009). This study's findings put Thailand a third of the way to their goal of 30% exclusive breastfeeding for 6 months.

2.2 Demographic factors associated with exclusive breastfeeding in postpartum women in Bangkok

Age: In the current study, age was not found to be statistically significant as an association to exclusive breastfeeding practice (p-value = .570). Age was found to be significantly associated to duration of non-exclusive breastfeeding. These findings do suggest that while age alone does not determine breastfeeding practice, there is more exclusive breastfeeding in older women and these older women are

breastfeeding 6 months or more. As women age, they accumulate more knowledge and confidence, which both improve their rates of exclusive breastfeeding and duration of non-exclusive breastfeeding.

Completed Education Level: This study did not find education level to be statistically significant to exclusive breastfeeding practice (p-value = .052), but was close enough to be considered interesting. Education level is closely related to knowledge and while education level is not significant to exclusive breastfeeding in this study, education level was significant to duration of non-exclusive breastfeeding. This suggests that women with higher education have increased access to knowledge regarding breastfeeding for at least 6 months and therefore are encouraged to breastfeeding longer than those women with less education and decreased levels of access.

Marital status: This study did not find a significant relationship between marital status and exclusive breastfeeding (p-value .842). In this sample, 84.6% of the women were married, which may be why differences could not be detected in breastfeeding practices among the remaining unmarried groups. When looking at the duration of non-exclusive breastfeeding and marital status, the p value was .068, which means the relationship isn't significant, but it is close enough to be an interesting finding from the data. Other studies have shown husband support as a significant indicator of successful breastfeeding practice (Fallon, 2005), so it is possible that this source of support does have an impact on women's decision to continue to breastfeed for at least 6 months and should be looked at more closely in future studies. One woman talked about her support when breastfeeding, 'I had nipple pain in the beginning and received help from my husband and mother in law. Both very supportive.'

Monthly family income (baht): Family income was found to be statistically significant to exclusive breastfeeding in this study (p-value .035). This study showed that the women with a higher income (50,000 baht or more) did more exclusive breastfeeding (22.2%) as compared to women whose family income was less than

10,000 baht per month (6.5%). Both groups had similar numbers, 31 women with incomes less than 10,000 and 36 women with incomes higher or equal to 50,000 baht per month. This finding is contradictory to the findings of the MICS survey, which found the higher income women to be the least likely to breastfeed (NSO, 2006).

One explanation for this change since 2006 is the promotion for exclusive breastfeeding in many private hospitals where wealthier women tend to receive antenatal care and deliver their children. For example, Samitivej hospital where 31, 14.9% of women in the study delivered and received antenatal care, prides itself on being a Baby Friendly Hospital and strongly encouraging its patients to breastfeed and do exclusive breastfeeding. Additionally, wealthier women have more access to information than poorer women and may have become more knowledgeable about the importance of exclusive breastfeeding in recent years. Another explanation, even though the income brackets of this study were the same as those in the MICS data, my sample may have 17.3% of its sample with incomes 50,000 baht or more per month, but it is possible that the MICS survey reached an even wealthier contingent of women than my study.

Number of births: The number of births was not significant in this study (p -value = .480), but there were more second time mothers choosing to exclusively breastfeed than first time mothers (15.7% as compared to 12.8%). During interviews, one woman commented that with her second child, she ‘will definitely breastfeed. It will be much easier now.’

Employment status: In this study, employment status was not statistically significant to exclusive breastfeeding (p -value = .654). In contrast, returning to work was noted as the main difficulty in exclusive breastfeeding by 43.8% of the women in this study. Also, the qualitative interviews suggested working as a deterrent to exclusive and non-exclusive breastfeeding practices with women stating, ‘I stopped breastfeeding at 4 months. My milk reduced by going back to work.’ Other studies show that employment hinders breastfeeding practices (Fallon, 2005), so employment needs to be looked at further in this population.

Employment type: Employment type was also not statistically significant to exclusive breastfeeding in this study (p-value .119), but was close enough to be considered interesting. Government employees had much less exclusive breastfeeding (11.5%) than civil servants (27.3%) and business owners (25%). The high rate of exclusive breastfeeding in business owners may be a result of increased flexibility, schedule and working from home. The qualitative findings of this study do support the findings that employment type is important, but not necessarily significant. One woman who works in an engineer firm, stated, “I have pump and experience with pumping. My work was supportive, but I was not comfortable and felt I would be taking advantage. Other colleagues did pump...,” and another office worker said, “At work I can pump and store in refrigerator.” From this sample, it seems that while working is not statistically significant to exclusive breastfeeding practice, working and employment type do play a role in women’s decision to practice. It can also be noted that even though an employer says they support pumping, it may not be accepted enough for women to actually pump. One woman noted, “Some say at the office they don’t have a place to pump the milk. Even if you go to work with a place, maybe difficult to find the time.”

2.3 Predisposing factors related to antenatal care of women in sample

Place of antenatal care/delivery: Government or privately owned

hospitals: This study did not show that the facility used at birth or where women received antenatal care as statistically significant to exclusive breastfeeding (p-value = .741). I think further analysis is necessary for this topic since aspects of antenatal care, like ‘number of times breastfeeding’ was discussed and ‘type of delivery’ were both significant, as well as ‘monthly family income’ which often dictates which type of hospital one seeks.

Delivery type: The type of delivery, vaginal or caesarean was statistically significant in this study with any exclusive breastfeeding practice (p-value = .047),

but is contradictory to many studies because this study shows caesarean deliveries as a protective factor with exclusive breastfeeding. A further analysis of the characteristics of women who did receive caesarean deliveries, showed that income, education level and hospital type were all statistically significant to delivery type. Wealthier, more educated women who attend private hospitals are having more caesarean deliveries and are also doing more exclusive breastfeeding. I believe this is due to the focus on breastfeeding at these high-end hospitals in addition to this population's choice to have an elective caesarean versus emergency caesareans. Elective caesareans are quite common in Bangkok with many women and doctors preferring the scheduled delivery versus the unknown. It would be interesting to look further at this demographic to see if indeed elective caesareans have less of a detrimental impact on breastfeeding practices than unplanned or emergency caesareans. Caesarean deliveries are more expensive than vaginal deliveries, so this finding agrees with the finding discussed earlier that showed higher income women in this study as having higher rates of exclusive breastfeeding.

Almost half the women in this study had a caesarean delivery (42.2%). One woman commented that caesareans are so common because, 'It's easy. You can select a date and time for luck' and another said 'Maybe half of the women who decide to operate (have caesarean) think about the body and shape and sexual relationship' as reasons not to have vaginal delivery. In a society where days and times have a value based on what is lucky and a city where the importance of beauty can be shown by the high prevalence of businesses just in the work of making women beautiful, it is important to take these comments and beliefs seriously when developing strategies to improve rates of exclusive breastfeeding. It is also possible that since the women having caesarean deliveries are more likely to attending private hospitals (p value = .000), exclusive breastfeeding may be more prioritized during antenatal care in these hospitals.

Discussion of breastfeeding during prenatal appointments: This study did not find 'discussion of breastfeeding during prenatal appointments' as statistically significant with exclusive breastfeeding. 77.4% of the sample responded that

breastfeeding was discussed with them during their prenatal appointments, while 17.4% stated that breastfeeding was never discussed with them during their antenatal appointments. While 17.4% (n=36) is not an overwhelming number of women, it is important to demonstrate that there is a contingent of women out there who are not receiving this important information from their doctors or midwives. It is also not in agreement with Thailand's stated support of exclusive breastfeeding and the goals of 30% of women exclusively breastfeeding for 6 months. This study has only 10.1% of the sample successfully meeting this suggested amount of breastfeeding. One woman noted, "I think the knowledge and the doctor help encourage to breastfeed. I would trust the doctor." Also, when asked who helped encourage you to breastfeed, one woman said, "Hospital encouraged me to breastfeed. I didn't know the importance of breastfeeding before." This trust in doctors has been noted throughout the world, which shows that even though breastfeeding discussion was not significant here, it is important to encourage doctors to talk about breastfeeding.

Number of times breastfeeding discussed during prenatal appointments:

Interestingly, that while discussion of breastfeeding or no discussion of breastfeeding wasn't found to be statistically significant, the actual number of times breastfeeding was discussed was found to be statistically significant to exclusive breastfeeding practice (p-value .050). This shows the importance of the role of doctors, nurses and midwives in the practice of women's exclusive breastfeeding. It is not enough to only mention breastfeeding once (44.2% of women said breastfeeding was either never discussed or only discussed once), but important to reinforce the significance of this practice throughout the 40 weeks of pregnancy. The large majority of women in this sample (71.6%) had 9 or more antenatal visits, which allows many opportunities for doctors, midwives or nurses to discuss the benefits of exclusive breastfeeding and answer questions.

I have good knowledge about breastfeeding: was not found to be statistically significant to exclusive breastfeeding practice with over three-quarters of the women (76.9%) agreeing with this statement and only 14% doing any exclusive breastfeeding and 10.1% exclusively breastfeeding for 6 months. In contrast, women

who agreed with this statement about having good knowledge about breastfeeding did do non-exclusive breastfeeding for longer rates than those who disagreed with this statement. Believing that one has good knowledge shows confidence in one's ability to breastfeed. Confidence has been shown to be significantly associated to exclusive breastfeeding (Blyth, 2002).

I would have liked more information about breastfeeding: was not found to be statistically significant to exclusive breastfeeding, but is interesting because almost twice as many women agreed with this statement of wanting more information about breastfeeding than disagreed with it. 132 women said they would like more information about breastfeeding (63.5%) and 71 said they would not have liked more information about breastfeeding (34.1%). This is important because while this feeling is not statistically significant in this study to exclusive breastfeeding, it does show that there is still an unfulfilled need for women to receive more information about breastfeeding. 13.1% of the women asking for more information did exclusive breastfeeding for some duration of time, which means they knew enough to practice, but they still feel there is more information they would like to have regarding breastfeeding.

2.4 Findings of qualitative results

2.4.1 Difficulties in breastfeeding

When asked to write their main breastfeeding difficulty, 105 women wrote a response, with 46 of them (43.8%) stating working and returning to work as their main difficulty. 31 women (29.5%) stated low milk supply as their main difficulty, while others listed living away from baby (4.8%), nipple pain or dysfunction (3.8%) and no time or inconvenient (3.8%) as other common difficulties. While this current study does not show employment or type of employment as significantly significant factors to exclusive breastfeeding, it cannot be dismissed that working and exclusively breastfeeding is seen as difficult for many women. And while this study does not assess women's level of supply, since over a quarter of women questioned said they

suffered from issues of supply, increasing education and promoting usage of support services to improve supply and knowledge of supply is very important.

2.4.2 Support Networks

Women in this study were asked to write who helped them with their breastfeeding difficulty and while only a few women responded (n=26), there responses were quite uniform. In this study, the mother's parents were seen as the greatest source of support in breastfeeding with 42.3% of responses to 'who helped with your difficulty' expressed as parents or grandmother of baby. The second most common source of support was hospital staff, with 34.6% of women crediting them with support. The in-depth interviews agreed with these findings with the women stating parents, husbands, mothers and hospital staff as main supports while breastfeeding. The importance of support during breastfeeding has been shown (Su, et al., 2007 and Fallon, 2005).

Also important and interesting here was the women's perception that Thai society and Bangkok society are not supportive to breastfeeding. Only one woman interviewed felt that Bangkok was supportive to breastfeeding mothers, but only those of higher income. She said, 'Bangkok supportive for higher income women with breastfeeding stations in high end shopping centers. In some place, they have a room in kid's floor to change pampers and small room to be breastfeeding room. When normal women go to Big C or Carrefour, don't have this.' The other women expressed that Bangkok is not supportive of breastfeeding. They said, 'No place for breastfeeding, government places not supportive, should have more places for breastfeeding,' and 'Thai society not support me for breastfeeding; I took care of myself.' Improvements in society's acceptance of breastfeeding and of breastfeeding areas could greatly increase women's perception of support and therefore increase exclusive breastfeeding practices for Thai women in Bangkok.

2.4.3 Reasons for choosing to breastfeed

When asked to provide reasons for choosing to breastfeed, 45 women took the time to write a response. Of those 19 women (42.2%) responded that breastfeeding is good for baby's health with an additional 9 women (20%) responding that the antibodies in breast milk are why they chose to breastfeed. The ease of breastfeeding and the economic advantage to formula were also noted as common reasons (11.1%). The in-depth interviews supported these findings with woman commenting, 'I think it is the best thing you can give to a kid because the first thing that the baby develops is the food and it reacts later in development,' and 'Breastfeeding good for kids, comfortable and saves money' and 'breast milk good for kids because antibodies.' These are reasons most likely cited the world over.

This study also showed that 29.4% of women were not sure or disagreed with the statement 'breastfeeding alone can usually satisfy a baby for six months,' which is an important amount of information to encourage women's practice of breastfeeding exclusively for 6 months. The most popular response for reasons for breastfeeding among this sample was 'good for baby' with 42.2% of responses noting baby's health as their number 1 reason to breastfeed. This supports the idea that mothers want what is best for their infant and if they don't believe an infant can be satisfied fully on breast milk alone, they are much more likely to add supplemental feedings or formula to ensure their baby's health. To increase exclusive breastfeeding practice and duration, it is of paramount importance that women feel confident their baby can thrive on breast milk alone for 6 months.

2.4.4 Reasons for stopping breastfeeding

This study found the main reasons that women stopped breastfeeding to be the same as their main difficulties: working (60.5% of responses) and low milk supply (21.1% of responses). One woman commented, 'I wanted to do breastfeeding, but no milk. I know breast milk is healthy.' Another woman said, 'I stopped breastfeeding at 4 months because milk reduced due to return to work.' This makes sense and

underlines the significance support networks could play in increasing women's prevalence of exclusive breastfeeding as well as the duration. If there were more available resources for breastfeeding mothers, the common difficulties of working and breastfeeding and low milk supply could be minimized and women could learn techniques to continue successfully breastfeeding even when faced with these difficulties.

2.4.5 Results from interviews

The in-depth interviews were invaluable to this study and provided a wonderful insight into the breastfeeding practices of women in Bangkok. The most significant information gained was regarding reasons why giving water is so common. This study shows that a large number of women are indeed breastfeeding, but due to their inclusion of water in their breastfeeding routine, they cannot be considered to be exclusively breastfeeding. Since the WHO and Thai health agencies are encouraging women to exclusively breastfeed, it is important to note that while some women are given feeds such as rice or cereals before 6 months, it is more significant to focus energies on educating the population on the non-necessity of water while breastfeeding in infants or to examine further the actual amount of water given in Thailand and Bangkok and whether these amounts are detrimental to infant feeding practices and infant health.

Summary of Findings

The present study was descriptive research investigating the prevalence of and duration of exclusive breastfeeding and non-exclusive breastfeeding practices for Thai postpartum women living in Bangkok, as well as, the factors associated with these practices. The study utilized a mixed methodology by incorporating a quantitative self-administered questionnaire and qualitative in-depth interviews. The sample of the study consisted of 208 postpartum mothers who delivered a baby in the last 24 months, who are Thai, live in Bangkok and were willing to participate in the study.

The research instruments consisted of 1) a self-administered questionnaire divided into 4 sections to elicit data related to demographics and antenatal care, knowledge of breastfeeding, attitude toward breastfeeding and practice of exclusive and non-exclusive breastfeeding and 2) qualitative in-depth interviews with 7 Thai, postpartum women living in Bangkok and 2 Thai breastfeeding experts working in Bangkok.

The data from this study was analyzed using SPSS 16 with frequencies, percentages and means designated. Correlations between demographic characteristics, antenatal care, knowledge and attitude were conducted using Chi square and Fisher exact tests. A Mann-Whitney test was used to compare the knowledge of exclusive breastfeeding women and non-exclusive breastfeeding women. Findings were considered statistically significant at the .05 and .01 levels.

The research findings can be concluded as follows:

1) In terms of demographic characteristics, it was found that 58.5% of the cases in this study were between the ages of 25 and 34 years old and 23.7% were 35 years and older with the mean age of 30 years. Almost half the women were educated at the junior high and high school level (46.2%) with 32.9% college educated and beyond. Moreover, 84.6% of women were married and 56.8% had only one child. Monthly family income varied with 33.7% of women having a monthly family income between 10,000 and 19,999 baht and 17.3% in the highest bracket option of 50,000 or more Thai baht per month. Women with family incomes less than 10,000 baht per month made up 14.9% of this sample. Almost three-quarters of the women were employed at the time of this study (70.2%) with the remaining 27.4% unemployed or housewives.

2) Regarding antenatal care, it was found that 44.7% of women received antenatal care and delivered in a government hospital, while 31.7% received care in a private hospital. For 77.4% of women studied, breastfeeding was discussed in antenatal appointments. 44.2% stated breastfeeding was discussed once or less, while

32% said it was discussed 3 or more times. The vast majority, 76.9% believed they had good breastfeeding knowledge and 63.5% would have liked more information during their antenatal visits about breastfeeding. Additionally, just over half of the women (57.8%), had vaginally deliveries and 42.4% had babies delivered via caesarean.

3) The knowledge of breastfeeding in this sample was quite high, with 49% of women scoring good levels of knowledge and 35.3% having moderate levels of breastfeeding knowledge. 72.4% of women with exclusive breastfeeding practices had good knowledge of breastfeeding and 44.3% of non-exclusive breastfeeding women had good knowledge. Almost all women (98.1%) agreed that breastfeeding had many benefits for baby and 92.3% agreed that breast milk is better for baby than formula milk. In contrast, almost half (41.2%) the women were unsure or disagreed with giving expressed milk to infants and 29.4% either disagreed or were unsure if breast milk alone could satisfy a baby for 6 months.

4) The attitude of breastfeeding in this sample was not as high as its knowledge with 51.3% of the sample receiving just moderate levels of attitude and 35.2% having a positive attitude toward breastfeeding. Exclusive breastfeeding mothers had slightly higher percentages of women scoring positive attitude toward breastfeeding than the non-exclusive breastfeeding group (41.4% and 32.8% respectively). 96.6% of women did agree that breastfeeding is important for both baby and mother and 95.6% of women studied were comfortable with other women breastfeeding around them. In contrast, 60.7% of the women studied said they did not think most Thai women breastfeed and 43.6% did not see their workplace as being supportive toward breastfeeding.

5) Findings related to the practice of breastfeeding showed that 14% of Thai women living in Bangkok did some duration of exclusive breastfeeding, while 10.1% of this sample exclusively breastfed their child for 6 months. 84.1% of this sample did non-exclusive breastfeeding, with 30.3% breastfeeding for at least 6 months. Almost one-third (31.6%) of the non-exclusive breastfeeding women stopped breastfeeding before 3 months postpartum. 1.9% of women in this sample never breastfed their infant. 65.2% of the sample gave foods or liquids other than breast

milk to their infant under 6 months of age, with the most common supplement being water with 81.5% of women supplementing with water and 50.4% with formula.

6) The variables that were significantly associated with exclusive breastfeeding (for any duration) based on the Chi-square test were monthly family income (p-value = .035), delivery type (p-value = .047) and number of times breastfeeding discussed during antenatal appointments (p-value = .050). Both education (p-value = .179) and employment type (p-value = .119) were close enough to significance to be interesting findings of this study. Knowledge of breastfeeding was also found to be statistically significant to exclusive breastfeeding (p-value = .045). Additionally, when using a Mann-Whitney test to compare the knowledge of exclusive breastfeeding women and non-exclusive breastfeeding women, the difference was significant (p-value = .014).

7) Duration of non-exclusive breastfeeding is an interesting part of this study. The variables that were significantly associated with duration of non-exclusive breastfeeding were age (p value= .017), education (p-value = .003), monthly income (p-value = .023), knowledge about breastfeeding (p-value= .002), and whether women had any duration of exclusive breastfeeding (p-value = .000).

Recommendations

1) For hospitals and hospital staff

This study found the number of times breastfeeding was discussed to be significant to the number of women who had a practice of exclusive breastfeeding. In addition, breastfeeding knowledge was found to be significant to exclusive breastfeeding practice and this study also showed that the breastfeeding knowledge of exclusive breastfeeding mothers was significantly higher than that of even non-exclusive breastfeeding mothers. Increasing the discussion of breastfeeding and improving the knowledgeable content of those discussions could increase the prevalence of exclusive breastfeeding in postpartum mothers in Bangkok.

The high number of caesarean deliveries in Bangkok should be addressed as it relates to exclusive and non-exclusive breastfeeding practices, but also as it relates to

Thai society in general and the greater impact this high number of surgeries has on women, families and hospitals, themselves.

2) For general public

Findings from this study show the majority of women breastfeeding their infants, but also giving either water or formula. Increased awareness and education on why supplemental feeding is not necessary for the breastfed infant would be of great benefit to women, families, medical facilities, outreach workers and all those working with women and children. Continued education will be helpful for the new generations to share with their parents, friends and other family members to lessen the influence of past generations on the infant feeding of today.

There should also be an effort to improve the knowledge of breastfeeding techniques including positioning when feeding, the importance of colostrum, how to use a breast pump and how to store expressed milk.

3) For employers

It is recommended that employers of large numbers of female workers be required to designate breastfeeding areas and storage space for all its employees. Maternity leave in Thailand is only three months and this study shows that the majority of women stop breastfeeding by three months and have difficulties maintaining their breastfeeding practice once they return to work, therefore if Thailand wants to increase the prevalence of exclusive breastfeeding past 3 months, the government must work in cooperation with employers to improve women's ability to work and practice exclusive breastfeeding.

4) Recommendations for further research

Further research on exclusive breastfeeding practices in Thai women would be beneficial.

1.1 Study on caesarean deliveries and exclusive breastfeeding in Bangkok

1.2 Study, including an educational intervention, on the giving of water and other supplementary feeds in the first 6 months postpartum

1.3 Study on the differences in prevalence and duration of exclusive breastfeeding for women who seek health care services from government versus private facilities

1.4 Further research on education level and employment types as they were both nearly significant and results could be quite beneficial to society

Conclusion

Thailand is hoping to reach the target of 30% of women doing exclusive breastfeeding for 6 months. This study showed 10.1% of women meeting this target. Women's knowledge of breastfeeding in Bangkok is quite high and knowledge was statistically significant to exclusive breastfeeding. Attitude was not statistically significant to exclusive breastfeeding, but women with a better attitude toward breastfeeding did do more exclusive breastfeeding. The most highly associated factor to exclusive breastfeeding was the number of times breastfeeding was discussed during antenatal care, showing women to be more than three times as likely to exclusively breastfeed if breastfeeding was discussed twice or more. Repeated discussions of breastfeeding will increase women's knowledge and should improve women's attitudes toward breastfeeding, which would increase the prevalence of exclusive breastfeeding. In addition, destroying the barriers to exclusive breastfeeding, namely the practice of giving water to infants, a perceived or actual low milk supply and difficulties returning to work while breastfeeding would greatly improve the prevalence and duration of exclusive breastfeeding and bring Thailand closer to its target of 30% of women doing exclusive breastfeeding for 6 months.

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APPENDICES

APPENDIX A

LIST OF EXPERTS

1. Nanta Auamkul, MD
A medical doctor with expertise in breastfeeding, working at Chulalongkorn University, Bangkok
2. Panee Vong-ek, PhD
A professor with PhD focused on breastfeeding, working at Mahidol University, Bangkok
3. Meena Sobsamai, Nurse Midwife
A prominent lactation consultant and childbirth educator at Samitivej Hospital, Bangkok

APPENDIX B

RESEARCH INSTRUMENTS: ENGLISH

SELF-ADMINISTERED QUESTIONNAIRE

This is a study done through Chulalongkorn University in Bangkok Thailand. Researcher, Sarah Barnes, is a Masters of Public Health student and this study is part of her degree requirement. Ms. Barnes is studying exclusive breastfeeding rates in Bangkok as well as women's knowledge and attitudes about exclusive breastfeeding and barriers and facilitators to exclusive breastfeeding. Exclusive breastfeeding is when infants are fed only with the mother's breast milk, either through breastfeeding or expressed and bottle-fed. No other food or liquid (including water) are given to the child, with the only exceptions being liquid vitamins or medicine or oral rehydration solution.

Completion of this questionnaire gives Ms. Barnes permission to use the information you have provided. Nowhere on this form or in discussions will any personal information, like name, be required. If any question or aspect of the study is unclear, you can ask Ms. Barnes or Thai translator. All the questionnaires will be accessible only by the researcher and advisors and will be kept in a safe place and password protected. All answers will be kept confidential.

This study was accepted by the ethics committee at Chulalongkorn University.

A. Participant Information:

No

1. Current Age: _____
2. Education level completed: *(Please choose one answer)*
 - (1) Primary school (2) Junior high school (3) High school
 - (4) Some college (5) College degree (6) Graduate degree
 - (7) Other, please specify _____
3. Martial status: *(Please choose one answer)*
 - (1) Married (2) Separated (3) Divorced (4) Cohabiting (5) Others
4. Father involvement: *(Please choose one answer)* (0) Involved (1) Not involved
5. Monthly family income (in Thai Baht/month): *(Please choose one answer)*
 - (1) <10,000 (2) 10,000 -19,999 (3) 20,000- 29,999
 - (4) 30,000 – 39,999 (5) 40,000-49,999 (6) 50,000 and above
6. Do you live in Bangkok? *(Please choose one answer)*
 - (0) No: where do you live? _____
 - (1) Yes: specify khet or area _____
7. Number of live births: _____
8. Are you currently pregnant? *(Please check one):* (0)No (1)Yes
9. If Yes, how many weeks pregnant? _____
10. Have you delivered a baby in past 24 months? *(Please check one):* (0)No (1)Yes

11. If Yes, how many weeks old is your baby? _____
12. If Yes, where did you deliver and receive prenatal care?

13. If Yes, what type of delivery did you have? (*Please check one*):
 (1) Vaginal (2) Caesarean (3) Multiples
14. Are you currently employed? (*Please check one*): (0) No (1) Yes
15. If Yes, please specify:
 (1) Civil servant (2) Government employee (3) Business owner
 (4) Other _____
16. How many prenatal appointments did you attend? (*Please choose one answer*)
 (1) Less than 4 (2) 4-8 (3) 9 or more
17. You are at here today for: (*Please choose one answer*)
 (1) Postnatal appointment (2) Pediatric appointment for baby (3) Other
18. Was breastfeeding discussed with you during your prenatal visits?
 (0) No (1) Yes
19. If Yes, how many times? (*Please choose one answer*)
 (1) 1 (2) 2 (3) 3 (4) 4 times or greater
20. Do you feel you have good knowledge about breastfeeding? (0) No (1) Yes
21. Would you have liked more information about breastfeeding during your prenatal appointments? (0) No (1) Yes

B. Knowledge of Exclusive Breastfeeding

Please answer the following questions either Yes or No or Not Sure

No	Item	No	Yes	Not Sure
1	Baby should be put to breast within 30 minutes after delivery?	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>
2	Colostrum should be given to babies?	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>
3	Babies should be exclusively breastfed for 6 months?	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>
4	Babies should be breastfed on demand?	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>
5	Expressed breast milk should be given to babies?	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>
6	Breast milk is better than infant formula for baby?	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>
7	Frequent suckling affects milk flow and supply?	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>
8	Breast milk protects against diarrhea?	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>
9	There are successful techniques to increase milk supply?	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>
10	Breastfeeding alone can usually satisfy a baby for six months?	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>
11	Breastfeeding burns hundreds of calories for mothers?	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>
12	Breastfeeding has many benefits for baby?	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>
13	Breastfeeding has many benefits for mother?	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>

C. Attitude toward Breastfeeding

Please answer the following questions either Yes or No or Not Sure

No	Item	No	Yes	Not sure
1	Breastfeeding is more difficult than formula feeding	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>
2	Breastfeeding is more convenient than formula feeding	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>
3	Breastfeeding is promoted in my culture	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>
4	I am comfortable with breastfeeding	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>
5	I am comfortable around other women breastfeeding	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>
6	I think breastfeeding is important for my baby and me	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>
7	My friends and family don't breastfeed, so I won't either	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>
8	Breastfeeding is for people who cannot afford formula	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>
9	Most Thais do not breastfeed	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>
10	I don't feel my work place will be/is supportive of breastfeeding	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>
11	I don't feel people around me support breastfeeding	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>

D. Practice of Breastfeeding

Please answer the following questions either Yes or No or as otherwise instructed

No.	Item	No	Yes
1.	I put baby to breast within 30 minutes after delivery	0 <input type="checkbox"/> No	1 <input type="checkbox"/> Yes
2.	I exclusively breastfed baby (fed baby NOTHING except breast milk... no other liquids, foods or powdered milks) for 6 months	0 <input type="checkbox"/> No How many months? <input type="checkbox"/> Never <input type="checkbox"/> Less than 1 month <input type="checkbox"/> 1-3 months <input type="checkbox"/> 4-5 months	1 <input type="checkbox"/> Yes
3.	I am currently exclusively breastfeeding	0 <input type="checkbox"/> No	1 <input type="checkbox"/> Yes
4.	I have EVER used non-human milk for infant in first 6 months?	0 <input type="checkbox"/> No	1 <input type="checkbox"/> Yes

No	Item		
5.	I have EVER breastfed my infant?	0 <input type="checkbox"/> No	1 <input type="checkbox"/> Yes
6.	During first 6 months: I gave my baby foods other than breast milk	0 <input type="checkbox"/> No	1 <input type="checkbox"/> Yes; Choose all that apply: <input type="checkbox"/> 1 Water <input type="checkbox"/> 2 Rice <input type="checkbox"/> 3 Cereal <input type="checkbox"/> 4 Other foods <input type="checkbox"/> 5 Formula
7.	I had difficulties <u>exclusively breastfeeding</u> ?	0 <input type="checkbox"/> No My main difficulty was: _____ I received help with these issues from _____	1 <input type="checkbox"/> Yes;
8	I breastfed my baby for at least 6 months postpartum	0 <input type="checkbox"/> No How many months? _____ Reason for stopping: _____	1 <input type="checkbox"/> Yes;
9.	I plan to continue <u>breastfeeding</u> my baby past 6 months of age while introducing age appropriate foods	0 <input type="checkbox"/> No	1 <input type="checkbox"/> Yes; Until how many months? _____ Reason for choosing to breastfeed: _____

If you are willing to share more infant feeding information in an interview, please leave your name and mobile number below:

Name: _____ Mobile: _____

Thank you!

INFORMED CONSENT FORM

Address

Date

Code number of participant

I who have signed here below agree to participate in this research project

Title in English: Exclusive breastfeeding experiences among mother in Bangkok, Thailand: Findings from a mixed-methods study

Title in Thai: ประสบการณ์การเลี้ยงลูกด้วยนมอย่างครบถ้วนของแม่ในกรุงเทพมหานคร
มหานคร

ประเทศไทย: ผลการศึกษาด้วยการวิธีผสมผสาน

Principle Researcher's Name: Sarah B. Barnes

Contact address: Chulalongkorn Public Health Science, Building 2, Chulalongkorn University; **Telephone:** 084-4159-377

I have **(read or been informed)** about rationale and objective(s) of the project, what I will be engaged with in details, risk/harm and benefit of this project. The researcher has explained to me and I **clearly understand with satisfaction**.

I willingly **agree** to participate in this project and consent the researcher to collect my responses to the questionnaire or to perform an interview. The questionnaire will be given one time and will take approximately 10 minutes to complete. The interview will take place one time and will take about 60 minutes.

I have **the right** to withdraw from this research project at any time as I wish with no need to **give any reason**. This withdrawal **will not have any negative impact upon me**. Researcher has guaranteed that procedure(s) acted upon me would be exactly the same as indicated in the information. Any of my personal information will be **kept confidential**. Results of the study will be reported as total picture. Any of personal information which could be able to identify me will not appear in the report.

If I am not treated as indicated in the information sheet, I can report to the Ethical Review Committee for Research Involving Human Research Subjects, Health Sciences Group, Chulalongkorn University (ECCU). Institute Building 2, 4 Floor, Soi Chulalongkorn 62, Phyat hai Rd., Bangkok 10330, Thailand, Tel: 0-2218-8147 Fax: 0-2218-8147 E-mail: eccu@chula.ac.th,

I also have received a copy of information sheet and informed consent form

Sign
(.....)
Researcher

Sign
(.....)
Participant

Sign
(.....)
Witness

PARTICIPANT INFORMATION SHEET

Title of research project:

EXCLUSIVE BREASTFEEDING EXPERIENCES AMONG MOTHERS IN BANGKOK, THAILAND: FINDINGS FROM A MIXED-METHODS STUDY

ประสบการณ์การเลี้ยงลูกด้วยนมอย่างครบถ้วนของแม่ใน

กรุงเทพมหานคร ประเทศไทย: ผลการศึกษาด้วยการวิจัยผสมผสาน

Principle researcher's name: Sarah B. Barnes **Position:** Master of Public Health Student **Address:** Chulalongkorn Public Health Sciences, Building 2, Chulalongkorn University, Bangkok 10330, Thailand
Mobile 0844159377 **E-mail:** sarahbbarnes@me.com

1. You are invited to take part in a research project. Before you decide to participate it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and do not hesitate to ask if anything is unclear or if you would like more information.
2. This research project involves asking women with new babies about their breastfeeding practices to learn about how common it is, in Bangkok, for women to exclusively breastfeed, what has encouraged women to exclusively breastfeed and what things have kept women from being able to or wanting to exclusively breastfeed.
3. The two main goals of this project are 1) to determine the factors that contribute to a woman's decision and ability to exclusively breastfeed for six months postpartum in Bangkok; and 2) to determine women's knowledge about exclusive breastfeeding, their feelings about exclusive breastfeeding and their practice of exclusive breastfeeding in Bangkok.
4. Details of participant:
 - In order to be eligible for participation in the self-administered questionnaire all participants must 1) be female, 2) be Thai, 3) have a 0 to 24 month old baby, 4) live in Bangkok; 5) receive care in Bangkok; and 6) be able to read the questionnaire in either English or Thai languages.
 - For in-depth interviews: participants must 1) be female, 2) be Thai, 3) have a 0 to 24 month old baby or be considered an expert in the field of maternal and child health, 4) live in Bangkok; and 5) be able to communicate in Thai or English.
 - Number of participants needed: 204 participants are needed for the questionnaire and a few women for the in depth interviews.
 - Before talking with you, I have first discussed my project with the management and staff at the facility you are visiting and I have been given approval to ask for participants in my study. I am available in

the reception area of postpartum or pediatric appointments and I ask women who are there for appointments if they would like to participate in my study about exclusive breastfeeding while they wait for their doctor or after their appointment. For the self-administered questionnaire, women can complete the forms while in the waiting area. If they have questions, we can go into a private space to discuss. The in-depth interviews will be held either at the hospital or in another private location, depending on mother's preference and availability. If held at hospital, interviews will take place in a private setting.

- You are invited to participate in this study because you have recently delivered a baby and you are Thai and you live in Bangkok. If you are solely doing the interview, additionally, you may have been selected because you are an expert in the field of maternal and child health. You are invited because I am looking at how common it is for Thai women in Bangkok to exclusively breastfeed their children and to learn more about reasons why women choose to exclusively breastfeed and why they choose not to exclusively breastfeed.
 - Participants in this study are women attending a postpartum appointment, visiting a pediatrician with their infant or are approached by research team member. 204 participants are needed for adequate sample size. Each participant is asked to complete only one questionnaire.
5. In Quantitative study: The women in this part of the study are asked to participate in the self-administered questionnaire, which they can complete either while they wait to see their doctor or after their appointment is finished. The questionnaire includes questions about participant information and knowledge, attitude and practice of exclusive breastfeeding. The questionnaire should take about 10-minutes to complete and is filled out by hand.

In Qualitative study: The women in this part of the study will be asked to participate in a in-depth interview regarding their knowledge, attitude and practice of exclusive breastfeeding, as well as, the factors that influenced their decision to breastfeed or not breastfeed their child. The women may or may not be the same as those in the quantitative aspect of the study and the sample size will depend on the rate of data saturation, but approximately 15 women. The in-depth interviews will take place in a private location at the hospital or somewhere designated by the participant. The interview will take about an hour and the principal investigator and a witness will be present. The witness will be a Thai speaker, as both the questionnaire and interview will be done in Thai or English. The translator will be either a fellow MPH student or a staff member at Samitivej Hospital. Any translator or witness will be oriented with my study prior to

conducting an interview or giving a questionnaire. The interview will be recorded. At the end of the study, the tape recordings will be destroyed.

6. Process of providing information:
 - 6.1 The principal investigator, Sarah B Barnes and a Thai translator will provide information to potential participants in either English or Thai languages. Thai translator will either be staff at the hospital or a fellow MPH student.
 - 6.2 If a potential participant is illiterate/cannot write/cannot speak native language, the participant is ineligible for this study.
 - 6.3 This study does not involve the participation of people in a vulnerable group.
7. If possible participant is not eligible for the study, but is in the need of help or advice, primary researcher will assist the woman through referral to the appropriate expert.
8. The questionnaire and interview do not intervene with treatments and will not impact participant's health.
9. This research does not involve the use of medical records.
10. Participation in this study should have no ill effect on participant. If participant is concerned about participating, the researcher will gladly answer any questions or concerns of participant. There are benefits to participating in this project. The project is meant to explore topic of exclusive breastfeeding and the findings could be helpful in directing new studies or helping to form new policies that will better support women who would like to exclusively breastfeed.
11. Participation in this study is **voluntary** and the participant has the **right to deny** and/or **withdraw** from the study at any time, no need to give any reason, and there will be no impact upon that participant.
12. If you have any question or would like to obtain more information, the researcher can be reached at any time.
13. All information will be kept confidential and individual data will only be shared in the research team at Chulalongkorn University. No information gathered identifies you specifically. Results of the study will be reported as a total picture.
14. There is no monetary compensation for participation in this study.
15. If the researcher does not perform as indicated in this form, you can report the incident to the Ethical Review Committee for Research Involving Human Research Subjects, Health Sciences Group, Chulalongkorn University (ECCU). Institute Building 2, 4th Floor, Soi Chulalongkorn 62, Phyathai Rd., Bangkok 10330, Thailand, Tel: 0-2218-8147 Fax: 0-2218-8147 E-mail: eccu@chula.ac.th.

APPENDIX C

RESEARCH INSTRUMENTS: THAI

แบบสอบถามตอบด้วยตนเอง

งานวิจัยนี้ดำเนินงานภายใต้การดูแลของ จุฬาลงกรณ์มหาวิทยาลัย โดยผู้วิจัย ชาร่าห์ บาร์เนส นิสิตปริญญาโทสาขาสาธาณสุขศาสตร์ วิทยาลัยวิทยาศาสตร์สาธารณสุข จุฬาลงกรณ์มหาวิทยาลัย ซึ่งงานวิจัยนี้เป็นส่วนหนึ่งของวิทยานิพนธ์ระดับปริญญาโท ที่ต้องการศึกษาเพื่อหาอัตราการเลี้ยงลูกด้วยนมแม่เพียงอย่างเดียวในเขตกรุงเทพมหานคร อีกทั้งยังศึกษาถึงความรู้และทัศนคติของผู้หญิงเกี่ยวกับการเลี้ยงลูกด้วยนมแม่ รวมทั้งปัจจัยเอื้อและอุปสรรคในการเลี้ยงลูกด้วยนมแม่เพียงอย่างเดียว ซึ่งการเลี้ยงลูกด้วยนมแม่เพียงอย่างเดียว คือการที่ทารก ได้รับนมแม่เท่านั้น มิว่าจะเป็น การดูดจากเต้านมและจากการบีบน้ำนมใส่ขวดให้ลูก โดยไม่ได้รับอาหารหรือของเหลวอื่น (รวมทั้งน้ำ) ยกเว้นวิตามินเหลวหรือยาหรือของเหลวที่ให้ทารกเพื่อรักษาอาการขาดน้ำทางปาก

การตอบแบบสอบถามนี้อย่างครบถ้วน เป็นการช่วยให้ ชาร่าห์ บาร์เนส ได้นำข้อมูลของท่านไปใช้ ทั้งนี้ในแบบสอบถามหรือในการอภิปรายผลการวิจัยจะไม่มีการระบุข้อมูลของผู้ให้ข้อมูลเป็นรายบุคคล เช่น ชื่อ เป็นต้น ถ้าคำถามหรือหัวข้อใดในการวิจัยนี้ไม่ชัดเจน ท่านสามารถสอบถามจาก ชาร่าห์ บาร์เนส หรือล่ามที่แปลภาษาไทยได้ แบบสอบถามทั้งหมดจะถูกประมวลผลโดยผู้วิจัยและที่ปรึกษาโครงการวิจัยเท่านั้น และจะถูกเก็บรักษาในที่ปลอดภัยโดยใช้รหัสผ่าน และคำตอบทั้งหมดจะถูกเก็บรักษาเป็นความลับ

การศึกษานี้ได้ผ่านการพิจารณาและประเมิน โดยคณะกรรมการจริยธรรมของจุฬาลงกรณ์มหาวิทยาลัยเรียบร้อยแล้ว

A. ข้อมูลทั่วไปของผู้ตอบ:

เลขที่ □□□

1. อายุ: _____
2. ระดับการศึกษา: (กรุณาเลือกเพียง 1 คำตอบ)
 - (1) ประถมศึกษา (2) มัธยมศึกษาตอนต้น (3) มัธยมศึกษาตอนปลาย (4) วิทยาลัย/อนุปริญญา (5) ปริญญาตรี (6) สูงกว่าปริญญาตรี (7) อื่นๆ: โปรดระบุ _____

3. สถานภาพสมรส: กรุณาเลือกเพียง 1 คำตอบ
 (1) แต่งงาน (2) แยกกันอยู่ (3) หย่าร้าง (4) อยู่ร่วมกันโดยไม่แต่งงาน
 (5) อื่นๆ
4. ความเกี่ยวข้องกับผู้ที่ เป็นพ่อเด็ก: (0) มีความเกี่ยวข้องกันอยู่ (1) ไม่มีความเกี่ยวข้องกันอยู่
5. รายได้ของครัวเรือนต่อเดือน (บาท): (กรุณาเลือกเพียง 1 คำตอบ)
 (1) <10,000 (2) 10,000 -19,999 (3) 20,000- 29,999 (4) 30,000 – 39,999
 (5) 40,000-49,999 (6) มากกว่า 50,000 ขึ้นไป
6. ท่านอาศัยอยู่ในกรุงเทพมหานครใช่หรือไม่ กรุณาเลือก:
 (0) ไม่ใช่: อาศัยอยู่ที่ _____ (1)ใช่: ระบุนุบริเวณหรือเขต _____
7. จำนวนครั้งที่มีการคลอดบุตร: _____
8. ท่านกำลังตั้งครรภ์อยู่หรือไม่ โปรดเลือก 1 คำตอบ: (0) ไม่ใช่ (1)ใช่
9. ถ้าใช่ ท่านตั้งครรภ์ได้กี่สัปดาห์แล้ว _____
10. ท่านเคยมีการคลอดบุตรในระยะเวลา 24 เดือน ที่ผ่านมาหรือไม่ โปรดเลือก 1 คำตอบ:
 (0)ไม่ใช่ (1)ใช่
11. ถ้าใช่ ขณะนี้บุตรของท่านอายุได้กี่สัปดาห์แล้ว _____
12. ถ้ามีบุตร ท่านได้ฝากครรภ์หรือคลอดบุตรที่ไหน _____
13. ถ้าใช่ ท่านได้ผ่านการคลอดบุตรด้วยวิธีใด (โปรดเลือก 1 คำตอบ):
 (1)ทางช่องคลอด (2) ผ่าคลอด (3)หลายวิธี
14. ท่านมีงานประจำทำ: (0)ไม่ใช่ (1)ใช่
15. ถ้าใช่ โปรดระบุ: (1)ข้าราชการ (2)พนักงานบริษัท (3)เจ้าของธุรกิจส่วนตัว
 (4)อื่นๆ _____
16. มีการนัดหมายก่อนคลอดบุตรหรือจำนวนกี่ครั้ง: โปรดเลือก 1 คำตอบ
 (1) น้อยกว่า 4 ครั้ง (2) 4-8 ครั้ง (3) 9 ครั้งหรือมากกว่า
17. ท่านมาที่นี่ในวันนี้เพื่อ: โปรดเลือก 1 คำตอบ
 (1) นัดหมายหลังคลอด (2) การนัดหมายกับแผนกกุมารเวชให้กับเด็ก (3) อื่นๆ
18. ได้มีการพูดคุยกันถึง เรื่องการเลี้ยงลูกด้วยนมแม่กับ ท่านหรือไม่ ในช่วงที่มีการนัดหมายก่อนคลอด
 (0)ไม่ใช่ (1)ใช่

19. ถ้าใช่ มีกี่ครั้ง (กรุณาเลือกเพียง 1 คำตอบ) (1) 1 (2) 2 (3) 3 (4) 4 ครั้งหรือมากกว่า
20. ท่านรู้สึกว่าคุณมีความรู้เกี่ยวกับการให้นมลูกเป็นอย่างดีหรือไม่ (0) ไม่ใช่ (1) ใช่
21. ท่านต้องการ ได้ข้อมูล เรื่องของการเลี้ยงลูกด้วยนม แม่มากกว่านี้ ในช่วงที่มีการนัดหมายก่อนคลอดแม่หรือไม่
 (0) ไม่ใช่ (1) ใช่

B. ความรู้เกี่ยวกับการเลี้ยงลูกด้วยนมแม่อย่างเดียว

โปรดตอบคำถามในแต่ละข้อ โดยเลือกคำตอบ ใช่ หรือ ไม่ใช่ หรือ ไม่แน่ใจ

ข้อ	คำถาม	ไม่ใช่	ใช่	ไม่แน่ใจ
1	ทารกควรได้ดูดนมจากเต้านมภายใน 30 นาทีหลังคลอด	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>
2	ทารกควรได้รับน้ำนมเหลืองที่หลังวันแรกหลังคลอด	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>
3	ทารกควรถูกเลี้ยงด้วยนมแม่อย่างเดียวเป็นเวลา 6 เดือน	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>
4	ทารกควรได้นมแม่ตามที่ต้องการ	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>
5	ทารกควรได้นมแม่ที่ได้จากการบีบน้ำนมมารดาออกจากเต้า	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>
6	นมแม่ดีกว่านมผงสูตรสำหรับทารก	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>
7	การดูดนมบ่อยๆ มีผลต่อการไหลของน้ำนมและปริมาณน้ำนมที่ได้	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>
8	นมแม่ช่วยป้องกันการเกิดท้องร่วงให้กับทารกได้	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>
9	มีวิธีการที่ประสบความสำเร็จในการเพิ่มปริมาณของน้ำนม	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>
10	การให้นมแม่อย่างเดียวพอเพียงกับการเลี้ยงทารกในระยะเวลา 6 เดือน	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>
11	การเลี้ยงลูกด้วยนมแม่เผาผลาญพลังงานหลายแคลอรีให้กับแม่ได้	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>
12	การเลี้ยงลูกด้วยนมแม่มีประโยชน์มากมายกับทารก	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>
13	การเลี้ยงลูกด้วยนมแม่มีประโยชน์มากมายกับแม่	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>

C. ทักษะคิดต่อการเลี้ยงลูกด้วยนมแม่

โปรดตอบคำถามในแต่ละข้อ โดยเลือกคำตอบ ใช่ หรือ ไม่ใช่ หรือ ไม่แน่ใจ

ข้อ	คำถาม	ไม่ใช่	ใช่	ไม่ แน่ใจ
1	การเลี้ยงลูกด้วยนมแม่ยุ่งยากมากกว่าการเลี้ยงลูกด้วยนมผง	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>
2	การเลี้ยงลูกด้วยนมแม่สะดวกมากกว่าการเลี้ยงลูกด้วยนมผง	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>
3	การเลี้ยงลูกด้วยนมแม่ได้รับการสนับสนุนตามค่านิยมและความเชื่อ ของฉัน	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>
4	ฉันรู้สึกสะดวกสบายกับการเลี้ยงลูกด้วยนมแม่	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>
5	ฉันรู้สึกอบอุ่นใจกับผู้หญิงคนอื่นๆที่รอบๆตัวที่มีการเลี้ยงลูกด้วยนม แม่	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>
6	ฉันคิดว่าการเลี้ยงลูกด้วยนมแม่มีความสำคัญกับฉันและลูก	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>
7	เพื่อนของฉันและครอบครัวไม่ได้เลี้ยงลูกด้วยนมแม่ ดังนั้นฉันจึง ไม่ทำด้วยเหมือนกัน	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>
8	การเลี้ยงลูกด้วยนมแม่เหมาะสำหรับคนที่ไม่สามารถซื้อนมผงเลี้ยง ทารกได้	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>
9	คนไทยส่วนมากไม่เลี้ยงลูกด้วยนมแม่	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>
10	ฉันไม่รู้สึกรู้ว่าที่ทำงานจะให้การสนับสนุนเรื่องการเลี้ยงลูกด้วยนม แม่	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>
11	ฉันไม่รู้สึกรู้ว่าคนรอบข้างจะสนับสนุนให้ฉันเลี้ยงลูกด้วยนมแม่	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>

D. การปฏิบัติในการเลี้ยงลูกด้วยนมแม่

โปรดตอบคำถามในแต่ละข้อ โดยเลือกคำตอบ ใช่ หรือ ไม่ใช่ หรืออื่นๆตามที่กำหนดไว้

ข้อ	คำถาม		
1.	ฉันได้ให้ลูกได้ดูดนมจากเต้านมภายใน 30 นาทีหลังคลอด	0 <input type="checkbox"/> ไม่ใช่	1 <input type="checkbox"/> ใช่
2.	ฉันได้เลี้ยงลูกด้วยนมแม่อย่างเดียว (ให้ลูกกินนมแม่เพียงอย่างเดียวเท่านั้น โดยที่ไม่ได้ให้กินน้ำ อาหาร หรือนมผงอื่นๆด้วยเลย) เป็นเวลา 6 เดือน	0 <input type="checkbox"/> ไม่ใช่ ให้เป็นเวลาที่ เดือน ____ <input type="checkbox"/> ไม่เคยเลย <input type="checkbox"/> น้อยกว่า 1 เดือน <input type="checkbox"/> 1 – 3 เดือน <input type="checkbox"/> 4 – 5 เดือน	1 <input type="checkbox"/> ใช่
3.	ขณะนี้ฉันกำลังอยู่ในระหว่างการเลี้ยงลูกด้วยนมแม่อย่างเดียว	0 <input type="checkbox"/> ไม่ใช่	1 <input type="checkbox"/> ใช่
4.	ฉันเคยใช้นม ที่ไม่ใช่นมแม่เลี้ยงทารก ในช่วง 6 เดือนแรก	0 <input type="checkbox"/> ไม่ใช่	1 <input type="checkbox"/> ใช่
5.	ฉันเคยเลี้ยงลูกด้วยนมแม่	0 <input type="checkbox"/> ไม่ใช่	1 <input type="checkbox"/> ใช่
6.	ในช่วง 6 เดือนแรก: ฉันได้เลี้ยงลูกโดยให้อาหารเสริมอื่นด้วยนอกจากนมแม่	0 <input type="checkbox"/> ไม่ใช่	1 <input type="checkbox"/> ใช่ โปรดเลือกชนิดที่ได้ให้เพิ่ม: <input type="checkbox"/> 1 น้ำ <input type="checkbox"/> 2 ข้าว <input type="checkbox"/> 3 ธัญพืช <input type="checkbox"/> 4 อาหารอื่นๆ <input type="checkbox"/> 5 นมผงสำหรับทารก

7.	ฉันมีอุปสรรคในการเลี้ยงลูกด้วยนมแม่อย่างเดียว	<input type="checkbox"/> ไม่ใช่ อุปสรรคใหญ่ของฉัน คือ: _____ ฉันได้รับความ ช่วยเหลือในการ แก้ปัญหานี้จาก _____	<input type="checkbox"/> ใช่
8	ฉันได้เลี้ยงลูกด้วยนมแม่มาแล้วเป็นเวลาอย่างน้อย 6 เดือนหลังคลอด	<input type="checkbox"/> ไม่ใช่ ให้เป็นเวลา ี่เดือน _____ เหตุผลที่หยุดให้คือ _____	<input type="checkbox"/> ใช่
9.	ฉันวางแผนที่จะเลี้ยงลูกด้วยนมแม่ต่อไปหลังจากที่ลูกอายุครบ 6 เดือนแล้ว ในขณะที่จะเริ่มให้อาหารที่เหมาะสมตามวัยกับลูกด้วย	<input type="checkbox"/> ไม่ใช่	<input type="checkbox"/> ใช่: จนถึง เดือนที่ _____ เหตุผลที่ เลือกลี้ยงลูก ด้วยนมแม่: _____

ถ้าคุณไม่ชัดเจนที่จะให้สัมภาษณ์รายละเอียดเกี่ยวกับการเลี้ยงลูก

กรุณาระบุชื่อ/ชื่อเล่น.....หมายเลขโทรศัพท์.....

***** ขอขอบคุณค่ะ*****

INFORMED CONSENT FORM: THAI

หนังสือแสดงความยินยอมเข้าร่วมการวิจัย

ทำที่.....

วันที่.....เดือน..... ศ.พ.....

เลขที่ ประชากรตัวอย่างหรือผู้มีส่วนร่วมในการวิจัย.....

ข้าพเจ้า ซึ่งได้ลงนามทำหนังสือนี้ ขอแสดงความยินยอมเข้าร่วมโครงการวิจัย

ชื่อโครงการวิจัย: “Exclusive breastfeeding experiences among mothers in Bangkok, Thailand: Findings from a mixed-methods study”

“ประสบการณ์การเลี้ยงลูกด้วยนมอย่างครบถ้วนของแม่ในกรุงเทพมหานคร ประเทศไทย : ผลการศึกษาด้วยการวิธีผสมผสาน”

ชื่อผู้วิจัย : ซาราห์ บาร์เนส นิสิตปริญญาโทวิทยาลัย ยิวทยาศาสตร์สาธารณสุข จุฬาลงกรณ์มหาวิทยาลัย อยู่บ้านเลขที่ 92 สุขุมวิทซอย 24 คลองเตย กรุงเทพฯ 10110

โทรศัพท์ 0844159377 E-mail: sarahbbarnes@me.com

ข้าพเจ้า **ได้รับทราบ** รายละเอียดเกี่ยวกับที่มาและวัตถุประสงค์ในการทำวิจัย รายละเอียดขั้นตอนต่างๆ ที่จะต้องปฏิบัติหรือได้รับการปฏิบัติ ความเสี่ยง อันตราย และประโยชน์ซึ่งจะเกิดขึ้น/จากการวิจัยเรื่องนี้ โดยได้อ่านรายละเอียดในเอกสารชี้แจงผู้เข้าร่วมการวิจัยโดยตลอด และ**ได้รับคำอธิบายจากผู้วิจัย จนเข้าใจเป็นอย่างดีแล้ว**

ข้าพเจ้าสมัครใจที่จะเข้าร่วมในโครงการวิจัยนี้ ตามที่ ระบุไว้ในเอกสารชี้แจงผู้เข้าร่วมวิจัย โดยข้าพเจ้าจะตอบแบบสอบถามตอบเอง ซึ่งจะใช้เวลาประมาณ นาที และในกรณีที่ข้าพเจ้า 10 ชั่วโมง ทั้งนี้ผู้วิจัยได้แจ้งว่าจะขอ 1 ได้รับการคัดเลือกให้ถูกสัมภาษณ์เชิงลึกซึ่งใช้เวลาประมาณ บันทึกลง และจะทำลายทันทีเมื่อเสร็จสิ้นงานวิจัย ข้าพเจ้าก็ยินดีที่จะให้สัมภาษณ์และบันทึกเทป

ข้าพเจ้ามีสิทธิถอนตัวออกจากการวิจัยเมื่อใดก็ได้ตามความประสงค์ **โดยไม่ต้องแจ้งเหตุผล** ซึ่งการถอนตัวออกจากการวิจัยนั้น จะไม่มีผลกระทบในทางใดๆ ต่อข้าพเจ้าทั้งสิ้น ระบุเป็นต้นว่า) (ผลต่อการเรียน /ต่อการศึกษาผล /ไม่มีผลกระทบต่อการศึกษา

ข้าพเจ้าได้รับคำรับรองว่า ผู้วิจัยจะปฏิบัติต่อข้าพเจ้าตามข้อมูลที่ระบุไว้ในเอกสารชี้แจงผู้เข้าร่วมการวิจัย และข้อมูลใดๆ ที่เกี่ยวข้องกับข้าพเจ้า ผู้วิจัยจะ **เก็บรักษาเป็นความลับ** โดยจะนำเสนอข้อมูลการวิจัยเป็นภาพรวมเท่านั้น ไม่มีข้อมูลใดในการรายงานที่จะนำไปสู่การระบุตัวข้าพเจ้า

หากข้าพเจ้าไม่ได้รับการปฏิบัติตรงตามที่ได้ระบุไว้ในเอกสารชี้แจงผู้เข้าร่วมการวิจัย

ข้าพเจ้าสามารถร้องเรียนได้ที่คณะกรรมการพิจารณาจริยธรรมการวิจัยในคน กลุ่มสหสถาบัน ชุดที่
ถนนพญาไท เขตปทุมวัน 62 ซอยจุฬาลงกรณ์ 2 สถาบันอาคาร 4 จุฬาลงกรณ์มหาวิทยาลัย ชั้น 1
0 โทรศัพท์ 10330 กรุงเทพฯ-2218 -8147 , 0-2218-8141 โทรสาร 0-2218 - 8147 E-mail:
eccu@chula.ac.th

ข้าพเจ้าได้ลงลายมือชื่อไว้เป็นสำคัญต่อหน้าพยาน ทั้งนี้ข้าพเจ้าได้รับสำเนาเอกสารชี้แจง
ผู้เข้าร่วมการวิจัย และสำเนานั่งสื่อแสดงความยินยอมไว้แล้ว

ลงชื่อ.....

(.....)

ผู้วิจัยหลัก

ลงชื่อ.....

(.....)

ผู้มีส่วนร่วมในการวิจัย

ลงชื่อ.....

(.....)

พยาน

PARTICIPANT INFORMATION SHEET: THAI

ชื่อโครงการวิจัย:

Exclusive breastfeeding experiences among mothers in Bangkok, Thailand: Findings from a mixed-methods study

ประสบการณ์การเลี้ยงลูกด้วยนมอย่างครบถ้วนของแม่ในกรุงเทพมหานคร ประเทศไทย : ผลการศึกษาด้วยการวิจัยผสมผสาน

ชื่อผู้วิจัย : ซาราห์ บาร์เนส นิสิตปริญญาโทวิทยาลัยวิทยาศาสตร์สาธารณสุข จุฬาลงกรณ์

มหาวิทยาลัย อยู่บ้านเลขที่ 92 สุขุมวิทซอย 24 คลองเตย กรุงเทพฯ 10110

โทรศัพท์ 0844159377 E-mail: sarahbbarnes@mc.com

1. ดิฉันขอเรียนเชิญให้คุณเข้าร่วมโครงการวิจัยเรื่องเกี่ยวกับประสบการณ์การเลี้ยงลูกด้วยนมแม่อย่างครบถ้วนของแม่ในกรุงเทพมหานคร แต่ก่อนที่คุณจะตัดสินใจเข้าร่วมโครงการ จำเป็นที่จะต้องทำความเข้าใจว่าโครงการนี้คืออะไร เกี่ยวข้องกับอะไร ขอเวลาสักครู่หนึ่งให้อ่านข้อมูลต่อไปนี้ และถ้าไม่เข้าใจก็ให้ถามได้เลย
2. งานวิจัยนี้จะสอบถามหญิงที่เพิ่งคลอดบุตร เกี่ยวกับการให้นมบุตร เพื่อที่ผู้วิจัยจะได้ทราบว่า การให้นมบุตรนี้เป็นเรื่องปกติ หรือเป็นที่นิยมของแม่ในกรุงเทพมหานครที่จะให้นมบุตรอย่างเดียว อะไรเป็นส่วนสนับสนุนให้แม่เหล่านั้นเลี้ยง ลูกด้วยนมอย่างครบถ้วน และอะไรทำให้แม่ยังคงเลี้ยงลูกด้วยนมแม่เพียงอย่างเดียว
3. วัตถุประสงค์ของโครงการนี้ก็คือ ต้องการหา 1) ปัจจัยที่ทำให้แม่ตัดสินใจเลี้ยงลูกด้วยนมตัวเองอย่างครบถ้วนเป็นระยะเวลาจนถึง 2 เดือนหลังคลอดบุตร 6) ความรู้และความเข้าใจของแม่เกี่ยวกับการให้นมแม่อย่างครบถ้วน ตลอดจนการปฏิบัติจริงในการให้นมของแม่ที่อยู่ในกรุงเทพฯ
4. รายละเอียดของกลุ่มประชากร หรือผู้มีส่วนร่วมในการวิจัย:
 - ในการเก็บข้อมูลโดยให้กลุ่มประชากรตัวอย่าง ตอบแบบสอบถามด้วยตนเอง โดยที่ผู้ตอบต้องเป็น 1) ผู้หญิง 2) เป็นคนไทย 3) มีลูกอายุ 0 – 24 เดือน 4) พักอาศัยอยู่ในกรุงเทพมหานคร 5) เข้ามารับบริการในสถานพยาบาลในกรุงเทพมหานคร และ 6) สามารถอ่านเขียนได้ทั้งภาษาไทยและอังกฤษ

- สำหรับการเก็บข้อมูลเพิ่มเติมด้วยการสัมภาษณ์เชิงลึก โดยที่ผู้ตอบต้องเป็น 1)ผู้หญิง 2) เป็นคนไทย 3)มีลูกอายุ 0 – 24 เดือนหรือมีความรู้ความเข้าใจดีเกี่ยวกับสุขภาพอนามัยของแม่และเด็ก 4)พักอาศัยอยู่ในกรุงเทพมหานคร และ 5)สามารถอ่านเขียนได้ทั้งภาษาไทยและอังกฤษ
 - จำนวนตัวอย่างที่ใช้ 204 คนสำหรับการเก็บข้อมูลเชิงปริมาณ และเพื่อยืนยันความเข้าใจของแม่จะสัมภาษณ์เพิ่มเติมจากผู้ที่เกี่ยวข้องภาษาอังกฤษ และสื่อสารได้ โดยจะสัมภาษณ์จำนวนไม่มากแต่จนกว่าจะได้คำตอบที่ครบถ้วนตามวัตถุประสงค์
 - ขอทำความเข้าใจก่อนว่าก่อนที่จะมาพบคุณ คิฉัน ได้แจ้งวัตถุประสงค์ และขออนุญาตจากผู้อำนวยการ และหัวหน้าหน่วยงาน ตลอดจนเจ้าหน้าที่ที่เข้ามาในครั้งนี้อย่างเรียบร้อย และได้รับอนุญาตแล้ว โดยคิฉันสามารถอยู่ในบริเวณฝ่ายต้อนรับผู้ที่มีนัดหมายกับแผนกหลังคลอดหรือแผนกเด็กได้ ดังนั้นถ้าคุณยินดีจะตอบแบบสอบถามสามารถทำได้ในระหว่างรอก่อนการตรวจ หรือหลังการพบแพทย์ก็ได้ สำหรับการเก็บข้อมูลโดยให้กลุ่มประชากรตัวอย่างตอบเอง สามารถทำแบบสอบถามให้เสร็จสมบูรณ์ ในขณะที่อยู่ในบริเวณที่รอพบแพทย์ ถ้าคุณมีคำถามสามารถถามได้ในบริเวณที่เป็นส่วนตัว และสำหรับการสัมภาษณ์เชิงลึกจะทำการสัมภาษณ์ในโรงพยาบาลหรือในสถานที่อื่น ๆ ได้ ขึ้นอยู่กับความพอใจและความสะดวกของคุณ ซึ่งถ้าทำการสัมภาษณ์ในโรงพยาบาลจะดำเนินการในสถานที่ที่เป็นส่วนตัว
 - คิฉันขอให้คุณเข้าร่วมวิจัยด้วย ทั้งนี้เพราะคุณเข้าข่ายที่จะเป็นตัวอย่างได้ กล่าวคือ เพิ่งคลอดบุตรและอาศัยอยู่ในกรุงเทพมหานคร และถ้าคุณได้รับการคัดเลือกที่จะให้สัมภาษณ์ข้อมูลเชิงลึก ทั้งนี้เพราะเป็นแม่ที่มีความรู้ความเข้าใจดีเกี่ยวกับการเลี้ยงลูกด้วยนมแม่อย่างครบถ้วน คิฉันจึงอยากจะขอความคิดเห็นเพิ่มเติมเกี่ยวกับการเลี้ยงลูกด้วยนมแม่อย่างครบถ้วน
 - ผู้หญิงที่เข้าร่วมงานวิจัยครั้งนี้เป็นผู้หญิงที่ผู้ที่เข้ามาตรวจ พาลูกมาตรวจหรือรับบริการ/ หลังคลอด ผู้วิจัยคาดว่าจะเก็บจากการให้ตอบเองจำนวน 250 คน โดยให้ได้กลุ่มตัวอย่างอย่างน้อยที่สุด 204 คน โดยอาสาสมัครที่เข้าร่วมโครงการแต่ละคนจะต้องตอบแบบสอบถามเพียง 1 ครั้งเท่านั้น
5. การเก็บข้อมูลเชิงปริมาณ : ตัวอย่างที่ได้รับการคัดเลือก และยินดีเข้าร่วมโครงการ จะตอบคำถามด้วยแบบสอบถามชนิดตอบเอง ซึ่งอาจจะทำในระหว่างรอก่อนการตรวจ หรือ หลังการพบแพทย์ ซึ่งแบบสอบถามประกอบด้วยคำถามเกี่ยวกับข้อมูลทั่วไปของอาสาสมัคร ความรู้ ทักษะ และ การปฏิบัติตัวในการเลี้ยงลูกด้วยนมแม่อย่างครบถ้วน โดยจะใช้เวลา

ในการกรอกข้อมูลประมาณ นาที่ และในแบบสอบถามจะไม่มีการระบุชื่อของผู้ตอบแต่ 10
 อย่างไม่

การเก็บข้อมูลเชิงคุณภาพ : ตัวอย่างที่ได้รับการคัดเลือก และยินดีเข้าร่วมโครงการ ด้วย
 วิธีการสัมภาษณ์เชิงลึก เกี่ยวกับความรู้ ทักษะ และ การปฏิบัติตัวในการเลี้ยงลูกด้วยนมแม่
 อย่างครบถ้วนรวมทั้งปัจจัยที่มีอิทธิพลต่อการตัดสินใจที่จะเลี้ยงลูกด้วยนมแม่ ซึ่งผู้หญิง
 กลุ่มนี้อาจจะไม่ใช่ กลุ่มเดียวกันกับกลุ่มที่เข้าร่วมในการศึกษาเชิงปริมาณ และขนาดของ
 กลุ่มตัวอย่างจะขึ้นอยู่กับอัตราความอึมตัวของข้อมูล โดยจะใช้กลุ่มตัวอย่างประมาณ 15
 คน วิธีการสัมภาษณ์เชิงลึกนี้จะจัดขึ้นในสถานที่ที่เป็นส่วนตัวในโรงพยาบาลหรือสถานที่
 อื่นที่อาสาสมัครเลือกเองโดย จะใช้เวลาประมาณ ชั่วโมงในการพูดคุย 1 ในขณะที่ทำการ
 สัมภาษณ์จะมีผู้วิจัยหลักและพยานอยู่ด้วย ซึ่งพยานจะเป็นคนไทย และมีล่ามแปลภาษาซึ่ง
 จะเป็นนักศึกษาปริญญาโทหรือเจ้าหน้าที่ของโรงพยาบาลสมิติเวชที่คุ้นเคยกับงานวิจัยของ
 ดิฉันมาก่อนในการสัมภาษณ์หรือการให้แบบสอบถามกับอาสาสมัคร ในการนี้ผู้วิจัยขอ
 อนุญาตบันทึกเทปด้วย และเมื่อหลังจากใช้ข้อมูลเพื่อการศึกษาครั้งนี้แล้ว จะทำลายเทปนั้น
 ทันที

6. กระบวนการให้ข้อมูลแก่กลุ่มประชากรหรือผู้มีส่วนร่วมในการวิจัย:
 - 6.1 ผู้วิจัยหลัก คือ ซาร่า บาร์เนส และล่ามผู้แปลภาษาไทยจะเป็นผู้ให้ข้อมูลแก่กลุ่ม
 ตัวอย่างที่ได้รับการคัดเลือกทั้งภาษาไทยและภาษาอังกฤษ
 - 6.2 ถ้าผู้ที่ได้รับการคัดเลือกไม่สามารถเขียนและอ่านภาษาไทยได้จะถูกคัดออกจาก
 ตัวอย่าง
 - 6.3 งานวิจัยนี้ไม่มีความเกี่ยวข้องกับกลุ่มประชากรที่เป็นกลุ่มเปราะบาง
7. ในการคัดกรองผู้เข้าร่วมวิจัย หากพบว่าไม่อยู่ในหลักเกณฑ์คัดเข้า และอยู่ในสถานะที่ควร
 ช่วยเหลือแนะนำ ผู้วิจัยจะยินดีเป็นผู้ช่วยเหลือ หรือหากคนมาช่วยเหลือแนะนำให้ในกรณีที่
 ผู้วิจัยไม่มีความสามารถเพียงพอ
8. คำถามและการสัมภาษณ์จะไม่เข้าไปจัดการมารับบริการของผู้เข้าร่วมวิจัยแต่อย่างใด และ
 ไม่มีผลต่อสุขภาพของผู้เข้าร่วมวิจัยด้วย
9. การวิจัยนี้ไม่เกี่ยวข้องกับการใช้เวชระเบียนของผู้เข้าร่วมวิจัย
10. ผู้เข้าร่วมวิจัยจะไม่มีอันตราย หรือความเสี่ยงใดๆ จากการร่วมวิจัยในครั้งนี้ ถ้ามีความถาม
 เกี่ยวกับการวิจัยครั้งนี้ ผู้วิจัยยินดีจะตอบคำถามที่เกี่ยวข้องอย่างชัดเจน ผลคำตอบจากการ
 วิจัยนี้จะเป็นประโยชน์สำหรับผู้ร่วมวิจัย ตลอดจนผู้ที่กำลังจะเป็นแม่ ในเรื่องเกี่ยวกับการ
 เลี้ยงลูกด้วยนมแม่อย่างเดียวย โดยที่ผู้วิจัยจะนำผลนี้ไปเสนอแนวทางการปฏิบัติของระดับ

นโยบายในการวางแผน ให้ข้อมูล ตลอดจนให้ความรู้ความเข้าใจกับแม่ที่กำลังจะมีลูกในเรื่องการเลี้ยงลูกด้วยนมแม่เพียงอย่างเดียว

11. ผู้เข้าร่วมวิจัยในโครงการนี้เป็นผู้ที่สมัครใจ และสามารถถอนตัวจากงานวิจัยนี้ได้โดยไม่ต้องระบุเหตุผล และไม่สูญเสียผลประโยชน์แต่อย่างใด
12. ในกรณีที่ผู้เข้าร่วมวิจัยต้องการข้อมูลเพิ่มเติม สามารถติดต่อผู้วิจัยได้ที่
13. ข้อมูลที่ได้ผู้วิจัยจะเก็บเป็นความลับ โดยการนำเสนอข้อมูลจะไม่เป็นข้อมูลของส่วนบุคคล แต่จะเป็นในภาพรวมเท่านั้น
14. ผู้เข้าร่วมวิจัยจะไม่ได้รับค่าตอบแทนแต่อย่างใด เพราะเป็นความสมัครใจในการให้ข้อมูล
15. หากผู้เข้าร่วมวิจัยไม่ได้รับการปฏิบัติที่ถูกต้อง สามารถร้องเรียนได้ที่ คณะกรรมการพิจารณาจริยธรรมการวิจัยในคน กลุ่มสหสถาบัน ชุดที่ 4 จุฬาลงกรณ์มหาวิทยาลัย ชั้น 1 อาคารสถาบัน 10330 ถนนพญาไท เขตปทุมวัน กรุงเทพฯ 10620 ซอยจุฬาลงกรณ์ 20 โทรศัพท์-2218-0 โทรสาร 8147-2218- 8147 E-mail: eccu@chula.ac.th.

APPENDIX D

QUALITATIVE QUESTIONS: ENGLISH

This is a study done through Chulalongkorn University in Bangkok Thailand. Researcher, Sarah Barnes, is a Masters of Public Health student and this study is part of her degree requirement. Ms. Barnes is studying exclusive breastfeeding rates in Bangkok as well as women's knowledge and attitudes about exclusive breastfeeding and barriers and facilitators to exclusive breastfeeding. Exclusive breastfeeding is when infants are fed only with the mother's breast milk, either through breastfeeding or expressed and bottle-fed. No other food or liquid (including water) are given to the child, with the only exceptions being liquid vitamins or medicine or oral rehydration solution.

Completion of this interview gives Ms. Barnes permission to use the information you have provided. Nowhere on this form or in discussions will any personal information, like name, be required. If any question or aspect of the study is unclear, you can ask Ms. Barnes or the Thai translator. All answers will be kept confidential. Interviews will be recorded and after completion of study, the recordings will be destroyed.

This study has been approved by the ethics committee at Chulalongkorn University.

Below is a list of possible questions:

Breastfeeding questions for all participants:

1. Was breastfeeding discussed during your prenatal appointments? How?
2. How do you perceive breastfeeding? Why?
3. Do you have strong knowledge about the benefits of breastfeeding for mother and child? From where did you get this information?
4. Did you choose to breastfeed your baby? Exclusively? Why/Why not?

5. What helped you come to that decision? Why?
6. Who supported you in this decision? How and Why?
7. Did you use any breastfeeding support services? Why/Which ones?
8. Would you make the same decision again? Why?

Next questions just for mothers who breastfed

9. If you did breastfeed, what was your experience? How long did you breastfeed?
10. Did you breastfeed exclusively for 6 or more months? Why?
11. What determined how much you breastfed and when you weaned your baby?
Why?
12. What do you see as factors that encourage women to breastfeed and ones that keep women from breastfeeding in Bangkok?
13. Do you feel that Thai society is supportive of breastfeeding? Why/How?
14. Do you feel that your workplace and other workplaces are supportive of breastfeeding? How/why?
15. What support helped you the most in your breastfeeding experience?
16. Please share with me anything else related to breastfeeding you would like to share.
17. What was the influence of parents on feeding practices?
18. Many Thai women say they also give their newborn water, did you and why?

QUALITATIVE QUESTIONS: THAI

งานวิจัยนี้ดำเนินงานภายใต้การดูแลของ จุฬาลงกรณ์มหาวิทยาลัย โดยผู้วิจัย ซาร่าห์ บาร์เนต นิสิตปริญญาโทสาขาสาธารณสุขศาสตร์ วิทยาลัยวิทยาศาสตร์สาธารณสุข จุฬาลงกรณ์มหาวิทยาลัย ซึ่งงานวิจัยนี้เป็นส่วนหนึ่งของวิทยานิพนธ์ระดับปริญญาโท ที่ต้องการศึกษาเพื่อหาอัตราการเลี้ยงลูกด้วยนมแม่เพียงอย่างเดียวในเขตกรุงเทพมหานคร อีกทั้งยังศึกษาถึงความรู้และทัศนคติของผู้หญิงเกี่ยวกับการเลี้ยงลูกด้วยนมแม่ รวมทั้งปัจจัยเอื้อและอุปสรรคในการเลี้ยงลูกด้วยนมแม่เพียงอย่างเดียว ซึ่งการเลี้ยงลูกด้วยนมแม่เพียงอย่างเดียว คือการที่ทารกได้รับนมแม่เท่านั้น มุ่งว่าจะเป็นการศึกษาจากเต้านมและจากการบีบน้ำนมใส่ขวดให้ลูก โดยไม่ได้รับอาหารหรือของเหลวอย่างอื่น (รวมทั้งน้ำ) ยกเว้นวิตามินเหลวหรือยาหรือของเหลวที่ให้ทารกเพื่อรักษาอาการขาดน้ำทางปาก

การตอบการสัมภาษณ์อย่างครบถ้วน เป็นการช่วยให้ ซาร่าห์ บาร์เนต ได้นำข้อมูลของท่านไปใช้ทั้งนี้ในแบบสอบถามหรือในการอภิปรายผลการวิจัยจะไม่มีการระบุข้อมูลของผู้ให้ข้อมูลเป็นรายบุคคล เช่น ชื่อ เป็นต้น ถ้าคำถามหรือหัวข้อใดในการวิจัยนี้ไม่ชัดเจน ท่านสามารถสอบถามจาก ซาร่าห์ บาร์เนต หรือล่ามที่แปลภาษาไทยได้ แบบสอบถามทั้งหมดจะถูกประมวลผลโดยผู้วิจัยและที่ปรึกษาโครงการวิจัยเท่านั้น และจะถูกเก็บรักษาในที่ปลอดภัยโดยใช้รหัสผ่าน และคำตอบทั้งหมดจะถูกเก็บรักษาเป็นความลับ ในการบันทึกเทปการสัมภาษณ์ หลังจากใช้ข้อมูลเพื่อการศึกษาครั้งนี้แล้ว จะทำลายเทปนั้นทันที

การศึกษานี้ได้ผ่านการพิจารณาและประเมินโดยคณะกรรมการจริยธรรมของจุฬาลงกรณ์มหาวิทยาลัย

นี่คือรายการคำถามที่น่าจะเป็นไปได้:

คำถามเกี่ยวกับการเลี้ยงลูกด้วยนมแม่สำหรับอาสาสมัคร:

1. มีการปรึกษาหารือกับคุณในช่วงที่มีการนัดหมายก่อนคลอดเรื่องการเลี้ยงลูกด้วยนมแม่หรือไม่? อย่างไร?
2. คุณได้รับความรู้เกี่ยวกับการเลี้ยงลูกด้วยนมแม่อย่างไร? เหตุผล?
3. คุณมีความรู้เกี่ยวกับประโยชน์ของการเลี้ยงลูกด้วยนมแม่ที่มีต่อแม่และลูกเป็นอย่างดีใช่หรือไม่? คุณได้ข้อมูลเหล่านี้มาจากที่ใด?
4. คุณได้เลือกที่จะให้นมลูกแล้วหรือไม่? ให้อย่างครบถ้วนหรือไม่? เหตุผลที่ให้/เหตุผลที่ไม่ให้?

5. สิ่ง que ช่วยในการตัดสินใจของคุณคืออะไร? เหตุผล?
6. ใครที่สนับสนุนการตัดสินใจของคุณ? ทำอย่างไร และเหตุผล?
7. คุณเคยใช้บริการช่วยสนับสนุนการเลี้ยงลูกด้วยนมแม่หรือไม่? เหตุผล/เป็นบริการแบบไหน?
8. คุณจะตัดสินใจแบบเดิมอีกครั้งหรือไม่? เหตุผล?

คำถามต่อไปน้สำหรับแม่ที่เคยเลี้ยงลูกด้วยนมแม่

9. ถ้าคุณเคยเลี้ยงลูกด้วยนมแม่ คุณได้ประสบกับอะไรบ้าง? เลี้ยงลูกด้วยนมแม่นานเท่าใด?
10. คุณเคยเลี้ยงลูกด้วยนมแม่อย่างครบถ้วนเป็นเวลา 6 เดือนหรือมากกว่านั้นหรือไม่? เหตุผล?
11. อะไรเป็นตัวตัดสินใจว่าคุณจะเลี้ยงลูกด้วยนมแม่มากแค่ไหน และเมื่อใดที่คุณให้อาหารอย่างอื่นแทนนมแม่กับลูกของคุณ? เหตุผล?
12. ปัจจัยที่คุณเห็นว่าเป็นการกระตุ้นให้ผู้หญิงเลี้ยงลูกด้วยนมแม่ และ ปัจจัยอะไรที่เป็นสิ่งทำให้ผู้หญิงยังคงเลี้ยงลูกด้วยนมแม่ต่อไปในกรุงเทพมหานคร?
13. คุณรู้สึกว่สังคมไทยมีการสนับสนุนให้เลี้ยงลูกด้วยนมแม่หรือไม่? เหตุผล/อย่างไร?
14. คุณรู้สึกว่สถานที่ทำงานของคุณและสถานที่ทำงานที่อื่นๆมีการสนับสนุนให้เลี้ยงลูกด้วยนมแม่? อย่างไร/เหตุผล?
15. สิ่งใดที่ช่วยสนับสนุนมากที่สุดจากประสบการณ์การเลี้ยงลูกด้วยนมแม่ของคุณ?
16. โปรดแบ่งปันเรื่องเกี่ยวกับการเลี้ยงลูกด้วยนมแม่อื่นๆ ให้กับฉันได้ตามที่คุณต้องการ

APPENDIX E

BUDGET

Item	Description	Amount (Thai Baht)
Thai assistant 1	Data collection	4250
Thai assistant 2	Data collection/Translation	6790
Thai assistant 3	Data collection	3180
Translator	Of all Thai documents	5000
Copies	Data collection tools	1407
Supplies	For data collection	1365
Paper		1000
QSNICH application fee	To apply for ethical review	500
Travel	Transport to hospitals and communities	3000
Communication	Phone calls to arrange interviews	500
TOTAL:		26,992

APPENDIX F

TIME SCHEDULE

This mixed-methods study will be conducted from September 2011- May 2012.

Activity	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May
1. Literature Review									
2. Writing thesis proposal									
3. Proposal Exam									
4. Ethics review									
5. Proposal Revision									
6. Data collection & Analysis									
7. Final thesis exam									
8. Submission of thesis									

BIOGRAPHY

Sarah B. Barnes

Country of origin: United States of America

Education

The University of North Carolina, Chapel Hill, NC, Winter 2010
Post Graduate Certificate Program in Core Public Health Concepts

The George Washington University, Washington, DC, Spring 2004
Master of Arts in Women's Studies
Concentration: International Development and Women's Health

College of the Holy Cross, Worcester, MA, Spring 1999
Bachelor of Arts in Psychology
Minor in Deaf Studies
Concentration: Women's Studies

Professional Experience

The William J. Clinton Foundation, Beijing, China, 2008-2009
Program Manager, Paid Volunteer, Clinton HIV/AIDS Initiative (CHAI)

Project Hope, Beijing, China, 2007-2008
Program Manager, Volunteer

The Fund for Global Human Rights, Washington, DC, 2005-2007
Director of Administration, 2006-2007
Operations Manager, 2005-2006

Mary's Center for Maternal and Child Care, Washington, DC, 2002-2005
Family Support Worker for Community Healthy Start (CHS)

Peace Corps Volunteer, Jordan, 1999-2001
Special Education Volunteer