

## Facilitators and Barriers to Exclusive Breastfeeding in Thailand: A Narrative Review

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### Abstract

The six months exclusive breastfeeding rate in Thailand has decreased from 15.1 % in 2009 to 12.3 % in 2013. This narrative review aimed to identify facilitators and barriers to exclusive breastfeeding in Thailand. Medline, CINAHL, Embase, Google Scholar and the Thai Journal Online were searched using the terms exclusive breastfeeding and Thailand between 2001 to the end of September 2016. Inclusion criteria were that articles focused on facilitators and barriers of exclusive breastfeeding, specifically relating to Thailand. Narrative data extraction was conducted and data were analyzed thematically. Five themes were identified: mother factor, family support, situation and social context, infant factor, and healthcare (professionals and service). The themes described for Thailand in this study concur with international findings. Identifying specific practical interventions based on these themes, and in support of exclusive breastfeeding in Thailand, is now a priority.

**Keywords:** Facilitator and barriers to exclusive breastfeeding; Breastfeeding; Thailand; Narrative review; Nursing

### Introduction

There is a wealth of evidence confirming that breastfeeding presents short and long term advantages for infants, mothers and, interestingly, the world. For infants, breast milk contains all the essential nutrients which stimulate optimal physiological and psychological growth and development [1-4]. In the short term, the incidence of childhood infections among breastfed children, such as diarrhea, respiratory infection, and other common childhood illnesses, tends to be lower due to the immunoglobulins present in breastmilk [5]. The incidence of childhood leukemia, the risk of being overweight or obese is also reduced [4,6]. A benefit of breastfeeding in oral health outcomes, the reduction of malocclusion has been found [7]. For long term benefits, otitis media in children up to the age of 2 years can be prevented by breastfeeding and in all breastfeeding is estimated to have saved the lives of more than 820,000 children under the age of 5 [4,8]. There is also evidence suggesting that the bonding between infants and mothers could be increased by breastfeeding [9]. Benefits to the mothers arise as a result of oxytocin and prolactin release, reducing the risk of postpartum hemorrhage, in addition to promoting uterine involution [10,11]. Additionally, breastfeeding can reduce the mother's risk of certain illnesses, including ovarian cancer, type 2 diabetes, obesity, hypertension, heart disease, maternal depression, and mortality rate from breast cancer [1,4,10-16]. Longer periods of amenorrhea, which can lead to birth spacing, are associated with breastfeeding [13,17]. Breastfeeding has also been found to help women restore their body shape after delivery [4]. Not only health outcomes, but improvements in gender equality (in the workplace), money-saving, and fulfilling the mother's potential are other obvious benefits [18,19]. For worldwide benefits, breastmilk is recognized as a

natural and renewable food; and the ecological footprint of feeding infants is minimized [20]. In terms of global spending, breastfeeding can save US\$ 302 billion annually [20].

Exclusive breastfeeding (EBF) is defined as infant feeding comprising only breast milk and not including water or other foods, although medicines, vitamin syrup or oral dehydration solution are permitted in case of medical necessity [21,22]. Internationally, since 2001, the World Health Organization (WHO) has recommended exclusive breastfeeding for six months and continued breastfeeding for up to two years [23,24]. The World Health Assembly set a global target for six months EBF at 50% by 2025 [25]. In 2015, the United Nations reported that breastfeeding is linked to the eight sustainable development goals i.e. poverty, hunger, health, education, gender equality, and sustainable consumption [19]. In response to this, the Thai Ministry of Public Health (MOPH) recently raised the national breastfeeding initiation goal to 60% by 2015 [26]. According to the 11th National Economic and Social Development Plan of Thailand 2012–2016, the goal for EBF for at least six months has been set at 30% and is set to be 50% amid the 12th National Economic and Social Development Plan of Thailand 2017–2021 [27,28]. It can be clearly seen that, from both an international and Thai perspective, 6-month EBF is an important issue with international pressure on countries to achieve this goal.

Globally, WHO reported that the six months EBF rate was just 36% [29] in 2014. At the regional level, the six months EBF rates for Europe, Africa, and the Eastern Mediterranean were 25%, 36% and 40%, respectively [29]. Nearly 50 % of the countries in the Asia-Pacific region have a six months EBF rate greater than 40% [30]. In Southeast Asia, the six months EBF rate in Cambodia, Indonesia and the Philippines are 74%, 42% and 34% respectively [31]. In term of economic patterns, the six months EBF rates in high income countries tend to be lower than those in low and middle income countries (e.g.

in the United States of America and the United Kingdom were 19% and 1 %; see Table 1). High income countries' six months EBF rates tend to be below 20% [31]. In contrast, many of the six months EBF rates in low and middle income countries are close to, or have already achieved the 50% WHO goal, ranging from 28% in China to as high as 89% in Korea [31]. Nowadays, the world breastfeeding trends initiative (WBTi) is a worldwide tool to assess the strengths and weaknesses of national policies and programmes concerned with EBF [32]. Some countries in Asia, such as Sri Lanka, Vietnam, and Philippines were reported as grade B, and others, including Taiwan and Thailand, were reported as grade C, indicating weakness regarding EBF [32,33].

Country (year reported)	EBF rate for 6 months (%)
United States of America (2014)	19
United Kingdom (2014)	1
Uganda (2011)	63
Sudan (2010)	41
Pakistan (2012)	38
China (2008)	28
Korea (2009)	89
Indonesia (2012)	42
Cambodia (2010)	74
Philippines (2008)	34

**Table 1:** International EBF rates for six months, EBF=Exclusive Breastfeeding.

In Thailand, the six months EBF rate was reported as 14.5% in 2005 [34] and increased slightly to 15.1% in 2009 [35] (Table 2). In 2013 however, reported six months EBF rates had dropped to 12.3% due to the decrease in rates in the Northeast region [36]. It is important to note that the six months EBF rates vary considerably at the regional level. In 2009, the six months EBF rates for the Northeast, South, North, and Central regions were 26.9, 10.4, 9.4 and 6.1% respectively, and the lowest percentage was found in Bangkok, at 1.7% [35]. In the

EBF at least 6 months Rate (%)							
Year	Whole Kingdom	Bangkok	Central	North	Northeast	South	Author
2009	15.1	1.7	6.1	9.4	26.9	10.4	NSO Thailand, 2010
2013	12.3	8.2	7.9	19.6	13.8	12.2	NSO Thailand, 2013

**Table 2:** 6 months EBF rate in Thailand and its regions, EB=Exclusive Breastfeeding, NSO Thailand=National Statistical Office Thailand.

In order to improve the six months EBF rate in the worst affected region of Thailand and contribute towards achieving the goal set by the MOPH for the Kingdom of Thailand, it is important to determine the facilitators and barriers to exclusive breastfeeding for Thai mothers. This information will be useful for policy planning that aims to have an impact on six months EBF rates in the Northeast of Thailand, by enabling the prioritization of the identified factors. The aim of this study was therefore, to review relevant literature and identify facilitators and barriers to EBF in Thailand.

2013 national survey, the six months EBF rates in Bangkok, Central, North and South regions had increased [36]. In contrast, the six months EBF rate in Northeast Thailand was significantly lower, dropping from 26.9% in 2009 to 13.8% in 2013 which is of grave concern. It is also worth noting that over the same period, the percentage of Thai infants receiving breast milk 24 hours post delivery fell from 84% in 2009 to 46.3% in 2013 [35-37]. This indicates that there seem to be fewer women initiating breastfeeding, as well as fewer continuing for the full six months.

Over the past 25 years, there have been many initiatives aiming to increase the EBF rate in Thailand. The first national breastfeeding strategy in Thailand was initiated in 1989, and at that time the goal was EBF for four months [38]. In 2002, the 9th National Economic and Social Development Plan of Thailand 2002–2006 set the goal of EBF for six months to 30% in response to the WHO target [39]. In order to improve the EBF rate in Thailand, the Baby-Friendly Hospital Initiative (BFHI) has been promoted since 1997 and most Thai hospitals (more than 792 hospitals) have reached Baby Friendly status by following the 10 steps to successful breastfeeding [38]. The Family Love Bonding project, initiated by His Royal Highness, Crown Prince Maha Vajiralongkorn, is a large project in Thailand involving more than 90% of government hospitals which includes improving EBF rates as one of its strategies [40]. Furthermore, the Ministry of Public Health (MOPH) in Thailand announced “The Thailand Code of Marketing of Foods for Infants & Young Children and Related Products 2008, which implements the WHO International Code of Marketing of Breastmilk Substitutes [41]. Paid maternity leave for 90 days was initiated [42]., and medical benefits, delivery care and newborn nursing expenses, are supported by the social security fund [42]. Not only government organizations, but also non-government organizations are running EBF projects. UNICEF has many campaigns to report the EBF situation in Thailand, designed to stimulate EBF nationally, for example, the “powdered milk = risk” campaign [43]. The Thai Breastfeeding Center Foundation is an organization that supports EBF and has conducted various breastfeeding community projects, including introducing breastfeeding areas in work places, arranging EBF conferences for healthcare professionals, producing newsletters and articles, and, in 2014, setting the breastfeeding slogan: “Breastfeeding: A winning goal - for life” [40,41].

## Materials and Methods

A comprehensive review of literature was conducted using a systematic searching approach. The following data bases were searched: Medline, CINAHL, Embase, Google Scholar and the Thai Journal Online between the first week of January 2001 and the fourth week of September 2016. The search strategy included broad search terms in two blocks related to EBF and Thailand, and focused the results by linking them with the relevant Boolean terms [Table 3]. Titles and abstracts were screened for inclusion. All study designs, all

languages, populations including women, men, mothers, grandmothers and health care professionals, type of publication including article, report, thesis and conference papers were included. Studies were excluded if they did not focus on barriers and facilitators of EBF or if they were not conducted in Thailand. Regular meetings with the supervision team were held to verify emerging findings. Narrative data extraction was conducted, and data were analyzed thematically to identify facilitators and barriers to EBF in Thailand.

## Results

### General characteristics

The systematic search of literature identified 18,853 relevant studies across the five databases (Figure 1), with the majority being in Google Scholar and the Thai Journal Online. In total, 74 studies complied with the inclusion and exclusion criteria; the main reason for exclusion was

that the focus was not on facilitators and barriers of EBF, but most often on the promotion of EBF. In Google Scholar only the first 10 pages of results were screened.

Keywords	Exclusive breastfeeding	Thailand
Sub-Keyword	6 months breastfeeding	Northeast Thailand
	Breastfeeding exclusive	Northern Thailand
	Breast feeding	Southern Thailand
		Central of Thailand
		Eastern Thailand
		Western Thailand

Table 3: Keywords use in article search.

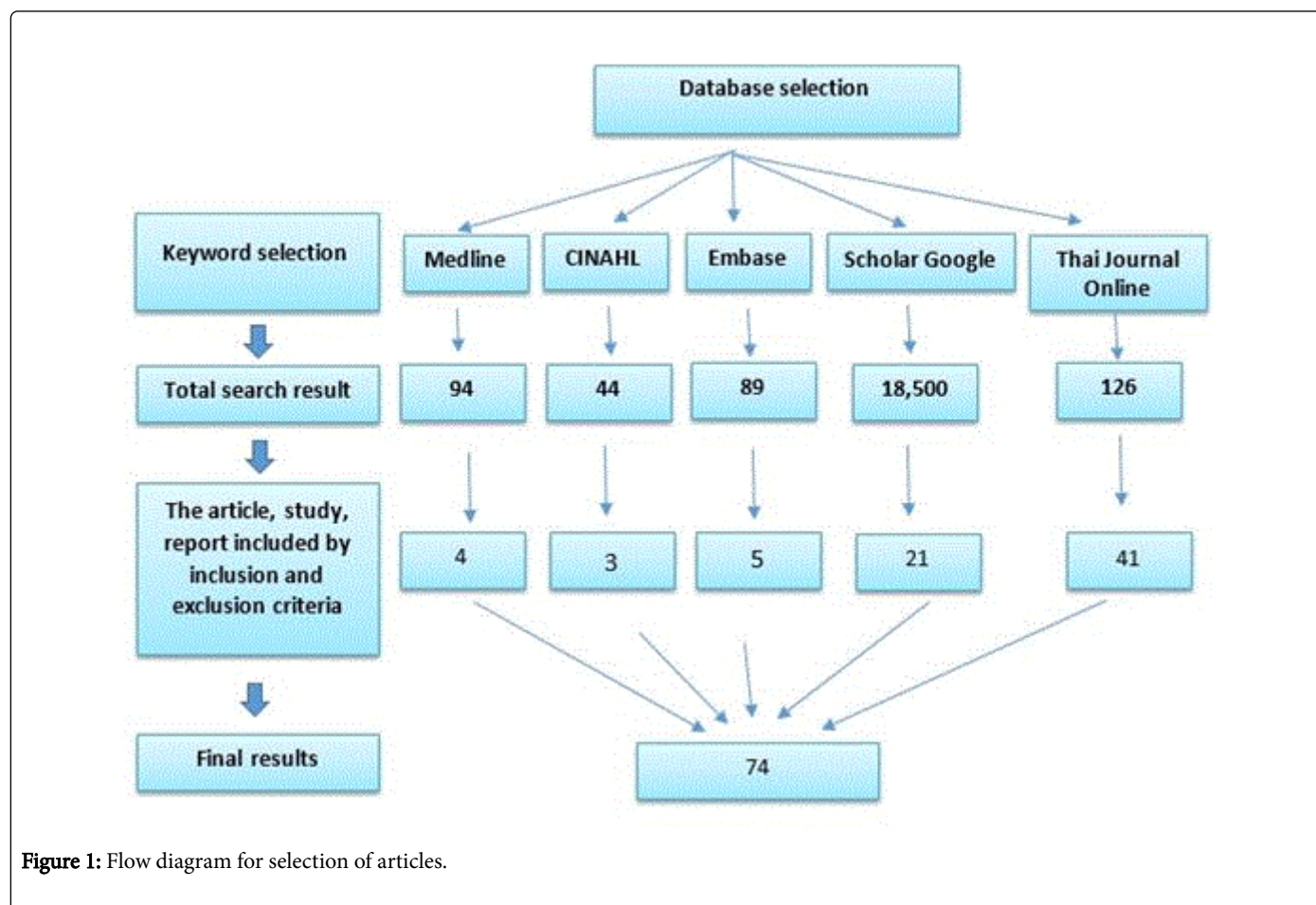


Figure 1: Flow diagram for selection of articles.

The selected studies had a good geographical spread with 29 from Central Thailand, five from Southern Thailand, six from Northern Thailand, one from Eastern Thailand, one from Western Thailand, 16 from North-eastern Thailand and 16 that did not specify a region. Of the studies, 55 were journal articles, 11 were reports, six were theses, and two was a conference paper. The studies were mostly published between 2015 and 2016 [n=8] and 2010 - 2014 [n=47], with the remainder being published earlier (2005-2009 [n=14], 2001-2004 [n=5], respectively). The majority of the studies, 83.78% (62 studies)

were quantitative, with seven studies were qualitative and only five studies were mixed methods.

### Facilitators and barriers

A facilitator is a factor that supports or has positive influence or effect on EBF, whereas a barrier is a factor that obstructs or has a negative influence or effect on EBF. Several facilitators and barriers to EBF in Thailand were identified and divided into five themes as follows: mother factors, infant factors, health professional and health

care system factors, family factors, and situation and social context factors (Figure 2).

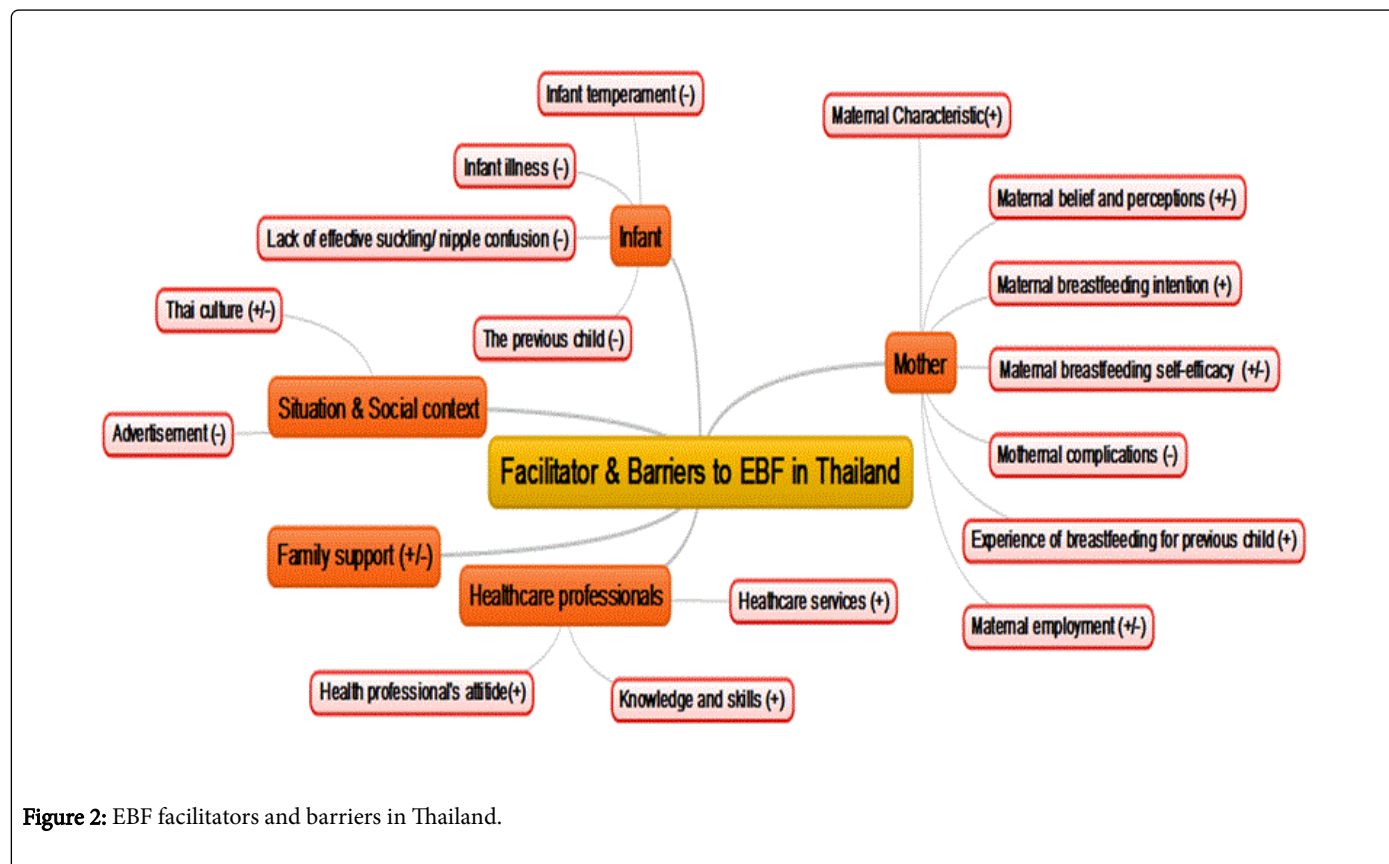


Figure 2: EBF facilitators and barriers in Thailand.

### Mother factor

As a result of the review, the mother factor is divided into seven groups: maternal characteristics, maternal belief and perceptions, maternal breastfeeding intention, maternal breastfeeding self-efficacy, maternal complications, experience of breastfeeding for previous child, and maternal employment.

### Maternal characteristics

Maternal characteristics include: age, marital status, economic status, education level, and knowledge regarding EBF. According to cognitive theory, responsible behavior is correlated with age [44], which may explain the finding of this review that mothers who are older are more likely to experience success with EBF. Many studies showed that mothers who are older than 25 years are more likely to succeed with EBF [18,45-49], whereas teenage mothers are less likely to use EBF [9,18,46,50]. Some studies in Thailand found that being married leads to more successful EBF than being single [18,46]. Mothers with a high economic status displayed longer breastfeeding duration than mothers with a lower economic status [51]. The education level of the mother was found to be positively linked to EBF, with educated mothers breastfeeding for longer [45,52]. Lastly, many studies showed that when a mother knows about the advantages of breast milk, this can strengthen her intention to breastfeed, and in addition may increase the duration of breastfeeding [18,48,52-58]. Furthermore, studies showed that knowing how to express and store breast milk can improve breastfeeding confidence [49,52,53,59,60]. In

contrast, a lack of knowledge concerning breastfeeding can present an obstacle [18,61-64].

### Maternal belief and perception

These factors include believing in their own capabilities, positive and negative attitude towards breastfeeding. Mothers who believe in their own capabilities are more likely to be successful with breastfeeding [18,50,52]. Nine studies reported that a mother's positive attitude/perception towards breastfeeding can lead to a longer duration of EBF [18,45,48,52,54-56,65,66]. In contrast, some studies found that negative attitudes towards EBF are often reported, such as perceiving that breastfeeding is complicated, that providing other supplementary food will improve the child's nutrition, that breast milk is not nutritionally complete or adequate for their babies, that breast milk could result in neonatal hyperbilirubinemia or that breastfeeding results in an undesirable body shape (breast shape). In addition, mothers may feel shame when breastfeeding or expressing milk in public areas, or believe breast milk is not suitable for an infant for the whole of the first six months [9,18,52,67,68]. Some mothers also seem to have a negative perception with regard to the amount of breast milk produced and may report "insufficient milk supply" [9,46,67-69].

### Maternal breastfeeding intention

The review showed that a mother's intention to succeed with EBF was positively related to the duration of EBF [46,47,50,53,65,70, 71].

## Maternal breastfeeding self-efficacy

High self-efficacy can lead to high performance [48,60,72-74]. A study by Pongkaew showed that mothers with a high score of self-efficacy intended to continue with EBF for longer than mothers who had a low score [75]. Furthermore, Nualjam et al. found that mothers with high levels of self-efficacy were able to overcome difficulties encountered in breastfeeding, whereas 'first time' mothers in particular, may lack confidence in providing breast milk [18].

## Maternal complications

Physical conditions in the mother, such as inverted, retracted or flat nipples, breast pain, postpartum depression, smoking and drug addiction were reported as influential barriers to EBF [18,46,67,76-78]. Moreover, mothers who had a caesarean section were more likely to report difficulty breastfeeding initially or "having to give formula milk" [69].

## Experience of breastfeeding for previous child

Several studies reported that the experience of a mother, for example, experience of breastfeeding a previous child or not having any problems with breastfeeding during the first month, can be supportive to EBF [18,45,52,53].

## Maternal employment

Several studies found that working mothers tend to breastfeed for shorter periods because of difficulty in maintaining lactation, partly due to the stress and conflict involved in combining breastfeeding with work [47,62,76,77]. Furthermore, studies also revealed that mothers who work away from home in different provinces find it particularly inconvenient to breastfeed or provide breast milk [9,18,52,61,67]. Some studies reported that short periods of maternity leave (i.e. the three months legal minimum) can be a barrier to EBF [37,69,71,79-81]. The work place was identified as another obstacle to EBF because it is often not suitable for breastfeeding, with some work places not providing a breastfeeding area or refrigerators to store breast milk, and mothers feeling insecure pumping or feeding at work, as well as a lack of support from employers and colleagues [9,18,63,68]. Work characteristics may also negatively affect EBF duration, especially for shift workers [18,63,68]. In contrast, three studies showed that workplace support for breastfeeding, including developing a workplace breastfeeding support model for lactating mothers and a breastfeeding support campaign, can increase the EBF rate [82-84].

## Family

In Thailand, family can be both a facilitator and a barrier. 10 studies reported that the family can be a positive factor supporting EBF, (i.e. grandmother, grandfather, and especially the husband) [47,48,53,54,60,63,64,66,68,85-87]. Wangsawat and colleagues found that the father's knowledge about breastfeeding and his intention to support EBF has a positive relationship with the mother's intention to EBF for 6 months [57]. However, lack of family support was also identified as a barrier which can lead to a short duration of EBF because most working mothers need someone to take care of their child and reduce the burden of housework [18,62,68].

## Situation and social context

Thai traditional culture can be seen to have positive and negative impact on EBF. In term of positive impact, "Ka Nam Nom" is a term which refers the value of breastmilk [58]. Thai people believe that infants can grow effectively as a result of breast milk intake; therefore this culture acknowledges as the value of breast milk and, at wedding ceremonies, the groom is required to give property to the bride's parents equal to the value of breastmilk [58]. Moreover, Thai citizens believe that, breast milk is produced from maternal blood circulation. Some Thai mothers breastfeed because they know that their breast milk comes from their own blood [58]. "Yuu Deaun" is a traditional practice in Northern Thailand, whereby, over the course of a one month period, new mothers must stay at home and reduce their activity [58]. Moreover, certain foods such as ginger which stimulated the volume of breastmilk are served at this time and some foods are prohibited [88]. If the infant needs to be admitted to hospital, mothers who are on the "Yuu Deaun" period cannot visit their child, which can be a barrier to EBF [58]. On the other hand, as result of reducing activities, mothers spend time with their infants and high breastfeeding rates are associated with the period of "Yuu Deaun" [58]. Other studies report that grandparents can present an obstacle to EBF as they sometimes provide other sustenance, such as water, rice, and fruit to the infant [18,66,67,69,89]. In addition, the advertising of formula milk in Thailand [9,18] and the provision of formula milk while infants are in hospital have been shown to negatively impact EBF [50,52].

## Infant

The infant was found to present a barrier in some studies. The lack of effective suckling and nipple confusion could lead to problems [18,46,47], and several studies reported that infants' temperaments could be a barrier to EBF [67,76,90,91]. Also early illnesses, especially those involving a hospital admission were reported as further barriers to EBF [18,46,55,56,62,67,92]. Interestingly, having had previous children was reported as a barrier as well as a facilitator, especially among mothers who had given formula milk to previous healthy children [9].

## Healthcare professional and health care system factor

A positive attitude among health care professionals was identified as a facilitator of EBF [18]. The knowledge and skills of health care professionals regarding EBF were also been reported to have a positive impact on EBF rates [18]. Moreover, supportive health care services, including a 6 month post-natal check, 24 hour counselling, hotlines, home visits, telephone follow up, nurse support, breastfeeding guidelines, education programmes, breastfeeding promotion programmes and good access to healthcare in the antenatal and postpartum periods were reported as facilitators of EBF [45,50,61,68,73,74,81-83,87,93-112].

## Discussion

The review identified various facilitators and barriers to EBF in Thailand. Facilitators of EBF related to the mother factor were, being older (>25 years), married, with a high income and a reasonable level of education. Mother's breastfeeding knowledge, such as knowing the advantages of breastfeeding and being aware of how to express and store breast milk, were also identified as facilitators of EBF. These findings are corroborated by various studies in other parts of the world

[3,113,114]. Similarly, in the South East Asian region, a study conducted in Laos found that mothers older than 35 years tended to continue EBF for a year, although in contrast, those with low economic status were more likely to continue to breastfeed [115]. In Malaysia, Tan found that not working was also a facilitator to EBF [116]. Further facilitators related to the mother identified in the review include her having a high level of confidence, positive attitudes, a strong intention to breastfeed and a good experience with a previous child; these are also corroborated by similar findings in other countries [116,117].

Barriers related to maternal factors identified in the review included being a teenage mother, doing manual labor, working away from home and a lack of breastfeeding knowledge, which are similar to findings in Laos, India, Vietnam and Zimbabwe [114,115,118,119]. Additional barriers related to the mother were being a first time mother, her physical condition (such as nipple problems and breast pain) and negative attitudes to breastfeeding. Other studies in various countries and regions [Pakistan, Zimbabwe, United Arab Emirates, Ghana, Uganda, West Africa and China] have identified insufficient breast milk supply reported as a barrier to 6 months EBF by mothers [113,114,117,120-124]. Breast conditions have been reported as a barrier in other studies conducted in the United Arab Emirates, Pakistan, Africa, and South America [113,117,121,125,126]. Short maternity leave, shift work and a lack of workplace support were reported as barriers in the review, which is consistent with findings in other countries [113,119,127].

Family can be both a facilitator and a barrier. Support from family members (i.e. grandparents or the husband) was shown to have a positive impact on EBF, and this has been found in other studies [114,116,121,122,128,129]. Lack of family support was also identified as barrier in a study in India [130].

The Thai culture can present both facilitators and barriers. The findings revealed that culturally, “Ka Nam Nom” can stimulate the initiation of breastfeeding. “Yuu Deaun” is identified as both a facilitator and a barrier. In addition, Thai grandmothers trying to feed infants water, rice, and fruit can negatively impact on EBF duration. Similar traditional behaviors have also been reported in the Middle East, Southern Africa, East Africa, China and Brazil [113,123,128,131]. In Zimbabwe, water as well as herbal concoctions, are given to children with the belief that they could improve their health [114]. These cultural habits are not only ascribed to grandmothers, but also to mothers [121].

Infant-related factors found to affect EBF include the infant’s temperament, illness, hospital admission, lack of effective suckling, nipple confusion and negative previous experiences, which have all been reported as barriers to EBF. These finding are corroborated by studies in other countries [132,133]. In India, persistent crying in infants was found to be a barrier to EBF and, in Iran, low birth weight was reported to lead to a low rate of breastfeeding [132,133]. Tan found that having a full-term infant can be a facilitator to EBF [116].

Other facilitators to EBF in Thailand are good knowledge and skills among health care professionals and accessible health care services, which has been found in other studies [115,117,134]. In the USA, the knowledge of nurses has been shown to influence breastfeeding and in contrast a lack of continuity of care with regard to breastfeeding can affect the duration of EBF [134]. In Pakistan, antenatal counselling of mothers was found to significantly increase the breastfeeding rate [117]. A study in Laos showed that mothers who joined an antenatal service experienced early breastfeeding initiation [115].

## Strengths and Limitations

The main strength of the study is that the review sought to include all relevant literature from Thailand using a comprehensive search strategy. Some grey literature was also included to ensure that as many findings as possible were captured, even if they were unpublished. Many of the reports were not identified by indexed databases but by searching local, publicly accessible literature. The inclusion of articles and reports written in Thai is a further strength. A limitation of the study is that the relevant studies were not assessed in terms of the quality of the study designs, and bias was not assessed.

## Conclusion

This review aimed to identify the facilitators and barriers to EBF in Thailand. Mother factors, family support, situation and social context, infant, and health care professionals have emerged as important influences on EBF in Thailand, many of which are similar to findings in other countries, but some being unique to Thailand. It is hoped that health professionals involved in promoting, protecting and supporting breastfeeding in Thailand, and possibly countries within the region, will be able to utilize the findings of this study as a basis for further or comparative research. The identified facilitators and barriers may serve as a framework to engage stakeholders in the planning of interventions and policies to improve EBF rates in Thailand and surrounding countries where the cultures are similar. As very little qualitative research was identified, it is recommended that more such research should be conducted to investigate the perceptions of all stakeholders in identifying the best interventions to improve EBF rates in Thailand and the surrounding countries.

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