

CHAPTER 2

Literature Review

This chapter provides the need and rationale of this particular study, states the research question, research statement and the literature review that support this research question and research statement. Additionally, it describes the conceptual framework of the study. It comprises the following:

1. Breastfeeding practices
 - 1.1 Benefit of breastfeeding
 - 1.2 Breastfeeding promotion, situation and trends
 - 1.2.1 Global breastfeeding situation and trends
 - 1.2.2 Breastfeeding situation and trends in Nepal
 - 1.3 Types of breastfeeding practice and its measurement
 - 1.3.1 Types of breastfeeding practice
 - 1.3.2 Approaches of collecting information on breastfeeding practice
2. Influencing on breastfeeding practice
3. Breastfeeding practice among adolescent mothers in Nepal
 - 3.1 Adolescent mothers in Nepal
 - 3.2 Breastfeeding practice among Nepalese young mothers
4. Breastfeeding self-efficacy
 - 4.1 Definition and concept
 - 4.2 Measurement of breastfeeding self-efficacy
5. Breastfeeding self-efficacy and breastfeeding practice

Breastfeeding Practice

In May 1992, WHO declared a policy that every infant should be exclusively breastfed for the first six months of life and complementary foods and breastfeeding on demand to be given from six months until the age of two or beyond to meet their nutritional requirement and for the benefit of both infants and mother (WHO, 2002, 2009). Initiation of breastfeeding within one hour of birth and practicing exclusive breastfeeding for six months reduces infant mortality rates. Current report on exclusive breastfeeding indicates improved chances of child survival and highlights preventive interventions that could save lives of more than 3,500 children every day (UNICEF, 2005). It has the potential to prevent over 800,000 deaths (13.0% of all deaths) in children under the age of five in the developing countries and offers preventive interventions of 1.4 million lives simply by breastfeeding for the first six months of life from birth (Black et al., 2008). Annually four million newborns die worldwide in the first four weeks of life (the neonatal period). The majority, one-third of these deaths are due to infections (Lawn, Cousens, & Zupan, 2005). A previous study suggested that post neonatal and children mortality rate can be reduced by immediately starting exclusive breastfeeding (UNICEF, 2014). If all children 0–23 months are optimally breastfed (WHO, 2014), it which can save up to eight million babies children's lives every year. Improving exclusive breastfeeding rates among the poorest may be particularly important in the reduction of global disparities in child survival and health (Lamberti et al., 2011; Lutter, Chaparro, & Grummer-Strawn, 2011).

Benefit of Breastfeeding

The internationally considered major benefits of breastfeeding are physiological and psychosocial well-being of infants as well as mothers. It also saves time and money as there is no need to buy formula and sterilize feeding bottles (Boparai, 2013; Fewtrell, Morgan, & Gunnlaugsson, 2007; Kramer, 2010; Yimyam, 2013; Yimyam & Hanpa, 2014).

Breastfeeding is the natural act of providing young infants with the nutrients they need for healthy growth and development (WHO, 2014a). It provides perfect nutrition for infants and lays the foundation for their psychosocial development (Dakshayani &

Gangadhar, 2008; Yimyam, 2013). In physiological benefits, breastfeeding has been recommended worldwide to prevent major childhood diseases; additionally, it reduces infant mortality rate linked to common childhood illnesses and under-nutrition (UNICEF, 2008) and the infectious diseases especially those from gastrointestinal infection (AAP, 2005; Kakute et al., 2005) by providing antibacterial and antiviral substance against pathogens (Mihrrshahi, Oddy, Peat, & Iqbal, 2008). Moreover, breastfeeding reduces the rate of sudden infant death syndrome, the incidence of hypercholesterolemia (Leung & Sauve, 2005; Memon, Sheikh, Memon, & Naheed, 2006; United States Breastfeeding Committee [USBC], 2002). Breastfeeding also increases bonding between mothers and infants by providing skin to skin contact and physical warmth between mother and child (Leung & Sauve, 2005; Keemer, 2003; UNICEF, 2008; Yimyam, 2013). The long term health benefit of breastfeeding among infants is that they are less likely (up to 24.0%) to become overweight later in life and develop chronic diseases of childhood and adolescence (Gunderson, 2010; Kramer et al., 2007). Additionally, infants who breastfeed exclusively for at least 3 months reported 30.0% reduction in the incidence of type 1 diabetes mellitus (Chung, Kang, & Suh, 2007; Rosenbauer, Stull, Adler, Kasehagen, & Crivelli-Kovach, 2008). Other study supported that reduction in leukemia in later life directly correlated with the duration of breastfeeding (Bener, Hoffman, Afify, Rasul, & Tewfik, 2008; Chung et al., 2007). Prolonged breastfeeding practice also reduces the risk of asthma and pneumonia in later life (Imtiaz & Saleem, 2009) and provides protection against allergy (Leung & Sauve, 2005; Watson, 2008). In wellbeing, prolonged breastfeeding has shown to increase intelligence not only with the breastfeeding initiation but also due to the duration, exclusivity and intensity of breastfeeding (Der et al., 2006; Mortensen, Michaelsen, Sanders, & Reinisch, 2002; USBC, 2002).

In terms of mothers' benefits, early suckling stimulates the release of prolactin, which helps in the production of milk and oxytocin responsible for the ejection of milk. Breastfeeding also stimulates contraction of the uterus after childbirth and reduces postpartum blood loss (Thompson, Heal, Roberts, & Ellwood, 2010). Therefore, it also reduces the risk of postpartum bleeding. Breastfeeding also helps mothers burn extra calories and reduces postpartum weight gain (Boparai, 2013). Frequent suckling produces oxytocin hormone which inhibits ovulation and delays the next pregnancy

(Labbok, & Krasovec, 2001). It reduces osteoporosis and reduces the risk of hip and bone fracture and prolonged lactation amenorrhea (WHO, 2012; Bhutta, 2008). In long term benefits, it also reduces the mothers' chances of breast cancer and protects mothers from ovarian cancer (Labbok & Krasovec, 2001).

Breastfeeding Promotion, Situation and Trends

International and national organizations have been promoting exclusive breastfeeding practice at least six months after postpartum (AAP, 2005; WHO, 2012). Researchers have confirmed that mothers require active support to begin and sustain appropriate breastfeeding practices (UNICEF, 2013). The global average practice of breastfeeding rate at six month is 39.0 % (IBFAN & BPNI, 2014).

Global breastfeeding promotion, situation and trends. Breastfeeding is being advocated and supported by UNICEF through the public health strategy which prioritizes the implementation of actions outlined in the Global Strategy for Infant and Young Child Feeding through a multi-sectoral approach to improve infant and child health survival, improving maternal morbidity and controlling health care costs based on the 1990 Innocenti Declaration on the Protection, Promotion and Support of Breastfeeding (UNICEF, 2014; WHO, 2002). In 1991, the WHO and the UNICEF jointly launched the Baby-Friendly Hospital Initiative (BFHI). BFHI is the gold standard for evidenced based breastfeeding care in hospitals. BFHI encourages hospitals to adopt the “Ten Steps to Successful Breastfeeding” initiative (American Nursing Association [ANA], 2010).

The BFHI was intended to get rid of artificial infant feeding in the hospital premises and encourage exclusive breastfeeding. It was aimed to remove barriers that may cease the initiation and duration of exclusive breastfeeding. BFHI obtained a protocol of ten steps to breastfeeding that was distributed internationally (WHO, 2009; Mannel et al., 2013). In 2002, the WHO and the UNICEF mutually formulated the Global Strategy for Infant and Young Child Feeding. (Dykes & Hall, 2009; Mannel et al., 2013) The Global Strategy advocated internationally; to formulate, implement, monitor and evaluate a comprehensive national policy on infant and young children feeding (WHO, 2003).

A previous study revealed that mother's perception of the hospital's compliance with the Ten Steps of the BFHI influences the rate of exclusive breastfeeding during the hospital stay. Mothers are more likely to exclusively breastfeed when they feel that the hospital is compliant with the BFHI (Rosenberg et al., 2008). Mothers who experience "baby friendly" hospital practices are also more likely to continue breastfeeding beyond six weeks (DiGirolamo, Grummer-Strawn, & Fein, 2008). Moreover, nurses are also in a unique position to enhance a mother's breastfeeding success as she transitions into the workplace; endorse the BFHI and assist in implementation of the "Ten Steps to Successful Breastfeeding". Therefore, health care facilities is to be encouraged to provide breastfeeding training for nurses with education appropriate to their role in order to develop the knowledge and skills necessary to support the mothers and aid in the prevention and management of problems (ANA, 2010). Furthermore, a study has shown that mothers who breastfeed within 120 minutes of birth are 2.5 times more likely to be exclusively breastfeeding at 4 months than mothers who breastfeed for the first-time at more than 120 minutes (Nakao, Moji, Honda, & Oishi, 2008). Mothers who hold their infants skin to skin are more likely to initiate breastfeeding sooner after birth (Nakao et al., 2008). However, recent data indicate that globally less than 39% of infants under six months of age are exclusively breastfed (UNICEF, 2014).

According to 2011 statistics, globally 25.0% of children under the age of five are stunted. An estimated 80.0% of the world's 165 million stunted children live in developing countries. Stunting or other forms of under nutrition reduce a child's survivability and hinders optimal health and growth (UNICEF, 2013) which can be reduced by the immediate breastfeeding initiation and continuation among infant (WHO, 2002). It is estimated that non exclusive breastfeeding in the first six months of life results in 1.4 millions deaths among children below five years of age. WHO report of 2004 stated that a total 4.1 million children died due to the lack of breastfeeding practice in that year whereas most of the death occurred were in low and middle income countries. Among these, 43.0% of death occurred in southern region of Asia (WHO, 2009). In many countries only one third of infants are breastfed up to the age of 6-23 months (WHO, 2014a). The global goal rate is to increase exclusive breastfeeding rate to 50.0%, by 2025 (WHO, 2014a). However, reports of developed and developing

countries state that only 39.0% of children less than six months of age are exclusively breastfed (UNICEF, 2014).

Breastfeeding practice in South Asian countries varies widely. At six months, breastfeeding practice in Afghanistan is 54.3%; in Bangladesh it is 64.0%; in Sri Lanka it is 76.0%; in Bhutan it is 59.0%; in India it is 46.8% and in Nepal it is 70.0% (WBTi, 2012). The average global exclusive breastfeeding rate of 2006-2010 was 39.0%. The global goal is to increase the rate to 50% by 2025 (WHO, 2014a). In South Asia, the average of exclusive breastfeeding practice rate at six months was less than 45.0% (UNICEF, 2009; WBTi, 2012), and any breastfeeding practice at two years was 69.0% (WBTi, 2012).

Breastfeeding is widely practiced in Asian countries but mostly it is partial breastfeeding (no exclusive breastfeeding). It seems to be very common for Asian mothers to introduce other foods in to the infants at an early age. The use of prelacteal feeds were highly prevalent in West China (93.0%) (Tang et al., 2013), South China (26.0%) (Qui, Xie, Lee, & Binns, 2007), North India (15.4%) (Mahmood, Srivastava, Shrotriya, & Mishra, 2012), and South India (34.9%) (Kumar, Unnikrishnan, & Rekha, 2012). Such marked differences within and between countries suggest variations in cultural attitudes, the use of prelacteal feeds as well as their availability and affordability, especially formula milk. Infant formula followed by cow/buffalo milk, were found to be more common prelacteal foods (Bandyopadhyay, 2009; Patel, Banerjee, & Kaletwad, 2013; McKenna, & Shankar, 2009).

An Indian study found that 20.0% of the mothers initiated solid food to their children before they were six months old (Verma, Shah, & Farida, 2006). In Bangladesh, the 2011 Demographic and Health Survey (DHS) reported that 99.0% of children were breastfed but only 47.0% of newborns were put to the breast within an hour of birth and 39.0% received prelacteal feeds. Exclusive breastfeeding is actually quite common during the first month of a child's life. 84.0% of women reported exclusively breastfeeding children at 0–1 month of age. However, the practice of exclusive breastfeeding falls to just 36.0% by the time the child reaches 4–5 months of age (Chaparro, Oot, & Sethuraman, 2014). A study in central Nepal showed that most of the infants initiated breastfeeding within 24 hours (57.0%) and were fed with

colostrum (91.0%). However, it was very common to start herbal drops (*janamghuti*), water and semi-solid porridge as early as from the first two months (Ulak et al., 2012).

Although globally the benefits of breastfeeding are well-known, breastfeeding practice is substantially declining around the world as well as in Asian countries. Formula-feeding culture is increasing with the advancement of commercial industries manufacturing formula milk (Astley, 2014). Many mothers are influenced by the publicity of the formula feeds and choose commercial milk instead of recommended breast milk (UNICEF, 2014). Hence, lately formula feeding has become a common practice among the developed and developing countries (Esterik, 2002). Formula feeding is associated with many challenges for mothers in developing countries. This includes ensuring the feed is mixed with clean water, the dilution is correct, sufficient quantities of formula can continually be acquired and that the cleanliness of feeding utensils and bottles is ensured (UNICEF, 2014). According to the cross-sectional study carried out with 1,612 postpartum mothers in Himeji, Japan, the mean age of infant formula feeding was 2.8 weeks. The study also revealed that 20.0% of postpartum mothers introduced formula feeding within seven days of childbirth, which increases to 80.0% in 14 days after postpartum (Inoue, 2012).

Breastfeeding situation and trends in Nepal. According to WHO, Nepal is ranked amongst the poorest countries in the world. The Human Development Index Report 2014 shows that Nepal is ranked 145 among 187 poorer countries (United Nations Development Programme [UNDP], 2014). One of the recent surveys by UNICEF shows that 39.0% of under five children in Nepal are underweight and 13.0% are malnourished. One of the major factors of malnutrition in Nepal can be attributed to faulty feeding practices (UNICEF Nepal, 2014). Every year 57,000 under five years olds lose their lives among which 54.0 % of deaths occur within the first month of life whereas 22.0% of new born deaths can be prevented through universal coverage of breastfeeding within 1 hour and 16.0% within 24 hours of birth (Edmond et.al., 2006; Mullany et al., 2008; UNICEF Nepal, 2014). On the other hand, a study have analyzed that the risk of neonatal death is fourfold higher in infants who are given formula or solids in addition to the breast milk (Edmond et.al. 2006).

Despite an early initiation of breastfeeding practice among mothers in western Nepal, 73.0% of breastfeeding is within one hour of delivery and 84.0% is within 24 hours of birth respectively (Chandrasekhar et al., 2007). Similarly, another study in central (Bhaktapur) Nepal found that 91.0% of mothers gave colostrum and 57.0% initiated breastfeeding within one hour of delivery and 85.0% of the mothers started breastfeeding after the first day of child birth (Ulak et al., 2012). Another report on Nepalese general mothers' breastfeeding practice show that early initiation rate of breastfeeding within one hour of birth is 45.0%, and breastfeeding at six month is 70% (NDHS, 2011; UNICEF, 2013b). Although exclusive breastfeeding is recommended for six months from birth, in Nepal 10.0% babies less than six months of age are already on food other than breast milk and only 60.0% of them are on breast milk due to a number of problem areas such as late initiation, discarding the colostrum, lack of exclusive breastfeeding and too early or too late introduction of complementary food (Shrivastava et al., 2013). Exclusive breastfeeding practice at six months is more common in rural mothers in comparison to urban mothers (Karkee, Lee, Khanal, & Binns, 2014).

According to a study by Department of Pediatrics, Manipal College of Medical Sciences Pokhara in western Nepal, 12.7% mothers had introduced complementary feed before two months. The complementary food included formula feed (10.4%), cow's milk (71.8%) and sugar water (two mothers). Only 3.4% mothers had introduced more than one complementary feed (Basnet et al., 2012). Another study on the post-delivery follow up revealed that 58 (9.1%) mothers did not feed colostrum to their newborn babies as first feed. Among these mothers, 43 fed formula milk, 8 used breast milk from another woman, 4 used cow/buffalo's milk, 2 gave plain water and 1 gave sugar water. Nevertheless, 573 mothers (89.7%) initiated breastfeeding within four hours and 425 (66.5%) within one hour of giving birth. Sixty-two mothers (9.7%) breastfed after four hours and only 4 women said they were unable to breastfeed (Karkee et al., 2014). It showed that less than fifty percent (43.3%) of mothers had planned to continue breastfeeding till there was enough breast milk but in practice only 35.5% of the mother continued breastfeeding for up to two years. The data showed that mothers living in poorer areas had uncommon practice of bottle feeding. There are no differences in the timing of initial breastfeeding by sex of the child, parity, socioeconomic status and education of the mothers (Basnet et al., 2012).

Even though formula feeding is not yet widespread across Nepal, it is becoming popular in urban areas. It was found that Nepalese urban residents (13.4%) are more likely to introduce prelacteal feeds compared to the rural residents (4.1%). This could be because infant formula is advertised and accessible to urban mothers. The higher rates of prelacteal feeds was found in the western (39.0%) (Khanal & Saur, 2013) and central (17.0%) (Ulak, et al., 2012) parts of Nepal. On the other hand, cow/buffalo milk has become an alternative for infant feeding in Nepal. Rural farmers prefer to sell cow/buffalo milk to the customers in urban area at higher price, which explains the increased likelihood of urban mothers giving prelacteal feeds to their newborns (Basnet et al., 2012).

Results from the previous studies showed that children between the age of 6 – 11 and 12 – 23 months who were not breastfed had 1.8 and 2.0 fold higher risk of mortality respectively when compared to those who were breastfed. Risk of infection-related mortality in 0 – 5 months was higher in partially and no breastfed infants compared to exclusive breastfed infants. The risk was twofold higher in no breastfed children when compared to breastfed children aged 6 – 23 months (Sankar et al., 2015). Similarly, the 2008 Lancet nutrition series article (Black et al., cited in Lamberti et al., 2011) also found a significant increase in risk of all-cause mortality for children between 6 – 23 months who were not breastfed compared to the children who were breastfed. Bottle-fed full-term infants who are appropriate for gestational age have a 3.2 times greater risk of rapid weight gain between the age of 2 and 6 years when compared to breastfed infants (Karaolis-Danckert et al., 2008).

Therefore, prelacteal feeds and premature introduction of complementary feeds are of great concern in this urban population (Chandrasekhar et al., 2007) because child health status depends upon the mothers' knowledge, attitude and practice as mothers are the primary care providers. If we increase the awareness of promotion of health among mothers with children under five, we will be able to succeed in decreasing child's mortality rate (Koirala & Koirala, 2015). However, a study in Nepal indicated that one half of the surveyed mothers could not tell how long a child should be exclusively breast milk and mentioned that less than six months of breastfeed was sufficient (Ulak et al., 2012). There is also a lack of influence from the family on breast-feeding

practice. There is a need for promotion of good breast-feeding practices among expectant mothers and also the community, especially the family, taking into account the local traditions and customs (Chandrasekhar et al., 2007).

In order to promote and protect breastfeeding in Nepal, a National Committee was formed in 1992 and two of the principle activities of the committee were to support the training of health professionals in proper breastfeeding and to identify “baby friendly” hospitals, where ten steps to promote breastfeeding have been put into practice (Shrivastav et al., 2013). Despite all efforts to promote appropriate infant and young child feeding practices, there is still a lot to do. Sub-optimal feeding practices still prevail in many countries. South-Asian women are not a homogenous group and hence differences are visible in their culture and religious practices and the prevalence of breastfeeding practices among them (Shrivastav et al., 2013). A central Nepal study showed that very few Nepalese mothers received any information on breastfeeding during the antenatal visit indicating a need for counseling on exclusive breastfeeding. Possible options for this counseling could be during antenatal visits and at regular clinic visits for vaccination (Ulak et al., 2012).

Types of Breastfeeding Practice and Its Measurement

Types of breastfeeding practice. Breastfeeding practice is the practice of mother in providing her breast milk to infants. It could be modified from WHO definition (WHO, 2002, 2009) and divided into three types as exclusive breastfeeding, partial breastfeeding and no breastfeeding or formula feeding. *Exclusive breastfeeding* refers to the practice of a mother in providing infants only her breast milk. No other liquids or solids are given – not even water – with the exception of oral rehydration solution or drops/syrups of vitamins, minerals or medicines or breast milk. *Partial breastfeeding* refers to the practice of a mother giving a combination of breastfeed and artificial feeds, either milk or cereal or other foods. *No breastfeeding* refers to the practice of mother providing her child with infant formula or non-maternal expressed milk.

Approach of collecting information on Breastfeeding Practice. Measurement of breastfeeding practice is primarily used for comparative purposes and should be consistent with the recommended practice regarding exclusive breastfeeding within six

months' (Hector, 2011). Assuming a particular definition of exclusive breastfeeding, such as that of the WHO, the period over which exclusive breastfeeding is measured and how it is determined in the survey are important in relation to indicator phrasing (Hector, 2011).

Several breastfeeding practice tools have been used to assess women's breastfeeding practices. These tools help to understand mothers' breastfeeding practice in different periods of time. In this discussion, a brief description and the characteristics of these measurement tools will be carried out. Furthermore, it will reveal the differences and benefits of these measuring tools. Finally, the potential clinical relevance of these measuring tools to assist in the decision-making process of practitioners and researchers will be presented. There are two types of breastfeeding practice tools which have been used in the different studies that seem to be appropriate for this study.

First, several researchers have used the retrospective data to measure the breastfeeding practice by recalling their breastfeeding practice experience (Bland et al., 2003; Li, Scanlon, & Serdula, 2005; Popkin, Yamamoto, & Griffin, 1990). One result shows the duration of breastfeeding practice was accurately recalled even years later, but the introduction of other foods and fluids were difficult to recall (Li et al., 2005).

A study (Bland et al., 2003) used a detailed method to compare the duration of exclusive breastfeeding as obtained from a 48-hour recall, and a long term recall from seven to nine months later. Result showed 48 hour recall on EBF status does not accurately reflect feeding practices since birth. Long term recall data on EBF are even more inaccurate (Bland et al., 2003). Long-term recall method commonly employs to determine duration and intensity of breastfeeding practice. It measures and reports on breastfeeding practices questions relating to prior practices involving long-term (longer than seven days) recall. In most population, any longer-term recall indicator will underestimate how much effective exclusive breastfeeding is going on, since a baby leaves the exclusive breastfeeding category as soon as anything else is introduced, even if this was a one-time phenomenon. In reality, many babies may shift back and forth from being exclusively to predominantly to partially breastfed (Popkin et al., 1990).

Second, the boundary point's cut-off enables the reporting of breastfeeding practices at a particular age; containing questions related to longer-term recalled practice (Hector, 2011). Life Table method (types of boundary points cut off) was adopted by Garden, Hector, and Eyeson-Annan (2007) in their analyses because the duration of breastfeeding and age of the child are recorded as an interval (in months) rather than an exact date. In survival analysis (another type of boundary points cut-off), prevalence rates of breastfeeding are usually sourced from survey questions asking the age at which breastfeeding was stopped, and an infant is assumed to have been breastfed for all of the time up until the age of cessation (Garden et al., 2007; Webb, Marks, Lund-Adams, & Abraham, 2001;). The implication of this measurement is if a mother reports that she introduced solids to her infant at six months old and had given the infant nothing other than breast milk until that time then the infant was assumed to have been exclusively breastfed (Hector, 2011).

It shows that boundary points cut-offs is appropriate for this study to identify mothers' breastfeeding practice within six months because it helps to explore three different types of breastfeeding practice groups as it uses particular three different interval period of infants' life to investigate different types of breastfeeding practice.

Influencing Factors on Breastfeeding Practice

There are several maternal and infant factors that are associated with breastfeeding practice. Maternal factors such as age (Blyth et al., 2004; Chung et al., 2006) and education play important roles in breastfeeding practice where adult mothers are more likely to breastfeed than younger mothers, and educated mothers breastfeeding practice is higher than less educated/ uneducated mothers (Aryeetey & Antwi, 2013; UNICEF, 2012). Mothers who have higher level of education are more likely to breastfeed for longer than mothers with lower level of education (McLeod, Pullon, & Cookson, 2002). It explores that maternal education has a correlation with breastfeeding practice (Giashuddin & Kabir, 2003). Mother with higher education status work outside the house which may affect the breastfeeding practice whereas the working mothers' flexible hours have higher breastfeeding rate (Hauck, 2004; Hawkins, Griffiths, & Dezateux, 2007; Shommo & Al-Shubrumi, 2014).

Other important influencing factors for breastfeeding practice are maternal knowledge and attitude towards breastfeeding (Department of Health, Social Services and Public Safety [DHSSPS], 2004; Yimyam & Hanpa, 2014). A Nigerian cross-sectional study conducted among 383 lactating mothers from six months to two years of postpartum period showed that knowledge, attitude and awareness of exclusive breastfeeding may improve breastfeeding practice and promotes mother-baby bonding (Mbada et al., 2013).

In addition, either hospital or home delivery may also influence on breastfeeding practice (Aryeetey & Antwi, 2013; Henry et al., 2010; Patel, Meier, & Engstrom, 2007). Studies showed home delivery mothers have low rate of breastfeeding initiation but early introduction to supplementary feeding compared to hospital delivery mothers (Joel, 2013; Legesse, Demena, Mesfin, & Haile, 2014; Madhu, Chowdary, & Masthi, 2009; NDHS, 2004). However, complication during pregnancy (Chung et al., 2007; Kostraba et al., 1993), labour and postpartum (Nyqvist et al., 2013; Stube, 2009) are also equally important influencing factors on breastfeeding practice either in pregnancy or in labour (Declercq, Labbok, Sakala, & Hara, 2009; Eidelman, Schanler, Johnston, Landers, & Nobles, 2012; Shrivastava et al., 2013). Other factors are health conditions such as increased incidence of retained gestational weight gain; type 2 diabetes in pregnancy causes failure to breastfeed (Stube, 2009) and operative delivery (Baskett, Allen, O'Connell, & Allen, 2006; Liston, Allen, O'Connell, & Jangaard, 2008). Postpartum depression (Corwin, Brownstead, Barton, Heckard, & Morin, 2005) and postpartum hemorrhage (PPH) delay early contact and mother's inability to establish breastfeeding (Chang, 2003; Smith et al., 2012; Thompson et al., 2010).

Infant factors such as illness or complications e.g. acute respiratory infection and diarrhea (Hajeebhoy, Nguyen, Mannava, Nguyen, & Mai, 2014), preterm and low birth weight (Barlow et al., 2008; Maastrup, 2014) and deformities (such as cleft lip & cleft palate, tongue tie, etc.) may also interfere in the initiation and continuation of breastfeeding due to their physical inabilities (AAP, 2005; Amir, James, Kelso, & Moorhead, 2011; Berry, Griffith, & Westcott, 2012; Miranda & Milroy, 2010).

Other socioeconomic and cultural factors such as family support (Amir, & Donath, 2008; Aryeetey & Antwi, 2013; UNICEF, 2012), family's economic status play

significant role in breastfeeding practice and its duration (Aryeetey & Antwi, 2013; Giashuddin & Kabir, 2003; Rasheed, 2007; Sefene, Birhanu, Awoke, & Taye, 2013; Senarath, Dibley, & Agho, 2007; UNICEF, 2012). Wealthy mothers are less likely to breastfeed their infant compared to poor mothers (Henry et al., 2010, UNICEF; 2012; Zafar & Fatmi, 2014). Religions also could have a positive role in breastfeeding initiation and continuation (Al-Sahab et al., 2008; Khattak & Ullah, 2006; Laroia & Sharma, 2006). A study in Singapore revealed that Muslim mothers were more likely to breastfeed their infants compared to mothers from other religions (Foo, Quek, Lim, & Deurenberg-Yap, 2005). A study conducted in Pakistan found that formula feeding was working as a major barrier in breastfeeding initiation and continuation (Zafar & Fatmi, 2014). However, several studies found that socio-demographic factors were also associated with the choice to formula-feed. These include young age, lower education and income of families (Mitchell-Box & Braun, 2013). Another Indian study found that multiparous breastfeeding duration was longer than primiparous mothers (Patil et al., 2009). Early professional support can increase the encouragement of breastfeeding among adolescent mothers (Wambach & Cohen, 2009). This is supported by Dennis that primiparous mothers who participated in an antenatal peer support were more likely to continue breastfeeding with greater exclusivity (Dennis, 2002).

Breastfeeding Practice Among Adolescent Mothers in Nepal

Adolescent Mothers in Nepal

Adolescence is the period of life from puberty to maturity terminating legally at the age of maturity (Merriam-Webster, 2014). Adolescence is further classified into two groups; early adolescence and late adolescence. *Early adolescence* refers to a person between the ages of 10 and 14 years. *Late adolescent* is person between the ages of 15-19 (UNICEF, 2013a). In this study, adolescent mother refers to those mothers who have given birth before 20 years of age.

There are over 600 million girls in the world today; more than 500 million are from developing countries (United Nations Population Fund [UNFPA], 2013). South Asia and Sub-Saharan Africa regions have the greatest proportion of girls aged 15-19 who are married (UNICEF, 2008). About 16 million girls aged 15-19 give birth each

year and complications from pregnancy and child birth are the leading cause of death among newly born infants (UNFPA, 2013). According to United Nations Population Fund (UNFPA, 2012), one out of nine girls in developing countries will be married before the age of 15 (UNFPA, 2012).

Nepal's marriage law specifies 20 years as the legal age for marriage for both sexes (Newar, 2012). However, early marriage among Nepalese girls before the age of 18 years, early pregnancy and motherhood is common and thus a major social and health issues in Nepal. Thousands of Nepalese girls quit their schooling every year as they get married at an early age and thus they miss out on education and better future. Report showed that 41.0% to 52.3% of Nepalese girls marry before or at 18 years (Maharjan et al., 2012; NDHS, 2011). NDHS (2011) reported that 17.0% of girls below 20 years of age had already given birth or were pregnant with their first child.

Adolescent mother's' pregnancy anxiety, concern and indecisiveness on infant breastfeeding and their new roles as parents have been stated to hinder the rise of breastfeeding rates among the general population (Feldman-Winter & Shaikh, 2007). Early birth and reduced rate of breastfeeding practice among young mothers threatens health and well-being of infant and the mothers. Reports have also revealed that in every 4 hours, 11 new-born dies in Nepal and most of these deaths occurred to adolescent mothers (Department of Health Services [DOHS], 2011, 2012). In Nepal approximately 19.1% of neonatal death may be prevented with universal initiation of breastfeeding within first hour of baby delivery (Mullany et al., 2008). The main reasons for early marriage and early motherhood in Nepal are the lack of education, living in deprived areas and illiterate society and ethnicity. Therefore, the study highlighted the need to focus on less educated Nepalese women in order to reduce the reproductive and child health risks associated with early marriage and early childbearing (Choe, Thapa, & Mishra, 2005).

Adolescent is seen as a transition phase towards autonomy and independence where an individual involves in risk taking behaviours and seeks out freedom by way of it (Bernheim, Halfon, & Boutrel, 2013). As a result of this, adolescent perceives restricted freedom to breastfeeding practice which leads to early discontinuation of breastfeeding (DHSSPS, 2004). Several studies have found that breastfeeding practice

among younger mothers is shorter compared to adult mothers (Blyth, 2004; DHSSPS, 2004; Giashuddin & Kabir, 2003). Likewise, a study explored that Nepalese adolescent mothers' breastfeeding practice is lower compared to adult mothers (Aryal, 2007; Khanal et al., 2013) due to less skill, knowledge and confidence in breastfeeding practice compared to adult mothers (Khanal et al., 2013). Despite this, an early initiation of breastfeeding practice among general mothers in Nepal is very high i.e. 73.0% of breastfeeding within one hour of delivery and 84.0% of breastfeeding within 24 hours of delivery (Chandrasekhar et al., 2007), and 78.0% at one month, and 69.6% at six months of postnatal age (NDHS, 2011; Ulak et al., 2012). Although, various studies were conducted to explore the breastfeeding practice among adolescent mothers, there isn't any study conducted about adolescent breastfeeding practice in Nepal. The studies were carried out outside Nepal in different countries. Hence, those studies could not accurately represent results of studies carried out on Nepalese adolescent mothers due to different socio-cultural and socio-economic backgrounds. Studies on breastfeeding practice in Nepal were only conducted among general population (Khanal et al., 2013; NNFSB, 2010; Paudel & Giri, 2014; Shrivastava et al., 2013).

Breastfeeding Practice Among Nepalese Adolescent Mothers

Studies have found that maternal age is one of the most significant factors in breastfeeding practice (Ajibade, Oladeji, Oyedele, Amoo, & Makinde, 2013; Chudasama, Patel, & Kavishwar, 2008; Nadler, 2007). Younger mothers are less likely to initiate and continue breastfeeding compared to their older counterparts (Blyth, 2004; DHSSPS, 2004; Nadler, 2007; Shetty & Shetty, 2013). Adolescent mothers' breastfeeding decision is influenced by several factors. They found that adolescents' embarrassing perceptions regarding public breastfeeding (Dykes, Moran, Burt, Edwards, 2003; Harner & McCarter-Spaulding, 2004; Wambach & Cohen, 2009; Wambach & Cole, 2000), breastfeeding support from their mothers, partners, and friends (Mossman et al., 2008; Wambach & Cole, 2000), an intimate relationship with another teenager (Harner & McCarter-Spaulding, 2004), breastfeeding knowledge (Nelson, 2009; Nelson & Sethi, 2005; Wambach & Cohen, 2009), the practical skills to breastfeed (Hunter, 2008; Spear, 2006), misconceptions about breastfeeding (Wambach & Cole, 2000) significantly affect breastfeeding decisions and outcomes.

An American qualitative prospective study explored the breastfeeding duration of young mothers which are shorter than adult mothers during the early postpartum period due to their unpreparedness towards motherhood and the changes in their life from ongoing multiple roles (Smith et al., 2012). Similarly, another prospective, single-blinded study in maternity ward in an Indian hospital revealed that mothers with higher age have higher breastfeeding rate and longer breastfeeding duration compared to younger mothers (Narayan, Natarajan, & Bawa, 2005). Another study from Bangladesh revealed that younger mothers' breastfeed their babies for shorter period compared to adult mothers (Giashuddin & Kabir, 2003; Haque et al., 2002). Moreover, a study in Nepal supported that maternal age is directly associated with breastfeeding practice (Shrivastava et al., 2013). The study showed that compared to adult mothers, rate of early initiation breastfeeding among young mothers was lower and introduction of supplement feeding was higher (Aryal, 2007; Khanal et al., 2013).

Each period of human development brings new challenges to cope with efficacy. As adolescent approaches and increases the demands of adulthood, the mothers must learn to assume full responsibility and learn to master many new skills to adjust in a society (Bandura, 1994). Breastfeeding is not simply a technical task but rather an important part of the transition to motherhood (Marshall, Godfrey, & Renfrew, 2007) with a mother's breastfeeding decisions best understood and supported in relation to the circumstances of her life, her immediate socio-cultural context and her individual experience (Sheehan, Schmied, & Barclay, 2010). Becoming an adolescent mother requires new adaptations, interpersonal and intra-psychic readjustment to provide care to the fragile and dependent child which, for the adolescent, can become a more complex process when they do not obtain the appropriate support in their relational environment (Monte & Giugliani, 2004). As a result, discontinuation of breastfeeding practice is higher among these groups compared to adult mothers (Giashuddin & Kabir, 2003; Santo et al., 2007). Young mothers have several difficulties in breastfeeding such as least social support, (Kyrus, Valentine, & DeFranco, 2013), loss of independency (Nakano, Reis, Pereira, & Gomes, 2007), feeling watched and judged, tiredness, discomfort, sharing accountability (Dykes et al., 2003) and mother's own perception to breastfeed (Kyrus et al., 2013).

Studies have shown that adolescent mothers lack confidence due to less knowledge, experience and support (Dykes et al., 2003; Webb & Sheeran 2006). In addition, studies have found that adolescent mothers exposed to breastfeeding role models were more likely to choose breastfeeding when faced with the decision on how to feed (Harner & McCarter-Spaulding 2004; Wambach & Cole, 2000).

An American study found that the first-time young mother's knowledge on breastfeeding positively influenced her attitude on breastfeeding (Adewale, 2006; Moore & Coty, 2005). A study carried out in Kenya suggested that adolescent mothers have shorter duration of exclusive breastfeeding practice due to less life experiences with regards to knowledge and practice (Naanyu, 2008).

Studies suggested that influencing factors among adolescent mothers on breastfeeding are mothers' knowledge on breastfeeding practices and benefit, physical demands of breastfeeding (Nesbitt et al., 2012), mothers' perceived sense of comfort in breastfeeding (Hall & Hauck, 2007; Nesbitt et al., 2012), lack of confidence, sharing accountability, and physiological factors (such as engorgement, nipples sore, flat or inverted nipples, blocked ducts and breast infections) (Nesbitt et al., 2012; Wambach et al., 2011). It was also found that impact of social and intimate relationships with partner and family member's influenced the breastfeeding decision (Barry & Bernaix, 2004; Nesbitt et al., 2012).

A study from Nepal among general mothers found several influencing factors among Nepalese women in breastfeeding practice including mothers' personal factors such as age, educational level, employment and child birth spacing. Compared to adult mothers, Nepalese young mothers are most likely to decline on breastfeeding early and encourage early introduction of prelacteal feeding. As a result, young mothers' early discontinuation of breastfeeding has substantial effects on child growth and development (Aryal, 2007; Khanal et al., 2013).

Another study conducted in the eastern part of Nepal to investigate breastfeeding initiation and continuation in relation to socio-demographic factors showed that 60.0% of infants were breastfed within one hour of birth and 90.0% within the first days of delivery but rapid decline in breastfeeding practice were seen with infant's age (78.6%

at 1 month, 37.3% at 1-3 months, 35.4% at 3-6 months) (Shrivastava et al., 2013). In addition, another study revealed that more than one third of the mothers did not know the duration of exclusive breastfeeding and only one fifth mothers said the new-born should be exclusively breastfed for less than 6 months (NNFSB, 2010). Another study showed 74.0% of general Nepalese mothers received information regarding breastfeeding during the antenatal period and 81.0% of mothers were encouraged to breastfeed by health personnel or family members (Karkee, Lee, Khanal, & Binns, 2014). Maternal attitudes towards breastfeeding also influences breastfeeding practice (Wheeler & Dennis, 2012). To continue breastfeeding mother needs to know the skills and benefits of breastfeeding so they can feed their infants in the correct way. She also needs to know the technique of breastfeeding for successful breastfeeding initiation. Mothers' knowledge and self-efficacy were identified as important factors in influencing infant feeding choice (Kong & Lee, 2004). In their study (Mossman et al., 2008), lower level of breastfeeding confidence during early postpartum period was found to be the significant factor in premature termination of breastfeeding among mothers compared to confident mothers. This study indicates that young mothers' breastfeeding practice rely on levels of confidence and whether the mother had previously breastfed. The level of self-efficacy could be improved among breastfeeding mothers by teaching breastfeeding in similar to the culture or tradition they value the most (Wang, 2012; Webb & Sheeran 2006). However, there isn't any study carried out on breastfeeding practice among adolescent mothers in Nepal and its influencing factors, especially the influence of breastfeeding self-efficacy on different types of breastfeeding practice.

Breastfeeding Self-Efficacy

Self-Efficacy Theory and Definition of Breastfeeding Self-Efficacy

According to Bandura's *self-efficacy theory*, it is the extent to which people believe they are capable of performing specific behaviors in order to attain certain goals. He describes these beliefs are determinants of how people think, behave, and feel (Bandura, 1977). Individuals do not simply respond to environmental influences but rather they actively seek and interpret information (Nevid, 2009). According to Bandura (1994), individuals function as contributors to their own motivation, behavior and

development within a network of reciprocally interacting influences which includes cognitive, motivational, effective, and selection processes.

In 1970s-1990s, maternal self-efficacy, which applied a concept of Bandura (O'Campo, Faden, Gielen, & Wang, 1992) has increasingly shown to play a significant role in breastfeeding practice (O'Campo et al., 1992). Breastfeeding self-efficacy concept and corresponding breastfeeding self-efficacy scale is based on Bandura social cognitive theory (Bandura, 1977). *Breastfeeding self-efficacy* is defined as mothers' confidence in her ability to breastfeed her infant and it predicts: 1) whether a mother chooses to breastfeed or not; 2) how much effort she will expend on it; 3) whether she will have self-enhancing or self-defeating thought patterns; and 4) how will she emotionally respond to breastfeeding difficulties. Breastfeeding self-efficacy is influenced by four main sources of information: 1) performance accomplishments (such as past breastfeeding experiences); 2) vicarious experiences (such as watching other women breastfeed); 3) verbal persuasion (encouragement from influential others such as friends, family members and lactation consultants); and 4) physiological responses (such as fatigue, stress, anxiety). It is hypothesized that health professionals may enhance a mother's breastfeeding confidence by altering these sources of self-efficacy information (Dennis, 1999a). It influences her efforts, her thought processes and how she will respond to breastfeeding. Mothers' belief have a strong effect on breastfeeding practice. Not only must breastfeeding mothers have to believe that the recommended breastfeeding strategies are effective, but also she must believe in her own capability of implementing those strategies (Dennis, 1999b).

Measurement of Breastfeeding Self-Efficacy

Varieties of self-report questionnaires are being used to assess women's breastfeeding self-efficacy. Each of these self-report tools contributes to the understanding of the breastfeeding experience among mothers in different ways. In this discussion, a brief description of the characteristics of these self-report tools and the results of the research studies using these self-report tools will be provided. Furthermore, it will reveal the differences and similarities among these tools. Finally, the potential clinical relevance of these self-report tools to facilitate the decision-making

process of practitioners and researchers will be presented. There are two self-report breastfeeding tools that seem to be popular to assess maternal self-efficacy.

First instrument, Breastfeeding Personal Efficacy Beliefs Inventory (BPEBI) was developed by Cleveland and McCrone (2005) to measure the confidence of women in initiation and duration of breastfeeding in the first postnatal year. It is composed of 27 items. The range of score is based on how much confidence the women have in breastfeeding as a percentage categorized into three groups of 0%, 50%, and 100% for each item. Adequate content, construct and predictive validity were examined among 479 university student. Reliability and validity were also acceptable for this tool which was 0.92 (internal consistency). However, the BPEBI was tested in only one study with university students. Therefore, this self-report tool needs to be further tested in a different breastfeeding experiences and ethnic groups for effective clinical use.

Second instrument, the Breastfeeding Self-Efficacy Scale (BSES) which was originally based on Bandura's concept of self-efficacy theory (1977) by Dennis and Faux (1999a) to measure primiparous mothers' perceived ability to breastfeed her baby. This instrument has been used in several studies. However, after the original research, Dennis (2003) reworked the original BSES into BSES-Short Form (BSES-SF). It has 14 items (reduced from 33 items) questionnaire making the BSES easier to administer and score with a possible range from 14-70. All items are preceded by the phrase "I can always" and anchored with a 5-point Likert-type scale where 1 indicates not at all confident and 5 indicates always confident. The BSES and BSES-SF could be administered either prenatal or postnatal period (Dennis, 2003). Over the repeated tests and retest in the different population, including antenatal women, postnatal adult and adolescent mothers the overall validity and reliability of BSES-SF were consistent and acceptable i.e. 0.94. BSES- SF is translated into nine different languages considering its cross cultural values which may provide its acceptable validity and reliability.

A study conducted in Japan to investigate breastfeeding self-efficacy among four weeks postnatal mothers showed maternal confidence played a significant role in breastfeeding practice (Otsuka et al., 2014). Similarly, another study suggested mothers with low breastfeeding self-efficacy score were more likely to use infant formula within four weeks (Awano & Shimada, 2010). Another study reports stated that 27.0% of

women with low maternal self-efficacy in the prenatal period to have discontinued breastfeeding within the first postpartum week compared to only 5.0% of mothers with higher perceived self-efficacy. The results highlight less formula supplementation usage by mothers with high self-efficacy, less complaint of nipple trauma or wound pain and longer length of breastfeeding. This study builds a positive association between maternal self-efficacy and the duration of breastfeeding (Blyth, 2004; Dunn, Davies, McClearly, Edwards, & Gaboury, 2006; Gregory, Morrison, Dennis, & McArthur, 2008).

It proves that BSES-SF is an excellent instrument to identify mothers with low confidence that are at high risk to discontinue breastfeeding and the author found that the BSES-SF was positively associated with mothers' self-esteem (Wutke & Dennis, 2006). Several studies assessed construct validity and found women with breastfeeding experience had significantly higher BSES-SF scores than women with no previous breastfeeding experience (Gregory et al., 2008; McCarter-Spaulding & Dennis, 2010; Wutke & Dennis, 2006). In addition, BSES-SF has already been tested by Mossman et al. (2008) in 100 adolescent mothers to investigate their breastfeeding attitude and confidence. A positive correlation in breastfeeding practice and breastfeeding self-efficacy was found through this refinement process, the BSES-SF has even greater clinical utility in any population group due to its ease in administration.

Breastfeeding Self-Efficacy and Breastfeeding Practice

Many studies in several countries have found that breastfeeding self-efficacy is an important influencing factor for breastfeeding practice (Dodt, Ximenes, Almeida, Oriá, & Dennis, 2012; NNFSB, 2010; Otsuka et al., 2013; Smith et al., 2012). Supporting above statement, a study concluded that mothers with lower breastfeeding self-efficacy were at risk of discontinuing breastfeeding (Ertem et al., 2008). Mothers' breastfeeding practice also depends on her previous experience of infant feeding which is based on performance outcomes theory of Bandura. This can be a strong influence in deciding whether to breastfeed or not that suggested mothers who experienced breastfeeding difficulties with their previous baby gave up breastfeeding earlier than mothers who did not experience difficulties (Ingram, Wooldridge, & Greenwood, 2001).

Several literatures have supported mothers' breastfeeding self-efficacy as a major determining factor in breastfeeding practice among mothers (Britton, McCormick, Renfrew, Wade, & King, 2007; Dennis, 2002; Pollard & Gill, 2009). A study was conducted in California, USA, in which mothers were asked to write specific breastfeeding goals and to evaluate their goals. Result showed that their breastfeeding attitude increased due to their own involvement in breastfeeding decision making (Betzold, Laughlin, & Shi, 2007). However, a study in Nepal found that younger mothers' breastfeeding ability is lower due to less skill, knowledge and confidence in breastfeeding practice compared to adult mothers (Khanal et al., 2013). Therefore, breastfeeding self-efficacy is equally important among adolescent mother (Blyth et al., 2002; Mossman et al., 2008).

Furthermore, recently breastfeeding self-efficacy was highlighted as an important factor to improve breastfeeding duration (Meedya, Fahy, & Kable, 2010) and has a positive and consistent relation with breastfeeding self-efficacy and breast feeding practice in various cultures and age groups (Blyth et al., 2002; Otsuka et al., 2013). Several studies were conducted to examine the relationship between breastfeeding self-efficacy and breastfeeding practices, in which a study conducted using breastfeeding self-efficacy scale-short form (BSES-SF) questionnaire (Dennis, 1999a) among 70 mothers in south-eastern North Carolina to measure relationship between breastfeeding self-efficacy and breastfeeding duration found that mothers with higher breastfeeding duration scored higher breastfeeding self-efficacy score (Pollard & Guill, 2009). Similarly, study in China showed higher level of breastfeeding self-efficacy associated with increased breastfeeding practice among mothers (Wu, Jie, McCoy, & Efird, 2013). Another study conducted among breastfeeding practicing adolescent mothers in Yogyakarta (Indonesia) using BSES-SF (1999) showed similar result including social support as a potential influencing factor on breastfeeding duration (Handayani, Kosnin, & Jiar, 2010). A recent study conducted in hospitalized Japanese mothers indicated that higher breastfeeding self-efficacy enhances mother's breastfeeding rate and duration (Otsuka et al., 2014). Hence, addressing information on breastfeeding practice and breastfeeding self-efficacy should be a priority among postnatal mothers, in order to positively influence them to breastfeed (Chertok, Luo, Culp, & Mullett, 2011; DiGirolamo, Thompson, Martorell, Fein, & Grummer-Strawn, 2005; Saunders-Goldson

& Edwards, 2004), and a commitment to breastfeed was needed to overcome a lack of knowledge in breastfeeding practice (Avery, Zimmermann, Underwood, & Magnus, 2009). Feldman-Winter and Shaikh (2007) found that education about the health benefits of breastfeeding may help adolescents to make a commitment to breastfeeding. These results provide evidence that self-efficacy is an important variable and that interventions based on self-efficacy theory can enhance breastfeeding outcomes.

Breastfeeding self-efficacy is a substantial predictor of breastfeeding duration and exclusivity (Blyth et al., 2002; Nichols, Schutte, Brown, Dennis, & Price, 2009). Breastfeeding Self-Efficacy Scale (BSES) is an assessment tool to identify mothers at risk and individualize confidence building strategies (Baghurst et al., 2009; Dennis, 2003; Gregory et al., 2008). Eventhough, there are several studies conducted to investigate the breastfeeding practice and breastfeeding self-efficacy among adolescent mothers, those studies have been carried out in different countries where the socio-cultural factors and population perceptions are very different to Nepal. Hence, those studies could not truly represent the studies carried out amongst Nepalese adolescent mothers.

Conceptual Framework

The conceptual framework of this study is based on Bandura's self-efficacy theory (1977) and literature review. According to Bandura, human behavior is predicted by overall self-efficacy of an individual. Thus, breastfeeding practice which is a specific behavior of mothers can be determined by mothers' breastfeeding self-efficacy. Breastfeeding self-efficacy is defined as a mothers' confidence in her ability to breastfeed her baby. Based on Bandura's theory and the reviewed literature, it could be hypothesized that Nepalese adolescent mothers with higher breastfeeding self-efficacy are more likely to exclusively breastfeed their infants compared to those with lower breastfeeding self-efficacy.