FACTORS INFLUENCING EXCLUSIVE BREASTFEEDING FOR THE FIRST SIX MONTHS AMONG INFANTS AGED 0-12 MONTHS IN MALE' CITY, MALDIVES

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ABSTRACT

Exclusive breastfeeding for the first six months of life is globally acknowledged as the most effective intervention for the child survival. However only 48% were exclusively breastfed for the first 6 months in Maldives despite the efforts. The main objective of this study was to determine the factors influencing exclusive breastfeeding duration among mothers of infant's aged 0-12 months old attending Dhamanaveshi in Male'.

This study is a cross-sectional analytical study and used random sample of 140 eligible mothers.

Results revealed that the exclusive breastfeeding rate was 41.4% since birth up to 6 months, and was 58% when measured using 24-hour recall method. A logistic regression analysis indicated significant positive relationship between exclusive breastfeeding duration and education (p= 0.009) and knowledge (p=0.0001). The attitude, subjective norm and perceived control and intention towards exclusive breastfeeding was significantly associated and perceived control and duration were greatly associated (p=0.0001).

Knowledge, Attitude, Subjective norm, perceived behavior control and intention are the strong predictors for exclusive breastfeeding duration and therefore, should provide mothers enough breastfeeding knowledge and encourage new mothers' positive breastfeeding attitude, educate mothers' referents, and strengthen their breastfeeding control.

Keywords: Exclusive Breastfeeding/Breastfeeding/Factors/Influencing/Duration

DECLERATION

Name: Aminath Abdullah Nasir

Student Number: 000011000

I hereby declare that this project is the result of my own work, except for quotations and summaries which have been duly acknowledged.

Signature: Date: 5th November

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CHAPTER 1

INTRODUCTION

This chapter describes the global states of breastfeeding, state of maternal, and child health in the Maldives, Status of Maldives breastfeeding, the purpose, and objectives of the study and the significance of the study.

1.1. Background to the study

Exclusive breastfeeding for the first six months of life is globally accepted as the most effective preventive intervention for the child morbidity and mortality (World Health Organization (WHO), 2015). This intervention alone can reduce childhood mortality by up to 13% (WHO, 2003, p. 3) and has the potential of preventing more than one million infant deaths occurred per year in developing countries (Johnston, Landers, Noble, Szucs &Viehmann, 2012). The lancet 2013 (as cited in United Nation Children's Fund

(UNICEF), 2014), stated that in the developing world, 800,000 deaths in children under-five could be prevented with breastfeeding. Consequently, WHO and UNICEF (1990) have recommended that all mothers should breastfeed their infants exclusively for the first six months and continue breastfeeding for up to two years or beyond with nutritionally adequate and safe complementary feeding after six months of life in order to meet the evolving need of the growing infant.

Breastfeeding has been recommended and also promoted by several prominent organizations of health professionals (U.S. Department of Health and Human Services, 2011).

The religion of Islam strongly encourages breastfeeding, as it is evident from the following ayah (verse) of the Holly Quran, in which ALLAH, Subhanahu WA ta'ala recommends the mother to suckle her offspring for two years if possible.

“The mothers shall suckle their offspring for two whole years, (that is) for those (parents) who desire to complete the term of suckling” (AlBaqarah: 233).

1.1.1. Global Status of Exclusive Breastfeeding

Globally, it is estimated that the rate of exclusive breastfeeding is 38% in 2000 and 41% in 2012 (UNICEF, 2014). Different regions in the world have reported increase of EBF, from 18% (2000) to 23% in West and Central Africa, from 31% (2000) to 36% (2012) in Latin America and Caribbean, East Asia and Pacific (excluding China) 35% (2000) to 37%

(2012), South Asia 47%(2000) to 49% (2012) and in Eastern and Southern Africa 45% (2000) to 52% (2012) (Figure 1.1).

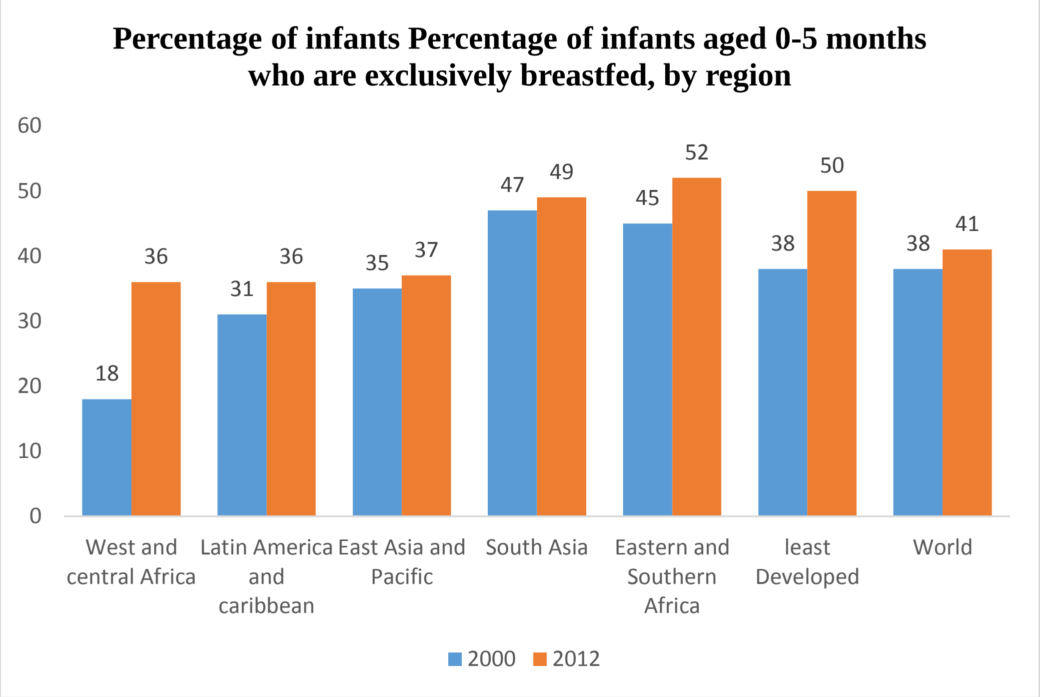


Figure 1. 1. **Percentage of infants aged 0-5 months who are exclusively breastfed by region**

Source: Adapted from UNICEF, (2014, p.14)

1.1.1 Child Health Status in Maldives

The Millennium Development Goal (MDG) target of reducing child mortality has already been achieved in Maldives, which is to reduce Under-Five Mortality to16 per 1000 live births by the end of 2015 (Ministry of Health, 2013).

Maldives also has made significant progression on reduction of Infant and Child Mortality Rates during the 1980s and 1990s. Under-Five Mortality Rate stayed at 48 per 1000 live births in 1990, while Infant Mortality Rate (IMR) stayed at 34 per 1000 live births. In 2012, under-5 mortality rate was 11 per 1000 live births and infant mortality rate was 9 per 1000 live births (Ministry of Health and Gender, 2014). To sustain these rates, strategies need to be further designed and strengthened (Figure 1.2).

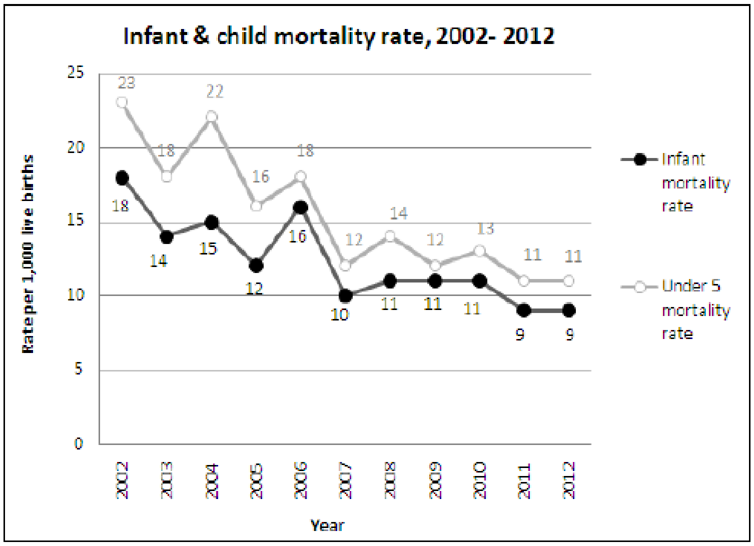
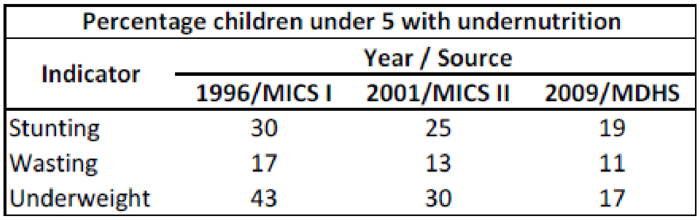


Figure 1. 2. Infant and child mortality rate, 2002-2012

Source: Vital Registration System, Ministry of Health, 2013

Despite the progress in many areas of health, malnutrition among children continues to be an area of public health concern (Ministry of Health and Gender, 2014). Previous surveys have shown that percentage of children under-5 years who were underweight had gradually declined from 43% in 1996 to 17.3% in 2009. Similarly, stunting declined from 30% in 1996 to 18.9 % in 2009, while, wasting declined from 17% in 1996 to 10.6 % in 2009 (Table 1.1).

Table 1.1: Percentage Children under 5 with undernutrition



Percentage children under 5 with undernutrition			
Indicator	Year / Source		
	1996/MICS I	2001/MICS II	2009/MDHS
Stunting	30	25	19
Wasting	17	13	11
Underweight	43	30	17

Source: Maldives Health Profile 2014, Ministry of Health, &Gender**,** 2014

1.1.2 Exclusive Breastfeeding status in Maldives

The MDHS survey, 2009, shows that 48% were exclusively breastfed up to six months of age. However, the multiple Indicator cluster Survey conducted in 2001, showed only 10% were breastfed exclusively for the first six months. This improvement has resulted due to the promotional and educational activities created through Baby Friendly Hospital Initiatives (BFHI). It is evident that most mother's breastfed exclusively up to the age of four months, which falls subsequently with the age (Ministry of Health, 2009).

In response to the global recommendation, Maldives has implemented worldwide programmes such as BFHI in every hospital in each atoll of the Maldives, including Indhira Ghandhi Memorial Hospital in Male'. Furthermore, an ongoing training programmes for health workers on infant and young child feeding counseling skills are conducted. Additionally, Maldives has implemented the regulation of Import, Produce, and Sale of Breast Milk Substitutes in the Maldives (Health Protection Agency, 2015).

Moreover, for the employees of civil servants, maternity leave sixty (60) days after delivery is given under the Employment Act (Employment Act, 2008). Upon the completion of the maternity leave, employee is entitled to two hours break daily until the child is one year of age to attend to the needs of the child with no deductions from the salary (Employment Act, 2008). This flexibility in the working environment, provide mothers an opportunity to breastfeed exclusively, as breast milk can be expressed and stored which could later be given to the baby by a family member in the absence of the mother. However, previous studies had found that 69% mothers cited as the reason for discontinuing exclusive breastfeeding was that they had to go to work or study (Abdulraheem and Binns, 2007).

1.1.3 Problem Statement

In Maldives, although child malnutrition has improved gradually over the years, it remains still high and is a public health issue (MDHS, 2009). Around, three in four infants received complementary foods or water by the age of 4-5 months (Ministry of Health and Family, ICF macro, 2010). Despite the known benefits, recommendations and efforts at nation and international level, exclusive breastfeeding rate for the first six months of life (48%) remains low in the country due to various factors (DHS, 2009).

Globally, it was estimated that, approximately 10% of the disease burden in children under the age of 5, which was 1.4 million child deaths and 44 million DALYs (Disability Adjusted Life Years) lost, is attributable to precisely non-exclusive breastfeeding in the first six months of life (Black, Allen, Bhutta, Cavlfield, Onis, Ezzathi, Mathers and Rivera, 2008).

It is scientifically proven that there is a strong association between breastfeeding and better health during childhood and later in life. However, less than half of the world's newborns benefit from early initiation of breastfeeding and even fewer are exclusively breastfed for the first six months of life (UNICEF, 2015).

An in-depth understanding of the factors influencing exclusive breastfeeding is, therefore, essential to address the early introduction of complementary foods and discontinuation of exclusive breastfeeding before 6 months of life.

1.1.4 Objectives of study

1.1.4.1 General Objective

To explore exclusive breastfeeding practices and examine the factors influencing exclusive breastfeeding practices among infants aged 0-12 months attending Dhamanaveshi in Male' City.

1.1.4.2 Specific Objectives

1. To explore the maternal factors, contextual factors, intention, attitude, subjective norm and perceived control that are involved in influencing breastfeeding intention to breastfeed exclusively for the first six months of life among mothers of infants aged 0-12 months attending Dhamanaveshi in Male' City.
2. To determine the exclusive breastfeeding practices and delivery experiences among mothers of infants aged 0-12 months attending Dhamanaveshi in Male' City.
3. To determine the prevalence of exclusively breastfeed duration among infants aged 0-12 months attending Dhamanaveshi in Male' City.
4. To measure the factors associated with exclusive breastfeeding duration for the first six months of infant's life among infants aged 0-12 months attending Dhamanaveshi in Male' City.

1.1.5 Hypothesis

1.1.5.1 Null Hypothesis

There is no relationship between the duration of exclusive breastfeeding and mothers' with more positive intention, more positive breastfeeding attitude, more supportive subjective norm, and higher level of breastfeeding control.

1.1.6.2 Alternative Hypothesis

There is a relationship between the duration of exclusive breastfeeding and mothers' with more positive intention, more positive breastfeeding attitude, more supportive subjective norm, and higher level of breastfeeding control.

1.1.6 Significance of the study

This study provides an updated information on current prevalence of exclusive breastfeeding rate for the first six months in Male' and specifically generate information on the factors influencing exclusive breastfeeding practices. The findings of this study would be useful for the Ministry of Health and other organizations concerned with infant and young child feeding in developing appropriate interventions to improve the practice of exclusive breastfeeding in Male' and other similar circumstances. Additionally, the findings of this study would also be beneficial as a contribution to the ongoing research efforts on exclusive breastfeeding and child survival.

1.1.7 Scope of the study

This study was to explore the factors associated with exclusive breastfeeding practices among mothers of infant’s age less than six months attending Dhamanaveshi, which is a growth monitoring and immunization center in Male’. The findings from this study can be generalized to the whole country, as the sample population is representative of the whole population in the country.

1.1.8 Definition of Terms

Colostrum: Colostrum is the first fluid that comes from the breast immediately after birth. It is yellowish in color and rich in protein and anti-bodies. It is often described as the first form of ‘immunization’ for a new born child.

Exclusive breastfeeding: refers to when infants are not given any other food or liquid including water during the first six months of infant’s life.

Postpartum: the immediate period after child birth especially the first 6 weeks.

Prelacteal feeds: Prelacteal feeds are fluids given to newborns before breastfeeding is initiated. This includes honey, grip water, dates etc.

Complementary feeding: Refers to feeding a child with foods in addition to breast

Milk.

Pre-lacteal foods: Refers to non-breast milk feeds given before the initiation of breastfeeding.

Attitude toward behavior: an individual's positive or negative evaluation of self-performance of the particular behavior. It is determined by the total set of accessible behavioral beliefs associating the behavior to various outcomes and other attributes.

Subjective norm: an individual's perception of social normative pressures, or relevant others' beliefs that he or she should or should not perform such behavior.

Perceived behavioral control: an individual's perceived ease or difficulty of performing the particular behavior (Ajzen, 1991). It is assumed that perceived behavioral control is determined by the total set of accessible control beliefs. The concept of perceived behavioral control is conceptually related to self-efficacy.

Behavioral intention: an indication of an individual's readiness to perform a given behavior. It is based on attitude toward the behavior, subjective norm, and perceived behavioral control, with each predictor weighted for its importance in relation to the behavior and population of interest.

Behavior: an individual's observable response in a given situation with respect to a given target. According to Ajzen, (1991) a behavior is a function of compatible intentions and perceptions of behavioral control and perceived control is expected to have a moderate effect on behavior, such that a favorable intention produces the behavior only when perceived behavioral control is strong.

CHAPTER 2

LITERATURE REVIEW

INTRODUCTION

This chapter comprises of the theoretical framework and a conceptual framework which describes the dependent and independent variables of the study. This chapter reviews various studies conducted in the area of breastfeeding benefits and documented factors which have been seen to influence exclusive breastfeeding behavior.

2.1 Theoretical Framework

2.1.1. Theory Planned Behavior

The conceptual framework of the study was developed based on the Theory of Planned Behavior (TPB) (Ajzen, 1991) and the evidence-based findings of previous studies. Theory Planned Behavior is a widely used well-authenticated behavioral decision-making model, which was initially developed by Ajzen in 1988 (Ajzen, 2011). The TPB is an expansion of the Theory of Reasoned Action (TRA), which was developed to fill the gap in the TRA initially by Fishbein and Ajzen in 1975 and Ajzen and Fishbein in 1980 (as cited in Ajzen, 1991).

According to the theory proposed by Ajzen, individual's behavior is best predicted by an individual's intention to perform a particular behavior (Ajzen, 1991), which is exclusive breastfeeding in this study. Intentions are predicted by individual's attitude towards engaging in the behavior, the subject norms (a person's perception of importance on other's beliefs that he or she should or should not perform the behavior), encasing the accomplishment of the behavior, and the individual's perception of their control over the behavior (Ajzen, 2006).

In this study, a person's attitude toward exclusive breastfeeding is a consequence of individual's positive and negative evaluation of exclusive breastfeeding. The subjective norms are the result of an individual’s perception of normative belief on exclusive breastfeeding and inspiration to act upon with those beliefs about exclusive breastfeeding. The last factor, breastfeeding control refers to belief of women on how capable she is to control exclusive breastfeeding (Wan, Tiansawad, Yimyam & Sriaporn, 2015).

Furthermore, based on the previous studies, other factors such as, socio- demographic factors, maternal factors, contextual factors could predict exclusive breastfeeding practices for the first six months.

2.1.1.1 Conceptual Framework for this study

Independent Variables **Dependent Variable**

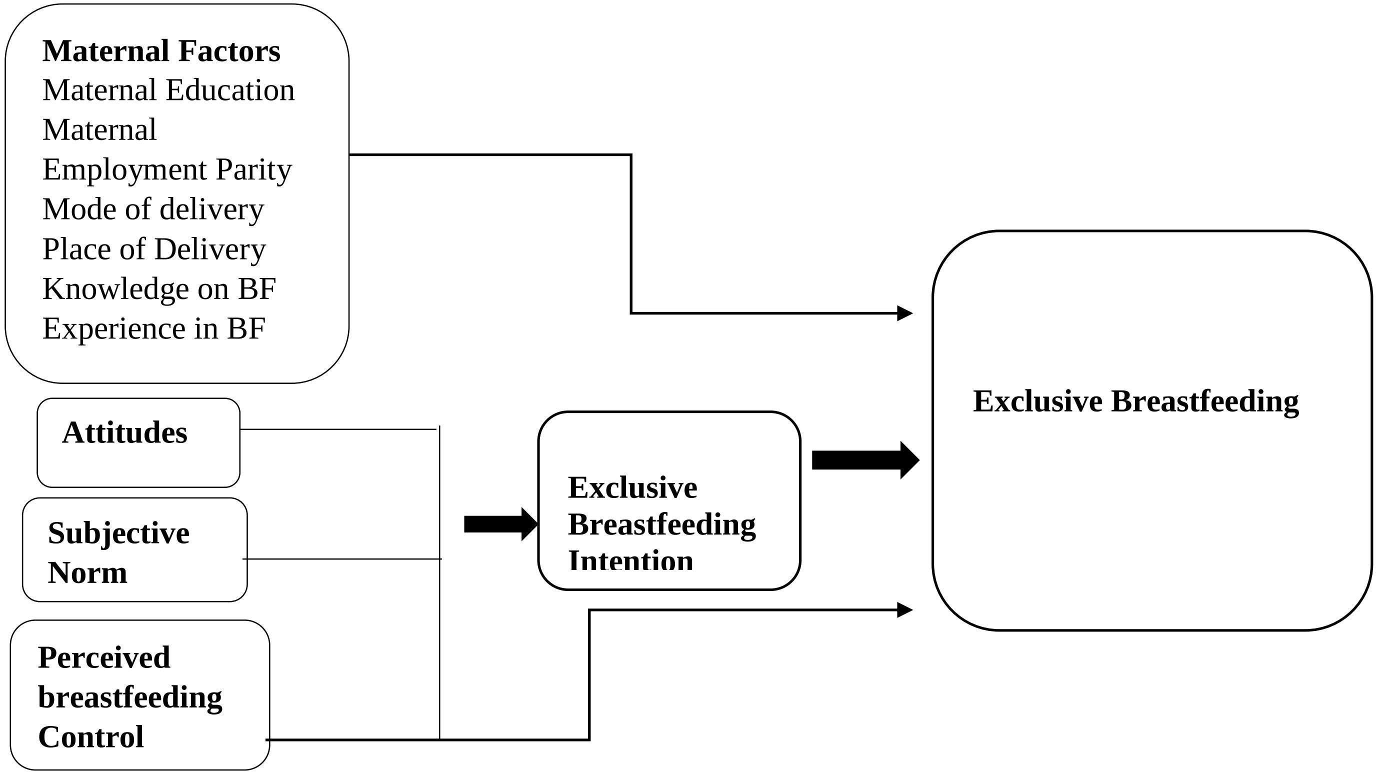


Figure 2. 2.Conceptual Framewor

2.2 Previous Studies

2.2.1 Health Benefits of Exclusive Breastfeeding

Exclusive breastfeeding for the first six months of an infant's life confers short- and long-term benefits for both the infant and the mother. Several studies have demonstrated that breast milk provides the ideal combination of food and nutrients for the first six months.

2.2.1.1 For Infants

Exclusive breastfeeding for the first six months of an infant's life confers short- and long-term benefits for both the infant and the mother. Several studies have demonstrated that breast milk provides the ideal combination of food and nutrients for the first six months.

2.2.1.2 For Mothers

Similarly, breastfeeding benefits for mothers as well, including delaying of maternal amenorrhea, particularly if exclusively breastfed for the infant (Kramer&Kakumer, 2001, p. 11). The benefits also include, more rapid uterine involution attributable to increase in concentrations of oxytocin, possibly decreased risk of hip fractures and osteoporosis in the postmenopausal period (Natland, Nilsen, Midthjell, Anderson & Forsmo, 2012) and lactation enhances weight loss if breastfed exclusively for six months (Dewey, Heinig & Nommesen, 1993).

Additionally, a mother, without a history of gestational diabetes, breastfeeding duration was associated with a decreased risk of type 2 diabetes mellitus; for each year of breastfeeding, there was a decreased risk of 4% to 12%. Furthermore, women with a cumulative lactation history of 12 to 23 months had a significant reduction in hypertension, hyperlipidemia, cardiovascular disease and diabetes, reduction in both breast (primarily premenopausal) and ovarian cancer (Eidelman & Schanler, 2012, p. 831).

Additionally, Godfrey and Lawrence (2010) documented further benefits including hormonal changes that result in an attenuated stress response that may reduce postpartum depression.

2.2.2 Factors influencing exclusive breastfeeding

Factors such as socio economic and demographic, maternal factors and contextual factors that are likely to influence exclusive breastfeeding practices were reviewed.

2.2.2.1 Maternal Factors

There is evidence showing that maternal factors such as education, employment, parity, mode of delivery, place of delivery, knowledge, and experience influence the duration of exclusive breastfeeding.

2.2.2.1.1 Socio-Demographic Characteristics

The major socio-demographic factors that affect breastfeeding practices include age, marital status; education and employment. However, as age and marital status are non-modifiable factors, their association with the duration of exclusive breastfeeding was not measured in this study.

2.2.2.1.2 Maternal Education

Higher maternal education has a positive effect on exclusive breastfeeding duration and practices (Uchendu, Ikefuna & Emodi, 2009; Ku & Chow, 2010; Onah, Osuorah, Ebenebe, Ezechukwu, Ekwochi, Ndukwu, 2014). Similarly, A study conducted by Jessri, Farmer, Maximova, Willows, Bell & APrON study team (2013) found that post-graduate degrees were 3.76 times (95% CI = 1.30-10.92) more likely to exclusively breastfeed to six months than women who did not have university education (p = 0.015). Similar findings were observed by S.A. Agampodi, T.C. Agampodi & Silva (2009).

In contrast, some studies showed that higher maternal education lower exclusive breastfeeding rate (Alemayehu, Haidar & Habte, 2009). A study conducted by Sefene, Birhanu, Awoke and Taye (2013) found that mothers who were illiterate or completed primary education were three times more likely to exclusively breastfeed than mothers completed secondary education (AOR= 2.99, 95% CI,1.47- 6.07). Furthermore, a study conducted by Bbaale (2014) revealed that Mothers with post-secondary education increased the risk of early termination of breastfeeding by 32% ($p<0.1$) compared to counterparts with no education.

There are other studies (Al Juaid, Binns & Giglia, 2014), which suggests the factors associated with high prevalence of breastfeeding and longer duration includes low educational levels among breastfeeding mothers. However, this study did not use a clear definition of exclusive breastfeeding, hence cannot be compared.

While some studies showed no statistically significant association with the duration or practice of exclusive breastfeeding with mother’s level of education (Ulak,Chandyo, Mellander, Shrestha & Strand, 2012; Sencan, Tekin & Tatli, 2013; Al-Akour et al., 2014). Similarly, Olang, Heidarzadeh, Strandvik & Agneta (2012) found no significant association with the discontinuation of breastfeeding in the first six months.

2.2.2.1.3 Maternal Employment

Maternal employment has been found to have an association with exclusive breastfeeding practices and duration. A study conducted by Tan (2011) found that non-working mothers are 3.5 times more likely to exclusive breastfeeding compared to working mothers (OR = 3.66; 95% CI: 2.45, 5.46). Another study showed the odds of unemployed mothers practicing exclusive breastfeeding was 10.4 times than employed mothers (AOR: 10.4; 95%CI: 1.51, 71.50) (Stegan, Belachew, Gerbaba, Deribe, Deribe & Biadgilign, 2012).

A study conducted in Malaysia stated that not having an adequate facilities at the workplace was a risk factor for breastfeeding discontinuation among employed mother (Amin, Said, Sutan, Shah, Darus &Shamsuddin, 2011).

In contrast, a research conducted by Ulak et al. (2012) found no significant association between occupation and exclusive breastfeeding.

2.2.2.1.4 Knowledge

A cross sectional survey conducted in Cambodia, to identify the predictors of exclusive breastfeeding between 6 to 24 months found that, lack of knowledge have an independent positive association of termination of exclusive breastfeeding before 6 months of life (Sasaki, Ali, Kakimoto, Saroeun, Kanal & Kuroiwa, 2009). Similarly, a study conducted in china for the first time mothers showed that mothers with higher knowledge were more like to practice exclusive breastfeeding for a longer duration (Wan et al., 2015). Nkala and Msuya (2011) conducted a community based cross-sectional study which found similar findings suggesting that women need to have a universal access to current breastfeeding knowledge, particularly advantages of exclusive breastfeeding.

2.2.2.2 Contextual Factors

Previous studies have reported that breastfeeding counseling including antenatal and postnatal counseling; information plays a major role in influencing the duration of exclusive breastfeeding as discussed below

2.2.2.2.1 Breastfeeding Counseling

A systemic review that investigated the effect of breastfeeding promotion intervention on exclusive breastfeeding practice found that at day 1, the individual counseling alone led to a 60% increase of exclusive breastfeeding, while no significant effect on group, or combined individual counselling. However, At 1-5 months, subgroup analyses showed that both individual and group counseling alone had significant impacts at 90% (RR: 1.90, 95% CI: 1.54-2.34) and 80% (RR: 1.80, 95% CI: 1.18-2.74), respectively. (Haroon, Das, Salam, Imdad & Bhutta, 2013). A study conducted in Pakistan similarly found that counseled mothers practiced exclusive breastfeeding for the first six months as compared to the non-counseled mothers (Ahmed, Sughra, Kalsoom, Imran & Hadi, 2013).

2.2.2.2.2 ANC Visits

The UNICEF's Step 3 of the Ten steps to Successful breast-feeding is "informing all pregnant women about the benefits and management of breast-feeding" (UNICEF, 2011, p. 71). Therefore, the more the pregnant women visit antenatal clinic or receive antenatal care, the more knowledge she can receive. It will lead to successful initiation of breast-feeding and continuation for the period advised by the health personnel from antenatal clinic.

The odds of exclusive breastfeeding up to 6 months were 3 times higher among mothers who attended antenatal care (ANC) and postnatal care (PNC) (Mgongo, Mosha, Uriyo, Msuya, Pedersen, 2013). Similarly, a study conducted in Gameleira, found that guidance on maternal breastfeeding and child feeding during prenatal care was associated with a longer duration of exclusive breastfeeding (Oliveira, Lira, Filho & Lima, 2010. Para.23).

This finding was congruent with the study conducted in India (Patel et al., 2010; Bbaale, 2014). However, a study conducted by Alemayehu et al. (2009) did not find significant association with exclusive breastfeeding and antenatal visits.

2.2.2.2.3 Media

Media plays an important role in influencing a women's decision on breastfeeding and adopting breastfeeding alternatives (Foss & Southwell, 2006). Applying this approach, media not only inform new parents of the availability of commercial substitutes, but also emphasize their need for the product (Foss & Southwell, 2006).

A study conducted in United States, by Foss and Southwell (2006) showed that there is a relationship between media and breastfeeding rates, particularly, predicting a decrease in breastfeeding rates with the increase of hand feeding advertisements.

2.2.2.3 Maternal Attitudes

Maternal attitude significantly influence breastfeeding intention and behaviour.

2.2.2.3.1 Parity

Parity is another important maternal factor reported to influence exclusive breastfeeding practice and duration. A study conducted by Tan (2014) multiparous found mothers twice more likely to exclusively breastfeed compared to primiparous mothers (OR = 1.68; 95% CI: 1.17, 2.42).

2.2.2.3.2 Mode of Delivery

Delivery type, whether spontaneous or by cesarean section have been found to influence exclusive breastfeeding duration and practice. The study conducted by Onah et al. (2014) found that exclusive breastfeeding practice was decreased among mothers delivered through caesarean section, (OR 0.38, 95% CI 0.18, 0.84). A study conducted by Joshi et al. (2014) observed similar findings with (OR = 0.47, 95% CI = 0.21, 1.06). Similarly, Bai, wu and Tarrant (2011) found cesarean delivery shortened the duration of exclusive breastfeeding.

In contrast, a study conducted by Ulak et al. (2012) did not find an association between exclusive breastfeeding with the types of delivery.

2.2.2.4 Subjective Norm

Breastfeeding subject norms plays an important role in predicting the duration a women would breastfeed. Social support that receives during breastfeeding were predicted to influence the duration of exclusive breastfeeding from the literatures as follows.

2.2.2.4.1 Spouse support

A study conducted by Tan (2011) found that supportive husbands on breastfeeding were four times more likely to exclusively breastfeed compared to non-supportive husbands (OR = 4.20; 95% CI: 1.12, 15.75). A study conducted in Italy found that support of father had a positive influence on breastfeeding duration ($p<0.001$) (Sencan et al. 2013).

2.2.2.4.2 Family Support

Mothers received conflicting infant feeding advice in their infants' first 6 months of life were likely to exclusively breastfeed for up to 6 months (OR = 0.53, 95% CI: 0.37–0.78)(Noughabi, Tehrani, Foroushani, Nayeri & Baheiraei, 2010).

In contrast, a study conducted by Uchendu et al. (2009) found that supportive family members improve the likelihood of women practicing EBF.

2.2.2.4.3 Friends Support

Maternal breastfeeding were also to be associated with exclusive breastfeeding duration. A literature review carried on factors that positively influence breastfeeding duration to 6 months showed that social support including peers is essential to address, as this is positively associated with the duration of exclusive breastfeeding (Shahla, Fahy & Kable, 2010).

2.2.2.5 Perceived Control

Perceived control measures perception of control and confidence a person has to perform a behavior and based on the findings from the literature, it was found that this is a significant predictor to influence the duration of exclusive breastfeeding as discussed below.

2.2.2.5.1 Confidence

Several studies have revealed that confidence and control influence the duration of exclusive breastfeeding positively. A randomized controlled trial was conducted in Iran for pregnant women, found that duration of exclusive breastfeeding was significantly higher compare to the control group in which self-efficacy was controlled (Ansari, Abedi, Hasanpoor & Bani, 2014; Wan et al., 2015; Temesgen, Birhanu, Astale & Dejene, 2013).

In summary, several studies have shown maternal factors, contextual factors, attitudes, subjective norms, and perceived breastfeeding control influence exclusive breastfeeding in varying degrees in different countries.

A search of literature however, showed that there were limited information on the factors influencing exclusive breastfeeding practices in Maldives. A study was conducted on the infant feeding practices of mothers in the Maldives in 2007 by Raheem and Binns. This study did not use WHO exclusive breastfeeding definition, could not be compared with the current research, as the main focus of this study is to determine the factors influencing exclusive breastfeeding in the first six months and their association.

CHAPTER 3

METHODOLOGY

3.1 Research Design

A cross-sectional analytical study was employed in this study to examine the association between the factors influencing the duration of exclusive breastfeeding practices among mothers of infants aged 0-12 months.

3.2 Population and Sample

3.2.1 Study Area

The study was undertaken in Male' city and samples were selected from Dhamanaveshi, which provides growth monitoring and immunization service in Male. Male' population consists of people all over the country; hence, the result could be generalized to the whole country.

3.2.2 Population

The target population comprised of mothers of infant aged 0-12 months at the time of study, as study intended to determine the factors influencing the adherence of exclusive breastfeeding for the first six months.

3.2.3 Sample size

The sample size was determined based on the National prevalence of exclusive breastfeeding of 48% (NDHS, 2009) and a level precision at 95% level of confidence using the following formula:

$$n = \frac{z^2pq}{d^2}$$

Where:

n = Desired sample size/Minimal sample size

z = Standard normal deviate of 1.96 which corresponds to 95% confidence level

p = Prevalence of characteristic being estimated infants aged 0 – 6 months which is 0.52 (52%), (NDHS,2009)

q = 1-p, expected proportion of mothers with infants aged 0 – 6 months not breastfeeding exclusively (1-0.52 = 0.48)

d = Acceptable error (precision) of +0.05

$$\mathbf{n} = \frac{1.96^2 \times 0.52 \times 0.48}{0.05^2}$$

$$= 383$$

However, for this study 33% of the target population were taken because of time and financial constraint. Hence, the sample for this study was 127 mothers. To prevent information loss due to incomplete data or withdrawal of the participant from the study, the sample size was increased to 10%. Therefore, the actual sample size of the study was 140 mothers.

3.2.4 Inclusion Criteria

This study was restricted to mothers having breastfeeding experiences and infants aged 0-12 months, as questions were asked about the feelings or circumstances of these mothers encountered during the first six months of infant’s life. This restriction of the age group was made, to reduce recall bias and other confounding variables. In Maldives, 3 months of maternity leave were given to the government employees, and this could be a confounding factor, as these mothers would be able to provide exclusive breastfeeding during the first 3 months, while staying at home, resulting an overestimation of the result. Moreover, if the age group were reduced to 6 months, there would be a possibility that the required sample would not be drawn during the data collection period, ultimately reducing the validity of the study. Similarly, increasing the age group would further add recall bias; hence, this study was restricted to 0-12 months.

3.2.5 Exclusion Criteria

Infants aged more than 12 months of age were excluded in this study as including these infants were likely to result recall bias. This study also excludes infants with birth defects or chronic illnesses in order to decrease any confounding variables that may impact breastfeeding initiation and duration.

3.3 Instrumentation

This study used a quantitative method for data collection, and a structured questionnaires were developed which includes mainly two section; section A and B. Two instruments were used in this research as the under 6 month infants' duration of exclusive breastfeeding should be determined based on a 24-hour recall method, which is a WHO recommended method. (WHO, 2008). Section A was administered by the researcher, and section B was self-administered however, for some mothers the researcher had to assist mothers as they were with infants.

The instrument was formulated based on study instruments used in similar research studies on exclusive breastfeeding (Mutuli & Welingo, 2014), and theory planned behavior items were constructed in line with recommendations (Ajzen, 2006). The original questionnaire was developed in English, and section B was translated to Dhivehi, as section B was self-administered. The questionnaire comprised of mainly closed questions and few open ended questions including age and duration of exclusive breastfeeding. The main parts of the instrument comprises of mainly two sections.

SECTION A: consists of 3 parts

PART 1: socio-demographic factors (6 question)

These comprises age, gender, educational level, marital status, employment status, and monthly income.

PART 2: Breastfeeding practices and early delivery experiences (8 questions)

PART 3: Breastfeeding Knowledge

Knowledge was graded using 10 questions which consists of 2 negative statements, which includes benefits of breastfeeding to the mother and infant, expressed milk storage at room temperature, common breastfeeding problem. Two statements were negatively stated. Each statement was given three choices including; agree, disagree, and don’t know. Each correct answer were given 1 score and 0 score for wrong answer. The score varied from 2 – 10 points and is classified into 3 levels as follows: Bloom’s cut off point, 60-80% (Bloom’s cut off points were adopted from Yimer, Abera, Mulu and Bezabih, 2013)

High level (80-100%)	8-10 scores
Moderate level (60%-79%)	5-7 scores
Low levels (0- 59%)	2-4 scores

PART 4: Breastfeeding Information

SECTION B: Comprises of items based on the Theory Planned Behavior constructive. Ajzen (2006) guidelines were used to develop instruments to measure subjective norm and perceived control and items in each constructive were scored on a 7-point Likert scale as per the given format.

Intention: Two item assessed the strength of intention to perform the target behavior (e.g., “I intended to feed breastfeeding exclusively for the first six months,” scored strongly disagree [1] to strongly agree [7]).

Attitude: Attitude towards exclusive breastfeeding was assessed by using the Iowa Infant Feeding Attitude Scale (IIFAS) created by De la Mora, Russell, Dungy, Losch & Dusdieker (1999). This has total 17 items, however 8 items were chosen from this scale and participants were requested to respond to each item using a 7-point Likert scale (1 = strongly disagree to 7 = strongly agree). The participants were asked to indicate to what extent each statement applied to them. Higher scores indicated a more positive attitude toward exclusive breastfeeding.

Subjective Norms: Subjective norm was assessed by two sets of five questions each, with 7-point scales. The first set of five has end points Strongly Agree (7) and Strongly Disagree (1). (e.g., “My husband thinks that I should introduce solid foods when my baby is 6 months of age,”). The second set of five questions assessed mother’s motivation to comply with significant others’ expectation with end points extremely important (7) and extremely not important (1).the higher the score, the greater the perceived social pressure to exclusively breastfeed.

Perceived behavioral control. Perceived behavioral control was measured by five items reflecting the mother’s sense of control about exclusive breastfeeding (e.g., “The decision to provide six months exclusive breastfeeding is in my control,” scored strongly disagree [1] to strongly agree [7]. Higher the score indicated greater perceived control. Internal consistency reliability of the questionnaire was determined using Cronbach’s alpha (0.80) which was above the acceptable value as mentioned (Santos, 1999.

3.4 Data Collection Procedures

As Dhamanaveshi being the only government center, which provides growth monitoring and immunization service to a large number of people living in Male’ Capital City, the required sample size could easily be drawn from the target group and therefore, purposively selected for the study. However, the sample was selected using simple random sampling to reduce the sampling error, as everyone would have an equal chance of being selected for the study.

The researcher visited the clinic, recorded the token numbers that were given to each mother-infant pair who were eligible for the study. The first mother was selected by simple random sampling, and systemic sampling technique was then used to select every 2nd mother to include in the study. This was repeated on every day until the desired sample was achieved. All the participants were interviewed by the researcher and section B of the instrument were self-administered. However, some of the mothers were assisted by the researcher, as they were unable to fill the questionnaire by themselves while carrying the infant. The interview took between 15-20 minutes and each participant was thanked for participating the research.

3.4.1 Pre-Testing

The study instrument for data collection were pre-tested at Viligili Health Center (VHC) in Male' City, where the study was not conducted. This pretesting included 10 eligible mother-infant pair who visited the VHC for immunization and growth monitoring. This was to ensure that questions were clear and ensure the content validity of the instrument. Participants were encouraged to comment on both content and wording. The questions which showed ambiguity during pre-testing were further revised and modified as required.

3.5 Validity and Reliability

Standard data collection tools and methods were used to ensure the data obtained represents the variables of the study and that research measures what it is intended. A structured questionnaire were used to collect data and to test the validity, this instrument was sent for expert review. To prevent from recall bias exclusive breastfeeding was determined based on 24 hour recall method (WHO, 2008).

Reliability of research instruments refers to the extent to which the results of the study can be produced when a similar methodology is used. To test the reliability of the instrument, pre-testing was conducted at VHC which has similar characteristics to the actual target population for this study. The reliability of the measurement instruments was evaluated using Cronbach's Alpha. The internal consistency reliability of Breastfeeding Attitude Questionnaire and Subjective Norm Questionnaire was acceptable (Cronbach's Alpha coefficients = 0 .7 and 0.8 respectively) because an acceptable Cronbach's Alpha coefficient is at least equals to 0.70 (Santos, 1999). The test-retest reliability of the Intention to Exclusive Breastfeeding Scale was acceptable (correlation coefficient = 0.85) because an acceptable level of correlation coefficient is at least equals to 0.70 (Santos, 1999).

The translated version of this instrument was checked by selected Dhivehi teachers with diploma certificate. Before conducting the study, the instrument were modified if necessary and triangulation were done to ascertain consistency of information obtained.

3.6 Ethical Consideration

Before conducting the interview, the purpose, and process of the study was explained to the mother of infant’s aged 0-12 months, and an informed consent form was used for each mother. Mothers were also be reassured that the information disclosed were kept confidential and anonymous and no harm or differences in the care they receive if they participated in the study. Mothers were further informed of their right to discontinue the participation at any time. The interview was carried out only when mother gave consent and signature to participate the study.

3.7 Framework for Data Analysis

Data was edited for readability, accuracy, coherence, and completeness which was coded and analyzed using Statistical Package for Social Science (SPSS) for windows version 20.0. Descriptive statistics and statistical tests were performed to determine the factors and their association with the duration of exclusive breastfeeding. This was summarized in table 4.1.

3.7.1 Coding

Closed ended questions (1,2 …) were either coded by 1=Yes, and 2 = No if it is a close ended question that has two answers (yes/No) or coded by giving sequence of number 1,2,3,4 if has more than two answers.

Open ended questions included mainly maternal and infant age and exclusive breastfeeding duration. The duration of exclusive breastfeeding was categorized as recommended by WHO from 0-1, 1-2, 2-3, 3-4, and 4-5 months.

Data was then cleaned after being input into SPSS to ensure that it was correctly entered and all the missing values are replaced with “-99” as no items were possible to have this value and would easily be identified. The missing value consists of 0.7% which was considered a small percent that would not affect the result of this study.

Table 4. 1: Data Analysis Framework

Objectives	Questions	Hypothesis	Data Analysis Technique
1. To explore the maternal factors, contextual factors, intention, attitude, subjective norm and perceived control that are involved in influencing breastfeeding intention to breastfeed exclusively for the first six months of life among mothers of infants aged 0-12 months attending Dhamanaveshi in Male’ City.	**Section A** Question 1 to 7	(**Null Hypothesis**) There is no relationship between the duration of exclusive breastfeeding and mothers’ with more positive intention, more positive breastfeeding attitude, more supportive subjective norm, and higher level of breastfeeding control.	**Descriptive Statistics**
2. To determine the exclusive breastfeeding practices and delivery experiences among mothers of infants aged 0-12 months attending Dhamanaveshi in Male’ City.	Section A Question 8-19		
3 To determine the average duration exclusive breastfeeding practices and delivery experiences among mothers of infants aged 6-12 months	Section A Question 20- 21 (instrument 1) Question 21-24		SPSS Version 20 **Descriptive Statistics**
4. To measure the relationship between intention, attitude, subjective norm and perceived behavioral control influence the duration of exclusive breastfeeding for the first six months of infant’s life among infants aged 6-12 months	Attitudes Question 42-49 Subjective Norms Question 50-59 Perceived Control Question 60-64		Cross-tab and Chi-square Multi regression Analysis

CHAPTER 4

DATA ANALYSIS AND RESULT

4.1 Data Analysis

Data was analyzed using SPSS version 20 with significance at p vale<0.05. Correlation and regression was used to determine the relationships between independent and dependent variable. In this study regression with CI 95% and significance P value <0.05 was set.

To be able to perform statistical analysis such as chi square and regression, continuous variables were categorized. Intention, attitude, subjective norm and perceived behavior control was grouped to high and low, positive and negative. This was determined by first finding the mean score of the variable and categorized as high or positive if the level was above 5 and low or negative if the level was below 4. Knowledge level was scored according to the bloom's cut off points.

The result of the study was presented under the following parts which consists of mainly tables and few graph.

Part 1: Descriptive analysis, which describes percentage and the frequency of each independent and dependent variable under the following headings

1- Socio- demographic characteristics
2- Breast feeding practices
3- Contextual factors

4- TPB constructive

Part 2: Cross-tab and chi-square tests were performed for each independent variable to test the difference between expected and observed frequencies.

Part 3: Correlation analysis, presented in Pearson correlation coefficient (r) and chi - square test with the correlation between two intervals variables. Correlations were performed to determine the correlations with the TPB constructive

Part3: multiple regression analysis were performed for the selected independent variables whether the independent variable can predict the target behavior

4.2 Result

This chapter provides description of findings of the research on factors influencing exclusive breastfeeding. It describes the socio -demographic characteristics of the respondents, the current practices of exclusive breastfeeding and factors that are associated with exclusive breastfeeding.

This study was conducted in Dhamanaveshi, Male’ and interviewed with a total of 140 mothers having infants aged 0-12 months representing 100% response rate.

4.2.1 Demographic Characteristics

A total of 140 mothers participated in this study. The infants included in this study ages ranged from 0-12 months, with a mean age of 6 months, comprising 45.7%, and 54.3%

male and female respectively. The mean age of the mothers was 29 years, ranged between 19-40 years. Majority (68.6%) mothers were in the age group 19-30 years, while 31.4% constituted in the age group 31-40 years. Among these, large proportion of the mothers (97.9%) were married, while only 2.1% were divorced (Table 4.1).

Table 4. 2: Demographic Characteristics

Characteristics	**Frequency n = 140**	**Percent (%)**
Age		
0 Month	1	0.7
1 Month	11	7.9
2 Month	7	5
3 Month	16	11.4
4 Month	9	6.4
5 Month	17	12.1
6 Month	16	11.4
7 Month	8	5.7
8 Month	10	7.1
9 Month	15	10.7
10 Month	8	5.7
11 Month	12	8.6
12 Month	10	7.1
Mean = 6.38 Min = 0 Max = 12		

Table 4. 3: Demographic Characteristics (Continued)

Characteristics	Frequency (n-140)	Percent (%)
Gender		
Male	64	45.7
Female	76	54.3
Mothers' Age		
19-30	96	68.6
31-40	44	31.4
Mean = 28.62 Min = 19 Max = 40		
Marital Status		
Married	137	97.9
Divorced	3	2.1

4.2.2 Maternal Factors

4.2.1.2 Demographic Characteristics

Slightly more than half (55.7%) of the mothers had a primary and secondary school of education, while 44.3% had higher secondary education and above. Majority (70.7) and 29.3% were employed (Table 4.2).

Table 4. 4: Maternal Socio-economic Characteristics

Education and Employment	Frequency (n = 140)	Percent
Educational Level		
Primary and Secondary	78	55.7
Higher Secondary and Above	62	44.3
Employment		
Employed	41	29.3
Unemployed	99	70.7

4.1.2.2 Delivery Experiences

More than half of the mothers (54.3%) were having more than one child, while (45.7 %) had only one child. Mothers (52.9%) delivered their last child in Indira Gandhi Memorial Hospital (IGMH), while 41.4% in ADK hospital and others (8 %) included Atoll hospital, Regional hospital, and abroad health facilities. More than half of the mothers (51.4%) had cesarean, while 48.6% had a normal delivery. (Table 4.3).

Table 4. 5: Delivery Experiences

Delivery Experiences	**Frequency** **n = 140**	**Percent**
Parity		
Primiparous	64	45.7
Multiparous	76	54.3
Place of Delivery		
IGMH	74	52.9
ADK	58	41.4
Others	8	5.7
Mode of Delivery		
Normal	68	48.6
Cesarean	72	51.4

4.1.2.3 Infant feeding practices

Among the mothers participated in this study, 75% initiated breastfeeding within the first hour after birth and 25% had breastfed their infants after the first hour (Table 4.4)

Among the respondents, 51.4% infants were given food or drink before breastfeeding was initiated. Among these, 93.1% of infants were given honey and dates because of mother's religious belief this as a Sunnah of Muslim, (91.7%) and 5% were given infant formula as the first food before breastmilk because of inadequate milk (1.4%), baby is sick (4.2%), mother is sick (1.4%) and others (1.4%) because infant was not feeding (Table 4.4)

After initiating breastfeeding, 82% of the mothers had given post-lacteal feed, while 58% did not give any food or drink. Of these 82% mothers, 58.6% had given infant formula, 13% water, 8% homemade food, 5% had given honey and date, while another 6% had given pomegranate juice.

Mothers reported the reason for the early initiation of supplementary food was mainly because perception of inadequate production of milk and infant getting hungry (25.6% and 23.1% respectively). Mothers also reported of initiating early food because infant was crying (9.8%). Reason also includes advice of health care providers (7.3%) to initiate supplementary food, as the child did not gain weight as per age, followed by Islamic belief which accounts (7.3%) and mother returning to work (7.3%). Some mothers had started merely because the child stopped feeding (1.2%) and just wanted (1.2%) to feed supplementary food early. Mothers returning to work accounts 7.3%, while 6.1 reported of the reason as baby was crying. Of the 82% mothers given supplementary food early, 1.2% have reported the reason as infant having cold. For the cold mothers have given pomegranate juice. Other reasons accounted 9.8 % which includes reasons such as infant having constipation, infant's father wanted to give water and just to remove the taste of medication. This was summarized in table 4.4.

Among 140 mothers participated in the study, 92.1% were continuing breastfeeding including exclusive and non-exclusive.

Table 4. 6: Breastfeeding practices since birth

Breastfeeding practices since birth	**Frequency n = 140**	**Percent**
Time of Initiating BF		
Within first hour after birth	105	75.0
After the first hour	35	25.0
Prelacteal Feeding Received		
Yes	72	51.4
No	68	48.6
Common Prelacteal Feeds received (n=72)		
Honey and Dates	67	93.1
Infant Formula Milk	5	6.9

Table 4. 7: Breastfeeding practices since birth (Continued)

Breastfeeding practices since birth	**Frequency (n=140)**	**Percent (%)**
Reasons		
Not enough milk	1	1.4
Baby is sick	3	4.2
Mother sick	1	1.4
Sunnah of Muslims	66	91.7
Others	1	1.4
Post-lacteal Feed		
Yes	82	58.6
No	58	41.4
Type of post-lacteal feed (n=82)		
Infant Formula	49	59.8
Water	13	15.9
Homemade food	8	9.8
Honey and dates	5	6.1
Pomegranate Juice	6	7.3

Table 4. 5: Breastfeeding practices since birth (Continued)

Breastfeeding practices since birth	Frequency (n=140)	Percent (%)
Reasons		
Baby gets hungry	19	23.2
Mother not producing enough milk	21	25.6
Advised by health care providers	6	7.3
Islamic Sunnah	6	7.3
Baby stopped feeding	1	1.2
Just wanted	1	1.2
Mother returning to work	6	7.3
Baby is crying	8	9.8
Baby is having cold	1	1.2
Baby is not feeding	5	6.1
Others (Constipation, gas)	8	9.8
Still Continuing Breastfeeding		
Yes	129	92.1
No	11	7.9

4.1.2.4 Exclusive Breastfeeding Practices

All the mothers (100%) initiated breastfeeding. Among the 140 mothers interviewed 41% breastfed exclusively, while majority (59%) mothers did not breastfeed exclusively from the continuous data since birth among infants aged 0-12 months (figure 4). The mean duration of exclusive breastfeeding was 4.54 months with a standard deviation of 1.93 months. However, the median duration of exclusive breastfeeding was 5 months. One fifth of the mothers (20.1%) were breastfed exclusively up to six months as recommended by WHO followed by 17.9% at 0 months. Among the infants, aged 4 months and 5 months were breastfed exclusively by 15% each. Among the infants aged 0-12 months, 0.7% breastfed exclusively at 7 months (Table 4.5).

Table 4. 8: Exclusive Breastfeeding Duration by Age

Exclusive Breastfeeding Duration since birth	Frequency n = 78	Percent
0 month	25	17.9
1 month	15	10.7
2 months	8	5.7
3 months	20	14.3
4 months	22	15.7
5 months	21	15.0
6 months	28	20.0
7 months	1	.7
Mean= 4.54 Median = 5 Minimum = 7 Maximum=0		

4.1.2.5 Infants breastfed based on 24-hour recall method

Among the 140 mothers participated in this study, 61 mothers were having infants less than 6 months. Among these mothers, 50.8% were breasted exclusively as measured by a 24-recall, which is higher than the percentage determined since birth. The exclusive breastfeeding age group was categorized as 0-1 month, 1-2 month, 2-3 month, 3-4 month and 4-5 months as recommended by WHO (2008). The study showed that 27.9% (n=17) of infants aged 4-5 months were breastfed exclusively, followed by 16% of infants aged 2-3 months were breastfed exclusively. The mean age of exclusive breastfeeding as measured by 24-hour recall was 1.49 and median duration of exclusive breastfeeding was 1 month (Table 4.6)

Table 4. 9: Exclusive Breastfeeding Duration based on 24-hour recall method

Exclusive Breastfeeding Duration based on 24-recall	**Frequency n = 61**	**Percent**
0-1	12	19.7
1-2	7	11.5
2-3	16	26.2
3-4	9	14.8
4-5	17	27.9
Mean= 1.49 Median = 1 SD=0.504		

The proportion of continuous exclusive breastfeeding since birth was 41.4%, while based on the 24-hour recall measure method; the percentage of exclusive breastfeeding was 50.8% (Figure 4.1).

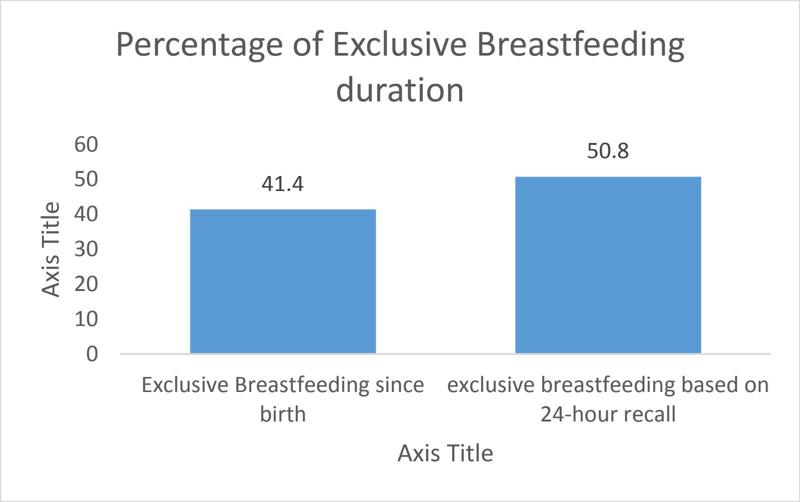


Figure 4. 1 Percentage of Exclusive Breastfeeding Duration

4.1.2.6 Knowledge on breastfeeding

Among the 140 mothers, 72.9% agreed that infants who are bottle fed have more illnesses than exclusively breastfed infant, while 92.1% of the mothers agreed that breastfeeding helps develop bonding between infant and mother. Among the mothers, 22.9% agreed that breastfeeding prevents a woman from returning to her pre-pregnancy weight, while 60% disagreed with this. Majority (77.1%) disagreed that small breasts would not produce milk, while 84.1% agreed that breastfeeding have less risk of breast and ovarian cancer followed by 94.3% agreeing that breastmilk protects infant from infections. Among the mothers, 97.9% mothers agreed that breast feeding more often would enhance production of more milk, while 91.4% agreed that when breastfeeding exclusively, no other food or drink is required for the first six months of an infant’s life. More than half

(67.9%) agreed that expressed milk could be stored for 4 hours at room temperature, while 43.9% disagreed that Breastfeeding mothers' nipples get sore easily if babies suck frequently. The average mean score for knowledge is 1.35 with a standard deviation of 0.235. The minimum score for knowledge is 2 and maximum is 10 (Table 4.7).

Majority (77.1%) of the mothers had high level of knowledge, while 20.1% had moderate level of knowledge followed by 2.1% of mothers having low level of knowledge about benefits of breastfeeding to infants and mother, how to position the baby, approach to enhance production of milk and storage of expressed milk. (Table 4.8)

Table 4. 10: Knowledge Level

Statement **n = 140**	**3** **%**	**2** **%**	**1** **%**	**Mean**	**SD**
Babies who are bottle-fed have more illnesses than babies who are breastfed	15	12.1	72.9	1.42	0.74
Breastfeeding helps bonding between mother and baby	1.4	6.4	92.1	1.09	0.337
Breastfeeding prevents a woman from returning to her pre-pregnancy weight	17.1	60	22.9	1.94	0.632
Small breasts will not produce milk	15	77.1	7.9	2.07	0.474
Breastfeeding mothers have less risk of breast and ovarian cancer	10	3.6	86.4	1.24	0.619
Breast milk protects a baby from infection	4.3	1.4	94.3	1.1	0.421
The more often you breastfeed, the more milk you will have for your baby	0	2.1	97.9	1.02	0.145
When breastfeeding no extra food, water, or vitamins are needed for the first 6 months	0	8.6	91.4	1.09	0.281
Expressed milk can be kept for 4 hours at room temperatures	12.1	20	67.9	1.44	0.702

Table 4. 11: Knowledge Level (Continued)

Statement n = 140	3 %	2 %	1 %	Mean	SD
Breastfeeding mothers' nipples get sore easily if babies suck frequently	47.9	49.3	2.9	2.45	0.554
Average Score for Knowledge: Mean = 1.35 SD = 0.235 Min = 2 Max = 10					

Score: 1 = Agree, 2 = Disagree, 3 = Don't know

Table 4. 12: Knowledge Level Score

Level of Knowledge score	Frequency n = 140	Percent
High Level of Knowledge	108	77.1
Moderate level of Knowledge	29	20.7
Low level of knowledge	3	2.1

High Knowledge (>80%) , Moderate Knowledge (60-80%), Low Knowledge (<60%)

4.2.3 Contextual Factors

4.2.3.1 Breastfeeding Counseling

More than half (52%) of the mothers did not receive antenatal counseling, while 48% of the mothers received antenatal counseling. Majority (94%) received antenatal counseling from hospital, while some received antenatal counseling from health center (3%) followed by clinic (1%), while another 1% received from a nurse. Conversely, 60% received postnatal counseling, while 40% did not receive postnatal counseling. Majority (98%) received postnatal counseling from a hospital followed by Traditional Birth Attendant (TBA) (1%) and Dhamanaveshi (1%) as illustrated in the Table 4.10.

Table 4. 13: Breastfeeding Counseling

Counseling	**Frequency n = 140**	**Percent**
Antenatal Counseling		
Yes	67	48
No	73	52
Source of Counseling		
Hospital	63	94
Health Center	2	3

Table 4. 14: Breastfeeding Counseling (continued)

Counseling	**Frequency** **(n=140)**	**Percent** **(%)**
Clinic	1	1
Nurse	1	1
Postnatal Counseling		
Yes	84	60
No	56	40
Source of Counseling		
Hospital	82	98
Traditional Birth Attendant	1	1
Dhamanaveshi	1	1
Shown how to breastfeed		
No	108	77
Yes	32	23
Showed correct positioning		
No	107	76
Yes	33	24

4.2.3.2 Information through Media

Among the 140 mothers, 68.6% mother's received breastfeeding information through media and common source of media accounts for TV (43.9%), followed by internet (28.1%). This was summarized in Table 4.11.

Table 4. 15: Information through Media

Information	**Frequency n = 140**	**Percent**
Information through media		
Yes	96	68.6
No	44	31.4
Common Source of media (n=96)		
TV	50	43.9
News	12	10.5
books	3	2.6
Internet	32	28.1
Social Media	12	10.5
Radio	2	1.8
Posters	1	0.9
Advertisements	1	0.9
Foreign Channel	1	0.9

***Multiple responses**

4.2.4 Level of attitude

The mean attitude is 5.83, with a standard deviation of 0.69 indicating that the mothers in this study have positive attitude toward exclusive breastfeeding (Table 4.11and 4.12).

Table 4. 16. Mean and Standard Deviation of Attitude scale

Statement n = 140	7 %	6 %	5 %	4 %	3 %	2 %	1 %	Mean	SD
The nutritional benefits of breastmilk last only until the baby is weaned from breastmilk	86	4.9	1.2	0	2.4	3.7	1.2	6.71	1.296
Formula feeding is more convenient than breastfeeding	56.4	21.4	4.3	4.3	4.3	5	4.3	5.89	1.745
Formula is as healthy for an infant as breast milk	57.9	20	10	0.7	7.1	1.4	2.9	6.05	1.519
Formula feeding is the better choice if a mother plans to work outside the home	38.6	12.9	15	2.1	19.3	7.9	4.3	5.09	1.969
A heavier baby is healthier	30	12.1	19.3	5	11.4	15	7.1	4.71	2.065

Table 4. 17. Mean and Standard Deviation of Attitude scale (Continued)

Statement n = 140	7 %	6 %	5 %	4 %	3 %	2 %	1 %	Mean	SD
Breastfeeding affects the maternal figures negatively	47.9	20.7	6.4	5.7	9.3	5	5	5.57	1.87
Babies fed breastmilk are healthier than babies who are fed formula	58.5	7.3	4.9	15.9	6.1	3.7	3.7	5.68	1.983
Breastmilk is the ideal food for babies	97.6	2.4	0	0	0	0	0	6.91	0.543
Average Score for Attitude: Mean = 5.83 SD = 0.69 Min = 6 Max = 7									

Score: 1 = Strongly Disagree, 2 = Disagree, 3 = somewhat disagree, 4= neither agree or disagree, 5= somewhat agree, 6= Agree, 7= strongly Agree

Table 4. 18: Level of Attitude Score

Level of Attitude	**Frequency** **n = 140**	**Percent**
Negative Attitude	14	10
Positive Attitude	126	90

Positive Attitude (>5), Negative Attitude (<5)

4.2.5 Subjective Norm

Table 14 presents the means and standard deviations of the measurements of subjective norms. The mean of the subjective Norm means and standard deviations are 6.24 and 0.726 respectively (Table 4.13 and 4.14). This indicates that the mothers in this study perceived other people to be exerting a certain level of pressure on them to breastfeed exclusively (Table 4.15).

Table 4. 19 Mean and Standard deviation of Subjective Norms

Statement n = 138	7 %	6 %	5 %	4 %	3 %	2 %	1 %	Mean	SD
My husband thinks that I should provide any food/drink other than breastmilk only the baby is 6 months	82.9	3.6	2.9	7.9	0	1.4	0.7	6.55	1.137
My mother thinks that I should provide any food/drink other than breastmilk only the baby is 6 months	84.3	5	1.4	4.3	0.7	2.9	0.7	6.58	1.192
My mother-in law thinks that I should provide any food/drink other than breastmilk only the baby is 6 months	72.1	5	1.4	6.4	0.7	4.3	2.9	6.26	1.612

Table 4. 20 Mean and Standard deviation of Subjective Norms (Continued)

Statement n = 138	7 %	6 %	5 %	4 %	3 %	2 %	1 %	Mean	SD
My friends thinks that I should provide any food/drink other than breastmilk only the baby is 6 months	75	6.4	5.7	7.1	2.9	1.4	0.7	6.37	1.281
My health care provider thinks that I should provide any food/drink other than breastmilk only the baby is 6 months	93.6	5	0	0	0.7		0.7	6.89	0.571
Average Score for Subjective Norm: Mean = 6.24 SD = 0.73 Min = 1 Max = 7									

Score: 1 = Strongly Disagree, 2 = Disagree, 3 = somewhat disagree, 4= neither agree or disagree, 5= somewhat agree, 6= Agree, 7= strongly Agree

Table 4. 21. Mean and Standard Deviation of Subjective Norms

Statement n = 138	7 %	6 %	5 %	4 %	3 %	2 %	1 %	Mean	SD
How important is it for you, to do what your husband thinks you should do about breastfeeding	35	51.4	8.6	0.7	2.1	0	1.4	6.12	1.008
How important is it for you, to do what your mother thinks you should do about breastfeeding	30.7	53.6	7.9	2.1	3.6	0.7	0.7	6.01	1.049
How important is it for you, to do what your mother-in law thinks you should do about breastfeeding	1.4	2.9	3.6	3.6	8.6	47.1	25.7	5.79	1.31

Statement **n = 138**	**7** **%**	**6** **%**	**5** **%**	**4** **%**	**3** **%**	**2** **%**	**1** **%**	**Mean**	**SD**
How important is it for you, to do what your friends thinks you should do about breastfeeding	21.4	44.3	13.6	8.6	3.6	5	2.9	5.45	1.505
How important is it for you, to do what your health care provider thinks you should do about breastfeeding	45.7	48.6	3.6	0.7	0.7	0.7	0	6.36	0.759
Average Score for Subjective Norm: Mean = 6.24 SD = 0.76 Min = 1 Max = 7									

Score: 1 = Not at all important, 2 = low importance, 3 = slightly important, 4= neutral, 5= moderately important, 6= very important, 7= extremely important

Table 4. 22. Level of Subjective Norm Score

Level of subject score	Frequency n = 140	Percent
Low influence	11	7.9
High influence	136	92.1

Subjective norm score: (>5) High influence, (<5) Low influence

4.2.6 Perceived Control

The construct of perceived behavioral control shows that all perceived behavior control measurement items have means above the midpoint (mean 6.57, standard deviation =0.74). This indicates that the participants perceived they had a large degree of control over whether to breastfeed exclusively or not and were confident to practice the behavior they choose to do so (Table 4.16 and 4.17).

Table 4. 23. Mean and Standard Deviation of Perceived Control

Statement n = 140	7 %	6 %	5 %	4 %	3 %	2 %	1 %	Mean	SD
I am confident that I could provide my baby six months exclusive breastfeeding	77.9	5.7	5.7	1.4	7.1	0.7	1.4	6.38	1.37
For me, to provide my baby six months exclusive breastfeeding is easy	77.9	7.1	5	0.7	3.6	2.9	2.9	6.35	1.498
The decision to provide six months exclusive breastfeeding is in my control	89.3	5	2.1	0.7	1.4	0	1.4	6.76	0.856

Score: 1 = Strongly Disagree, 2 = Disagree, 3 = somewhat disagree, 4= neither agree or disagree, 5= somewhat agree, 6= Agree, 7= strongly Agree

Table 4. 24. Mean and Standard Deviation of Perceived Control (Continued)

Statement n = 140	7 %	6 %	5 %	4 %	3 %	2 %	1 %	Mean	SD
Whether I provide my baby six months exclusive breastfeeding or not is entirely up to me	88.6	2.9	1.4	1.4	4.3	1.4	0	6.66	1.071
I feel quite knowledgeable about the way to give 6 months exclusive breastfeeding	87.1	7.1	2.1	0	1.4	2.1	0	6.72	0.922

Average Score for Perceived control: Mean = 6.57 SD = 0.743 Min = 1 Max = 7

Score: 1 = Strongly Disagree, 2 = Disagree, 3 = somewhat disagree, 4= neither agree or disagree, 5= somewhat agree, 6= Agree, 7= strongly Agree

Perceived control score (>4) High control, (<4) Low control

Table 4. 25: level of Perceived score

Level of Perceived control	Frequency n = 140	Percent
Low control	4	2.9
High control	136	97.1

High control (>5), Low control (<5)

4.2.7 Level of Intention

Seven-point Likert scales were used to measure the construct of intention. The descriptive analysis shows that the means of the intention construct is 6.69, indicating that the mothers have a strong intention to provide exclusive breastfeeding for the first six months. The standard deviation is 0.988; the dispersion of intention among the mothers is comparatively small. Majority (88.6%) mothers intended and wanted to breastfeed exclusively for the first six months (Table 4.18 and 4.19).

Table 4. 26 Mean and Standard Deviation of Intention

Statement n = 138	7 %	6 %	5 %	4 %	3 %	2 %	1 %	Mean	SD
I intend to provide my baby with six months exclusive breastfeeding	88.6	5	1.4	0.7	1.4	2.9	0	6.7	1.016
I want to provide my baby with breastfeeding exclusively for six months	88.6	5	1.4	0.7	3.6	0.7	0	6.67	1.128

Average Score for Knowledge: Mean = 6.69 SD = 0.988 Min = 2 Max = 10

Score: 1 = Strongly Disagree, 2 = Disagree, 3 = somewhat disagree, 4= neither agree or disagree, 5= somewhat agree, 6= Agree, 7= strongly Agree

Table 4. 27 Level of Intention

Level of Intention	**Frequency** **n=140**	**Percentage**
Negative intention	8	5.7
Positive Intention	132	94.3

Positive intention (>5), Negative intention (<5)

4.3 Cross tab and Chi-Square Analysis

4.3.1 Relationship between maternal factors and exclusive breastfeeding

Chi-square test was performed to find any association between maternal factors and exclusive breastfeeding duration. The finding of this study showed P=0.623 for maternal education, maternal employment (p=0.505), parity and breastfeeding experience (p=0.877). However, there was an association between mode of delivery and exclusive breastfeeding duration (p=0.028) as shown in table 4.20.

Table 4. 28. Relationship between Maternal factors and duration of exclusive breastfeeding

Variable	**DV**		**Crude OR**	**95% CI**	**X2**	**p-value**
n=140	**(49.3%) Exclusive (0-3 month)**	**(50.7%) Exclusive (4-6 months)**				
Maternal Education					0.241	<0.623
Primary and Secondary	53.6	57.7	1			
Higher Secondary and Above	46.4	42.3	0.846	0.434-1.649		
Maternal Employment					0.444	<0.505
Employed	31.9	26.8	1			
Unemployed	68.1	73.2	1.281	0.618-2.657		

Table 4. 29. Relationship between Maternal factors and duration of exclusive breastfeeding (Continued)

Variable	DV		Crude OR	95% CI	X2	p-value
n=140	Exclusive (0-3 M) (49.3%)	Exclusive (4-6 M) (50.7%)				
Parity					0.024	<0.877
Primiparous	46.4	45.1	1			
Multiparous	53.6	54.9	0.054	0.542-2.050		
Breastfeeding Experience					0.024	<0.877
No Experience	46.4	45.2	1			
Have Experience	53.6	54.3	0.949	0.488-1.845		

Table 4. 30. **Relationship between Maternal factors and duration of exclusive breastfeeding (Continued)**

Variable	DV		Crude OR	95% CI	X2	p-value
n=140	(49.3%) Exclusive (0-3 M)	(50.7%) Exclusive (4-6 M)				
Mode of Delivery					4.855	<0.028*
Normal	39.1	57.7	1			
Cesarean	60.9	42.3	0.470	0.240-0.924		

***p-value=<0.05**

4.3.2 Relationship between breastfeeding practice and exclusive breastfeeding duration

Relationship between breastfeeding practices including time of initiating breastfeeding and prelacteal feeding were investigated. The result showed statistically significant relationship between these two independent variable with exclusive breastfeeding duration with a P value of 0.032 and 0.028 (Table 4.21).

4.3.3 Relationship between Knowledge and exclusive breastfeeding duration

To perform chi-square analysis knowledge score was further categorized into high and low. The chi-square analysis showed no significant relationship with a P value of <0.621 (Table 4.22)

4.3.4 Relationship between the contextual factors and exclusive breastfeeding duration

Contextual factors include antenatal counseling, postnatal counseling, showing of proper positioning and how to breastfeed an infant. Moreover, this includes information received through media and their relationship with the duration were analyzed. The result showed significant association between duration of exclusive breastfeeding with antenatal counseling (Chi Square test; p=0.021), if shown how to breastfeed (Chi Square test; p=0.011) and positioning the infant (chi-square test; p <0.013). However, no significant association were seen between exclusive breastfeeding duration and information through media (Table 4.23).

Table 4. 31. Relationship between breastfeeding practice and exclusive breastfeeding duration

Variable	DV		Crude OR	95% CI	X2	p-value
n=140	(49.3%) Exclusive (0-3 M)	(50.7%) Exclusive (4-6 M)				
Time of Initiating BF					5.039	<0.032*
Within the First hour after birth	66.7	33.3				
After the first hour	83.1	16.9	0.407	0.183-0.903		
Prelacteal Feeding					4.855	<0.028*
Yes	60.9	42.3	1			
No	39.1	57.7	2.126	1.083-4.175		

***p-value=<0.05**

Table 4. 32: Relationship between Knowledge and exclusive breastfeeding duration

Variable	DV			Crude OR	95% CI	X2	p-value
	n=140	(49.3%) Exclusive (0-3 month)	(50.7%) Exclusive (4-6)				
Level of Knowledge						0.245	0.621
Low		24.6	21.1	1			
High		75.4	78.9	0.819	0.372-1.806		

***p-value=<0.05**

Table 4. 33: Relationship between the contextual factors and exclusive breastfeeding practices

Variable	DV			Crude OR	95% CI	X2	p-value
	n=140	(49.3%) Exclusive (0-3 M)	(50.7%) Exclusive (4-6 M)				
Antenatal Counseling						0.01	<0.021*
Yes		60.3	39	1			
No		39.7	61	2.378	1.195-4.732		
Postnatal Counseling						0.26	<0.344
No		34.5	40	1			
Yes		65.5	56.1	1.487	0.742-2.980		
Showed how to breastfeed						0.01	<0.011*
No		7	22.9	1			

Table 4. 34: Relationship between the contextual factors and exclusive breastfeeding practices

Variable	DV		Crude OR	95% CI	X2	p-value
	n=140					
	(49.3%) Exclusive (0-3 M)	(50.7%) Exclusive (4-6 M)				
Yes	87.9	69.5	3.195	1.274-8.013		
Showed correct positioning					0.01	<0.013*
No	12.1		1			
Yes	87.9		3.383	1.352-8.461		
Information through Media					0.78	<0.920
No	32.8		1			
Yes	67.2		0.9	0.437-1.854		

***p-value=<0.05**

4.4 Correlational Analysis

4.4.3 Relationships between exclusive Breastfeeding duration with breastfeeding Attitude, Subjective Norm, perceived control, and Intention

Pearson correlation analysis were performed to explore the relationship between exclusive breastfeeding duration with exclusive breastfeeding information through media and the theory planned behavior constructive including attitude, subjective norm, perceived behavior control and intention towards exclusive breastfeeding.

The correlation matrix indicated that intention towards exclusive breastfeeding (r=0.167), attitude and intention (r=0.181), subjective norm and intention (r=0.20), perceived control and intention (r=0.167), attitude and subjective norm with the duration (r=0.037 and r=0.008, respectively), perceived control and exclusive breastfeeding duration (r=0.246) and intention and duration (r=0.117). This findings indicated that these variables with the target behavior (duration) have a positive correlation, however the strength is weak (Table 4.24).

Table 4. 35 Correlational Analysis of independent variables with dependent variable

n=140	Intention towards Exclusive breastfeeding	
	(r)	**(P- value)**
Breastfeeding information through Media	0.167	0.049*
Attitude vs Intention	0.181	0.032*
Subjective Norm vs Intention	0.202	0.017*
Perceived control vs Intention	0.167	0.049*
Attitude vs EBF duration	0.037	0.667
Subjective Norm vs EBF duration	0.008	0.921
Perceived Control vs EBF duration	0.246	0.003*
Intention vs EBF duration	0.117	0.167

***P-value = <0.05**

4.5 Regression Analysis

A multiple regression analysis was conducted using duration as dependent and intention as dependent variable. Maternal education, antenatal counseling, showed how to breastfeed and positioning the infant, attitude, subjective norm, perceived control and intention, knowledge level as independent variables.

Regression analysis as summarized in table 4.25, showed significant relationship with education and exclusive breastfeeding (p=0.009) indicating that mothers with lower than secondary education were more likely to breastfeed exclusively for a longer duration compare to mothers having higher education (OR= 2.573, 95% CI= 1.271, 5.211). Knowledge level was analyzed to explore further, and the result indicated that there is a relationship between knowledge level and exclusive breastfeeding (p=0.0001). The regression analysis on antenatal counseling, mothers were showed correct attachment and positioning were statistically significant (p=0.014, P=0.013, and p=0.009 respectively).

Attitude and Subjective norm were explored and the results revealed that there is a significant relationship with intention towards exclusive breastfeeding since both have a p<0.0001.

Intention and Perceived control analyzed in the regression model indicated that there is strong evidence, that there is an association between these two variable and duration of exclusive breastfeeding (p=0.01 and p=0.001).

Therefore, there is a strong evidence that there is an association between the duration of exclusive breastfeeding and mothers' positive intention, more positive attitude, more support subjective norm and higher level of breastfeeding control. Based on this evidence, the null hypothesis is rejected.

Table 4. 36: Multiple logistic regression model of factors influencing exclusive breastfeeding behavior

Variable	Adjusted OR	95 % CI		P-value
		Lower	Upper	
Education				
>Higher Secondary	1			
<Primary and Secondary	2.573	1.271	5.211	0.009*
Knowledge level score				
Low	1			
High	1.568	1.308	1.828	0.0001**
Antenatal Counseling				
No	1			
Yes	2.378	1.195	4.732	0.014*
Showed how to breastfeeding				
No	1			
Yes	3.195	1.274	8.013	0.013*

*p=<0.05 **p= <0.0001

Variable	**Adjusted OR**	**95 % CI**		**P-value**
		Lower	**Upper**	
Showed correct positioning				
No	1			
Yes	3.383	1.352	8.461	0.009*
Attitude vs Intention				
Negative attitude	1			
Positive attitude	4.922	0.802	1.880	0.0001**
Subjective Norm vs Intention				
Low influence	1			
High influence	5.806	1.172	2.382	0.0001**
Intention vs Duration				
Negative intention	1			
Positive intention	3.449	0.527	1.943	0.01*
Perceived Control vs Intention				
No control	1			
High control	2.059	1.595	2.522	0.0001*

***p=<0.05 **p= <0.0001**

Variable	Adjusted OR	95 % CI		P-value
		Lower	Upper	
Perceived Control vs Duration				
No Control	1			
High Control	2.953	0.493	2.492	0.004*
Intention vs Duration				
Negative	1			
Positive	3.449	0.527	1.943	0.001*

***p=<0.05 **p= <0.0001**

CHAPTER 5

DISCUSSION AND CONCLUSION

The findings of this study highlighted the proportion of exclusive breastfeeding by age, identified the factors that are associated with exclusive breastfeeding duration. This section presents the discussion of the key findings with respect to the stated objectives of the study based on the literature.

5.1. Summary of Main Findings

This study was a cross-sectional analytical study to determine the factors influencing exclusive breastfeeding duration among infants aged 0-12 months in Male' city, Maldives. Quantitative data was collected using both researcher administered and self-administered questionnaires.

The rate of continuous exclusive breastfeeding since birth was 41.4% while the rate of exclusive breastfeeding based on 24 hour recall was 58% in Male' city. A logistic regression analysis indicated significant positive relationship between exclusive breastfeeding duration and knowledge (p=0.0001). Mother's education level was associated with the duration of exclusive breastfeeding, however an inverse relationship was revealed. That is mothers' with lower education was more likely to practice exclusive breastfeeding for a longer duration compare with their counterparts.

The attitude, subjective norm and perceived control and intention towards exclusive breastfeeding was significantly associated and perceived control and duration were greatly associated (p=0.0001).

Therefore, knowledge, Attitude, Subjective norm, perceived behavior control, and intention are the strong predictors for exclusive breastfeeding duration. These findings supported hypothesis, that there is a relationship between the duration of exclusive breastfeeding and mothers' with more positive intention, more positive breastfeeding attitude, more supportive subjective norm, and higher level of breastfeeding control.

Therefore, should provide mothers enough breastfeeding knowledge and encourage new mothers' positive breastfeeding attitude, educate mothers' referents, and strengthen their breastfeeding control

5.2.Discussion

5.2.1 Maternal Factors and exclusive breastfeeding

Findings of the multiple logistic regression analysis showed maternal factors such as maternal education and knowledge level were significantly associated with exclusive breastfeeding duration with a p value of 0.009 and 0.0001 respectively. Moreover, the result showed that mothers having lower education practiced exclusive breastfeeding for a longer duration compared to mothers having higher education. Findings of this study are consistent with the study carried out in Sri Lanka, in which mothers studied up to GCE O'level, had higher exclusive breastfeeding rate compared with mothers who had higher education (Parera et al., 2013). Similar findings were observed in the study conducted in Ugnda (Bbaale, 2014), and in Bahir Dar City, Ethiopia (Sefene et al., 2013). The current study found that mothers with higher knowledge were more likely practice exclusive breastfeeding for a longer duration. This was supported in the study conducted in Dhaka city, Bangladesh (Banu & Khanom, 2012), in Nepal (Paudel & Giri, 2014) and in Lagos State, Nigeria (Obilade, 2015).

Other maternal factors such as parity and mode of delivery showed no significant association between the duration of exclusive breastfeeding duration. A study conducted for European descendent were consistent with the mode of delivery (krol, Rajhans, Missana & Grossmann, 2014) and a study conducted in Central Ethiopia observed similar findings (Asfaw et al., 2015). However, it was noted that multiparous women have higher self-confidence and infant feeding knowledge gained from previous breastfeeding experience and therefore more likely to breastfeed exclusively for longer period compare to primiparous mothers (Amin, Hablas, Al Qader, 2011).

5.2..1. Contextual Factors

The finding in the present study showed an association between showing the correct attachment (77%) and right positioning (76%) with exclusive breastfeeding, implying that mothers would breastfeed exclusively. This finding reflected the importance of the fifth step of the Ten Steps to Successful Breastfeeding: Show mothers how to breastfeed and how to birth more helpful, as it came at a time when they were more likely to experience breastfeeding problems (WHO, 1991). More than half (52%) did not receive breastfeeding counseling, while, 48% reported of having received breastfeeding counseling during antenatal visits. Though there was not much difference between the percentages, the result showed significant relationship between antenatal counseling (p=<0.021), shown correct attachment (p=<0.011) and right positioning (p=<0.013) with exclusive breastfeeding duration. Similar findings were observed in a study conducted in Pakistan which found that counseled mothers were more likely to practice exclusive breastfeeding for a longer duration compared to their counterparts (Ahmed et al., 2013) and in Debre Berhan Distric, Central Ethiopia (Asfaw, Argaw and Kefene, 2015). Postnatal counseling in this study was not significant; however, mothers who had received postnatal counseling were 1.5 times more likely to breastfeed exclusively for a longer duration than those who did not receive counseling. Asfaw et al. (2015) found that mothers received postnatal counseling were 2.1 times more likely to practice exclusive breastfeeding for a longer duration. This difference could be due to the difference in sample size and the target group in which 624 samples was collected in the previous study. This showed that counseling is essential to improve maternal knowledge and adherence of exclusive breastfeeding during the first six months of life.

Among 140 mothers, 68.6 % received breastfeeding information through media and majority (50%) mothers reported of receiving breastfeeding information through Television, while 17% received this information through internet. Mothers received breastfeeding information through media were related with intention towards exclusive breastfeeding (p=0.049). This was supported by the study conducted in Uganda (Gupta, Katende & Bessinger, 2004).

5.2..2. Duration of exclusive breastfeeding

In this study, Exclusive breastfeeding duration was measured by using both 24-hour recall method and continuity since birth. Among 140 mothers who participated in this study, 61mothers were having infants below the age of 6 months. Among these 61 mothers, 50.8% breastfed their infants as measured by a 24-hour recall method. Continuous exclusive breastfeeding since birth rate was 41.4%. This percentage was lower compare to the Maldives Demographic Health Survey (MDHS), which was 48% (MDHS, 2009). The difference could be due to the relatively small sample size compare to the sample size for the MDHS. The median duration for continuity since birth was 5 months, while the median for the 24-hour recall method was one month. However, the exclusive breastfeeding rate of all infants less than 6 months is far from reaching the recommended level of 90% by WHO/UNICEF. There is a huge variation in the exclusive breastfeeding rates as determined by the two definitions in this study as the 24 hour recall does not account for feeding practices beyond the previous 24 hours and therefore gives an overestimation of the rate of exclusive breastfeeding rate (WHO, 2008). Similar observation were seen in a study conducted in Sri Lanka (Agampodi, S, Agampodi, T & Silva, 2009).

5.2..3. Relationship between attitude and exclusive breastfeeding duration

The present study explored the extent to which the exclusive breastfeeding attitude, subjective norm, perceived control influence the duration of exclusive breastfeeding of mothers attending Dhamanaveshin in Male'. The present findings provide the importance of utilizing of the TPB in its partial implication to the prediction and in depth understanding of intention towards exclusive breastfeeding. According to the Ajzen's theory of TPB, attitude and subjective norm are the major factors which determine person's behavioral intention (Ajzen, 1991). Moreover, the current findings supported the interrelationships between the constructs of the theory planned behavior, which hypotheses breastfeeding intention is affected by the attitude, subjective norm and perceived control for exclusive breastfeeding. Furthermore, perceived control showed interrelated with the duration hypothesizing that this affects the duration of exclusive breastfeeding which is also consistent with the theory. The result were also consistent with studies conducted in India (Behera & Anil, 2015) and in Dhaka, Bangladesh (Khatun, Punthmatharith and Orapiriyakul, 2010). Howver, Khatun et al. (2010) study subjective norm could not predict the intention to exclusive breastfeed. This could be due to the mothers in the study perceived that all their referents suggested that they should definitely breastfeed exclusively to their infants and they were also motivated by their referents, however this was not adequate to create a positive impact on the intention.

5.3. Conclusion

The exclusive breastfeeding rate at Male' (41.4%) is below the level recommended by WHO/UNICEF. From the study, Maternal factors such as knowledge level, and contextual factors including antennal counseling, showing the correct attachment, positioning greatly influenced the practice of exclusive breastfeeding especially the perception of having insufficient milk and feeling that infant is hungry by the mothers. Maternal education was inversely associated with exclusive breastfeeding. Parity, Mode of delivery and experience were not associated with the duration of exclusive breastfeeding. Maternal attitude, maternal prenatal intention, subjective norm, and perceived control were significantly associated with the intention towards exclusive breastfeeding.

Therefore, knowledge, attitude, subjective norm, perceived behavior control, and intention are the strong predictors for exclusive breastfeeding duration in this study. Therefore, when educating mothers on exclusive breastfeeding and adherence of the recommended duration, these factors need to be addressed.

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5.4. Recommendation

The following recommendations were made from this study are breastfeeding promotion messages by using mass media and health sector should focus on alleviating the common misconceptions mothers have on exclusive breastfeeding such as perception of infant getting hungry and ready for complementary food at the age of 3 months, and the most common perception of insufficient breast milk production.

The two most common delivery site; IGMH and ADK should provide counseling during antenatal and postnatal visit and encourage mothers to attend sessions where mothers were shown the correct attachment and position and provide a platform for mothers to share challenges of breastfeeding and mitigating challenges.

Mothers should be provided with adequate breastfeeding knowledge and encourage new mothers' positive breastfeeding attitude, educate mothers' referents, and strengthen their breastfeeding control.

Risk behaviors such dummy use, particularly pacifier should strongly be discouraged as many mothers' were seeing use of pacifiers to control the crying of the baby. Mothers should be educated with risk behaviors and consequences of this behaviors.

For the adherence of exclusive breastfeeding for a longer duration, mothers should be monitored closely and at every month up to 6 months identifying their difficulties and educating ways to overcome those obstacles.

5.5. Limitations of the study

This study was limited to socio-demographic factors, some of the maternal factors and contextual factors. Other factors such as pacifier use, maternal stress were not measured in this study due to mainly time and financial constraints.

The prevalence of exclusive breastfeeding was determined based on the 24 hour recall method, which is a WHO recommended method, however, some research showed overestimation of exclusive breastfeeding rates using this method (Perera, Ranathunga, Fernando, Sampath & Samaranayake, 2013). However, to reduce this, mothers were also asked if they have given any food or drink other than exclusive breastfeeding during the past month/months. This was based on a mothers' memory, which could result adding recall bias and was one of the limitation of this study. This study was a facility based, therefore mothers were in a hurry to leave as the infants' were crying and was feeling discomfort. As a result, mothers may respond to questions without paying much attentions which could underestimate or overestimate the result.

5.6.Directions for future research

The study findings provided information that can be used in practice and future research to promote the increase in exclusive breastfeeding duration. Additional research is required to establish ways of improving breastfeeding counseling at the health facility level in order to make it more effective and also identify ways to sustain optimal infant feeding practices in the community.

6. REFERENCES

Abdulraheem, R & Binns, C. W. (2007). The infant feeding practices of mothers in the Maldives. Public Health Nutrition.10 (5). Retrieved from http://journals.cambridge.org/action/displayAbstract?fromPage=online&aid=978760&fileId=S1368980007223882

Agampodi, S.A., Agampodi, T.C., & Silva, A.De. (2009). Exclusive breastfeeding in Sri Lanka: problems of interpretation of reported rates. BioMed Central. 4(14). doi:10.1186/1746-4358-4-14

Ajzen, I. (1991). Organizational Behavior and Human Decision process. 50, 179-221. Retrieved from http://people.umass.edu/aizen/obhdp.html

Ajzen, I. (2006). Constructing a TPB Questionnaire: Conceptual and Methodological Considerations. Retrieved from http://www.uni-bielefeld.de/ikg/zick/ajzen%20construction%20a%20tpb%20questionnaire.pdf

Al Juaid, D.A.M., Binns, C.W., & Giglia, R.C. (2014). Breastfeeding in Saudi Arabia: a review. International Journal of Breastfeeding. 9(1). doi:10.1186/1746-4358-9-1.

Al-Akour, NA., Khassawneh, M.Y., Khader, Y.S., Abadneh, A.A., & Haddad, A.M.(2010). Factors affecting intention to breastfeed among Syrian and Jordanian mothers: a comparative cross-sectional study. *Internnational Breastfeeding Journal*.5. Retrieved from http://www.internationalbreastfeedingjournal.com/content/5/1/6

Alemayehu, T., Haidar, J. and Habte, D. (2009). Determinants of exclusive breastfeeding practices in Ethiopia. Ethiopia. Journal of Health Dev. 23 (1). Retrieved from http://www.ajol.info/index.php/ejhd/article/view/44832.

Amin, R. M., Said, Z. M., Sutan, R., Shah, S. A., Darus, A. & Shamsuddin, K. (2011). Work related determinants of breastfeeding discontinuation among employed mothers in Malaysia. International Breastfeed Journal, 6, 4. doi:10.1186/1746-4358-6-4

Amin, T., Hablas, H., Al Qader, A.Al. (2011). Determinants of Initiation and Exclusivity of Breastfeeding in Al Hassa, Saudi Arabia. Breastfeeding Medicine.6(2). Retrieved from http://online.liebertpub.com/doi/pdfplus/10.1089/bfm.2010.0018

Ansair, S., Abedi, P., Hasanpoor, S., & Bani, S. (2014). The effect of interventional program on breastfeeding self-efficacy and duration of exclusive breastfeeding pregnant women in Ahvaz, Iran. *International Scholarly Research Notices, 2014.* http://dx.doi.org/10.1155/2014/510793

Asfaw, M.M., Argaw M.D., & Kefene. (2015). Factors associated with exclusive breastfeeding practices in Debre Berhan District, Central Ethiopia: a cross sectional community based study. International Breastfeeding Journal .10(23). Retrieved from http://www.internationalbreastfeedingjournal.com/content/10/1/23

Bai, D. L.,Wu, K. M., &Tarrant, M. (2011). Association between Intrapartum Interventions and Breastfeeding Duration. Journal of Midwifery & Women's Health. 58(1). doi:10.1111/j.1542-2011.2012.00254.x

Banu, B & Khanom, K. (2012). Effects of education level of father and mother on perception of breastfeeding.Journal of Enam Medical College. 2(1). Retreievd from http://www.banglajol.info/index.php/JEMC/article/view/12840

Bbaale, E. (2012). Determinants of early initiation, exclusiveness, and duration of breastfeeding in Uganda. Journal Health Population and Nutrition 32(2). Retrieved from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4216961/

Bbaale, E., & Buyinza, F. (2011). Micro-analysis of mother's education and child mortality: Evidence from Uganda. Journal of International Development. 24. DOI: 10.1002/jid.1762.

Behera, D., Anil, K.K. (2015). Predictors of exclusive breastfeeding intention among rural pregnant women in India: a study using theory planned behaviour. The International Electronic Journal of Rural and Remote Health Research Education, Practice, and Policy. 15 (3405). Retrieved from http://www.rrh.org.au/articles/subviewnew.asp?ArticleID=3405

Black, R.E., Allen, L.H., Bhutta, Z.A., Cavlfield.L.E., de Onis, M., Ezzati, M.,, Mathers, C., & Rivera, J. (2008). Maternal and child undernutrition: global and regional exposures and health consequences. Lancet. Retrieved from http://www.who.int/nutrition/topics/Lancetseries_Undernutrition1.pdf

De la Mora A., Russell D.W., Dungy C.I, Losch M., Dusdieker L. (1999). The Iowa Infant Feeding Attitude Scale: Analysis of Reliability and Validity. Journal of Applied Social Psychology. 29 (11). Retrieved from http://www.health.fgov.be/internet2Prd/groups/public/@public/@dg1/@acutecare/documents/ie2divers/19073181_nl.pdf

Dewey, K.G., Heinig, M.J., & Nommsen, L.A. (1993). *Americal society for Clinical Nutrition.*58. Maternal weight-loss patterns during prolonged lactation. Retrieved from http://ajcn.nutrition.org/content/58/2/162.long

Eidelman, I., & Schanler, R. (2006). Breastfeeding and the use of human milk. *American Academy of Pediatrics.* Retrieved from http://pediatrics.aappublications.org/content/pediatrics/129/3/e827.full.pdf

Employment Act, s.43. Retrieved from http://www.agoffice.gov.mv/pdf/employmentAct.pdf

Foss, K.A & Southwell, B.G. (2006). Infant feeding and the media: the relationship between parents magazine content and breastfeeding, 1972-2000. International breastfeeding Journal, 1(10). Retrieved from doi:10.1186/1746-4358-1-10.http://jpubhealth.oxfordjournals.org/content/29/1/17.full.pdf+html

Godfrey,J.R., & Lawrence, R.A. (2010). Towards optimal health: the maternal benefits of breastfeeding. 19. Retrieved from http://online.liebertpub.com/doi/abs/10.1089/jwh.2010.2290

Gupta, N.,katende, C., & Bessinger, R. (2004). An evaluation of post-campaign knowledge and practices of exclusive breastfeeding in Uganda. Journal health of population Nutrition.22 (4). Retrieved from http://www.bioline.org.br/pdf?hn04052

Haroon, S., Das, J.K., Salam, R.A., Imdad, A., & Bhutta, Z.A. (2013). Breastfeeding promotion interventions and breastfeeding practices: a systematic review. BioMed Central. 13(3). doi:10.1186/1471-2458-13-S3-S20

Jessri, M., Farmer, A.P., Maximova. K., Willows, N.D., Bell, R.C, & APrON Study Team. (2013). Predictors of exclusive breastfeeding: observations from the Alberta pregnancy outcomes and nutrition (APrON) study. Bio Med Central, Pediatrics,13 (77). doi:10.1186/1471-2431-13-77

Johnston, M., Landers, S., Noble, L., Szucs, K., & Viehmann, L. (2012). Breastfeeding and the use of human milk. The American Academy of Pediatrics, 829. doi:doi:10.1542/peds.2011-3552Ministry of Health and Family and ICF macro. (2010). Demographic Health and Health Survey 2009. Maryland: Calverton.

Joshi, P.C., Angdembe, M.R., Das, K.S., Ahmed, S., Faruque, A.S.G.F., & Ahmed. T. (2014). Prevalence of exclusive breastfeeding and associated factors among mothers in rural Bangladesh: a cross-sectional study. International Breastfeeding Journal. 9(7). doi:10.1186/1746-4358-9-7

Khatun, S., Punthmamatarith, B., & Orapiriyakul, R. (2010). The Influence of Breastfeeding Attitude and Subjective Norm on Intention to Exclusive Breastfeeding of Mothers in Dhaka, Bangladesh. The 2nd International Conference on Humanities and Social Sciences. Retrieved from http://tar.thailis.or.th/bitstream/123456789/942/1/011.pdf

Kramer,M.S., & Kakuma. (2002). Optimal duration of exclusive breastfeeding (review). The Cohrane Database of Systemic Review, 2002,1, Art. No.: CD003517. DOI: 10.1002/14651858.CD003517.

Krol, K. M., Rajhans, P., Missana, M., & Grossmann, T. (2014). Duration of exclusive breastfeeding is associated with differences in infants’ brain responses to emotional body expressions. Frontiers in Behavioral Neuroscience, 8, 459. http://doi.org/10.3389/fnbeh.2014.00459

Ku, C.M., & Chow, S.K. (2010). Factors influencing the practice of exclusive breastfeeding among Hong Kong Chinses women: a questionnaire survey. *Journal of Clinical Nutrition.* 19. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/20920071

Mgongo, M., Mosha, M V., Uriyo, J G.,Msuya, S E., & Pedersen, B S. (2013). Prevalence and predictors of exclusive breastfeeding among women in Kilimanjaro region, Northern Tanzania: a population based cross-sectional study. International Journal of Breastfeeding. 8(12). doi:10.1186/1746-4358-8-12Al Juaid, D.A.M., Binns, C.B., & Giglia, R.C. (2014). Breastfeeding in Saudi Arabia: a review. International Breastfeeding Journal, 9(1), doi:10.1186/1746-4358-9-1

Ministry of Health and Gender. (2014). Maldives Health Profile 2014. Retrieved from http://www.health.gov.mv/publications/13_1395305886_Maldives_Health_Profile_2014_final_final.pdf.

Mutuli, L.A., & Walingo, M.K. (2014). Applicability of Theory planned Behaviour in understanding breastfeeding intention of postpartum women. International Journal of Multidisciplinary and current Research. 2. Retrieved from http://ijmcr.com/wp-content/uploads/2014/04/Paper13258-266.pdf.

Natland, S.T., Nilsen, T.I.L., Midthjell, K., Andersen, L.F., & Forsmo, S. (2012). Lactation and cardiovascular risk factors in mothers in a population-based study: the HUNT-study. 7 (8). doi:10.1186/1746-4358-7-8

Nkala, T.E., & Msuya, S.E. (2011). Prevalence and predictors of exclusive breastfeeding among women in Kigoma region, Western Tanzania: Community based cross-sectional study. *International Journal of Breastfeeding.* 6. Retrieved from http://www.internationalbreastfeedingjournal.com/content/6/1/17

Noughabi, Z.S., Tehrani, S.G., Foroushani, A.R., Nayeri, F., Baheiraei, A. (2014). Prevalence and factors associated with exclusive breastfeeding at 6 months of life in Tehran: a population-based study. Eastern Mediterranean Health Journal. 20.(1). Retrieved from http://applications.emro.who.int/emhj/v20/01/EMHJ_2014_20_1_24_32.pdf?ua=1

Obilade, T.T. (2015). The Knowledge, Attitude, and Practice of Exclusive Breastfeeding among Mothers in Two Semi-Urban Areas around a

Baby Friendly Hospital Initiative (BFHI) designated hospital in Lagos State, Nigeria. 8(15). International Archives of Medicine. Retrieved from http://imed.pub/ojs/index.php/iam/article/view/987

Ochola, C.A (2014). Psychosocial factors associated with exclusive breastfeeding among pregnant women on follow up in a tertiary maternity hospital. (Unpublished master's dissertation). Aga Khan University, East Africa. Retrieved from http://ecommons.aku.edu/theses_dissertations/627/

Olang, B., Heidarzadeh, A., Strandvik, B., & Yngve, A. (2012). Reasons given by mothers for discontinuing breastfeeding in Iran. International Breastfeeding Journal.7 (7). doi:10.1186/1746-4358-7-7.

Oliveira, M.G., Lira, P.I., Filho,M.B., & Lima, C. M. (2013). Factors associated with breastfeeding in two municipalities with low human development index in Northeast Brazil. Revista Brasileira de Epidemiologia. 16(1). http://dx.doi.org/10.1590/S1415-790X2013000100017

Onah, S., Osuorah, D.I.C., Ebenebe, J., Ezechukwu, C., Ekwochi., & Ndukwu, I. (2014). Infant feeding practices and maternal socio-demographic factors that influence practice of exclusive breastfeeding among mothers in Nnewi South-East Nigeria: a cross-sectional and analytical study. International Breastfeeding Journal. 9(6). doi:10.1186/1746-4358-9-6.

Patel, A.,Badhoniya, N.,Khadsem S., Senarath, U., Agho, K. E., & Dibley, M. J. (2010). Prevalence of exclusive breastfeeding and associated factors among mothers in rural Bangladesh: a cross-sectional study. International Journal of Breastfeeding.9(7). doi:10.1186/1746-4358-9-7

Perera, P. J., Ranathunga, N.,Fernando, M.P., Sampath, W.,Samaranayake, G.B. (2013). Actual exclusive breastfeeding rates and determinants among a cohort of children living in Gampaha distric Srilanka: A prospective Observational study. International Breastfeeding Journal, 7 (21), doi:10.1186/1746-4358-7-21.

Santos, J.R.A. (1999). Cronbach’s Alpha: A tool for Assessing the reliability of scales. Journal of Extension, 37(2). Retrieved from http://www.joe.org/joe/1999april/tt3.php

Sasaki, Y., Ali, Moazzam., Kakimoto, K., Saroeun, O., Kanal, K., & Kuroiwa, C. (2009). Predictors of Exclusive Breast-Feeding in Early Infancy: A Survey Report from Phnom Penh, Cambodia. Journal of Pediatric Nursing, 25(6), 463–469. Abstract retrieved from http://www.pediatricnursing.org/article/S0882-5963(09)00114-6/abstract

Sefene, A., Birhanu, D., Awoke, W., & Taye, T. (2013). Determinants of exclusive breastfeeding practice among mothers of children age less than 6 month in Bahir Dar city administration, Northwest Ethiopia; a community based cross-sectional survey. 2(6).doi: 10.11648/j.sjcm.20130206.12

Sencan, I., Tekin, O., & Tatli, M.M. (2013). Factors influencing breastfeeding duration: a survey in a Turkish population. European Journal of Pediatrician.172. 1459-1466. DOI 10.1007/s00431-013-2066-8

Shahla, M., Fahy, K., & Kable, A.K. (2010). Factors that positively influence breastfeeding duration. School of Health and Human Science. Retrieved from http://epubs.scu.edu.au/cgi/viewcontent.cgi?article=1913&context=hahs_pubs

Stegan, T., Belachew, T., Gerbaba, M., Deribe, K., Deribew, A., & Biadgilign, S. (2012). Factors associated with exclusive breastfeeding practices among mothers in Goba district, south east Ethiopia: a cross-sectional study. International Breastfeeding Journal. 7(10). doi:10.1186/1746-4358-7-17

Tan, K. L. (2011). Factors associated with exclusive breastfeeding among infants under six months of age in Peninsular Malaysia. International Breastfeeding journal. 6(2). doi:10.1186/1746-4358-6-2

Temesgen, B., Birhanu, Z., Astale, T., & Dejene, T. (2013). Predictors of intended infant and feeding options among HIV positive pregenant women in Addis Ababa: the persepective of theory planned behavior. *Journal of AIDS and HIV Research.* Retrieved from DOI 10.58971/JAHR2013.0243

U.S. Department of Health and Human Services. (2011). The Surgeon General’s Call to Action to Support Breastfeeding. Washington, DC. Retrieved from http://www.surgeongeneral.gov/library/calls/breastfeeding/calltoactiontosupportbreastfeeding.pdf

Uchendu, U.O., Ikefuna, A.N, Emodi, I.J. (2009). Factors associated with exclusive breastfeeding among mothers seen at the University of Nigeria Teaching Hospital. S A journal of child health. 3(1). http://www.sajch.org.za/index.php/SAJCH/article/view/163.

Ulak, M., Chandyo, R.K., Mellander, L., Shrestha, P.S., & Strand, T.A. (2012). Infant feeding practices in Bhaktapur, Nepal: across-sectional, health facility based survey. International Breastfeeding Journal. 7(1). doi:10.1186/1746-4358-7-1

UNICEF. (2011). Infant and Young Child Feeding. New York: UNICEF.

UNICEF. (2014). 25 Years of the convention on the rights of the child. A statistical analysis of progress since the adoption of the convention on the rights of the child. Retrieved from http://www.unicef.org/crc/files/02_CRC_25_Years_UNICEF.pdf

UNICEF. (2014). Breastfeeding. Retrieved from http://www.unicef.org/nutrition/index_24824.html

UNICEF. (2015). Nutrition. Retrieved from http://www.unicef.org/nutrition/index_24824.html

UNIFEF. (n.d.). The under-five mortality rate fell by almost half since 1990. Retrieved from http://data.unicef.org/child-mortality/under-five.

Wan, H., Tiansawad, S.,Yimyam, S., and Sriaporn, P. (2015). Factors predicting exclusive breastfeeding among Chinese mothers. The pacific Rim International Journal of Nursing Research.19.(1). Retrieved from http://www.tci-thaijo.org/index.php/PRIJNR/article/viewFile/19512/26328

WHO and UNICEF. (2003). Global strategy for infant and young child feeding. Switzerland: Geneva.

World Health Organization. (1991). Evidence for the ten steps for the breastfeeding. Retrieved from http://www.who.int/nutrition/publications/evidence_ten_step_eng.pdf

World Health Organization. (2008). Indicatiors for assessing infant and young child feeding practices: conclusion of a consensus meeting held 6-8 November 2007 in Washington, DC, USA. Geneva, Switzerland.

World Health Organization. (2009).Infant and young child feeding: Model chapter for textbooks for medical students and allied health professionals, 9-10.Geneva, Switzerland.

World Health Organization. (2015). Infant and young child feeding [fact sheet]. Retrieved from http://www.who.int/mediacentre/factsheets/fs342/en/

World Health Organziation. (n.d). Malnutrition. Retrieved from http://www.who.int/maternal_child_adolescent/topics/child/malnutrition/en/

World Health Organziation. (n.d). Manutrition. Retrieved from http://www.who.int/maternal_child_adolescent/topics/child/malnutrition/en/

Yimer, M., Abera, B., Mulu, W., & Bezabih, B. (2013). Knowledge, attitude, and practices of high risk populations on louse- borne relapsing fever in Bahir Dar city, north-west Ethiopia. Science Journal of Public Health. 2 (1). Retrieved from http://article.sciencepublishinggroup.com/pdf/10.11648.j.sjph.20140201.13.pdf

7 APPENDICES

7.1. Divehi Consent Form

ހަމައެކަނި ގާތުން ކިރުދިނުމާއި ބެހޭ ގޮތުން ކުރެވޭ ދިރާސާގެ މައުލޫމާތު ކަރުދާސް

ދިރާސާގެ ނަން: ފެކްޓަރސް އިންފްލުއެންސިންގ އެކްސްކްލޫސިވް ބްރެސްޓްފީޑިންގ އެމަންގް އިންފަންޓްސް އޭޖްޑް

12-0 މަންތްސް އިން މާލެ ސިޓީ، މޯލްޑިވްސް

ދިރާސާ ކުރާ ފަރާތުގެ މައުލޫމާތު

ނަން: އާމިނަތު އަބްދުﷲ ނާސިރު

ފެކަލްޓީ: ފެކަލްޓީ އޮފް ހެލްތު ސައިންސަސް

ކޯސް: ބެޗެލަރސް އޮފް ޕްރައިމަރީ ހެލްތު ކެއަރ

ފޯން ނަންބަރު: 7910595

އައްސަލާމް ޢަލައިކުމް.

އަޅުގަނޑުގެ ނަމަކީ އާމިނަތު އަބްދުﷲ ނާސިރުއެވެ. އަޅުގަނޑަކީ ފެކަލްޓީ އޮފް ހެލްތު ސައިންސަސްގެ ބެޗެލަރސް އިން ޕްރައިމަރީ ހެލްތު ކެއަރ ކޯހުގައި ކިޔަވަމުންދާ ދަރިވަރެކެވެ. މިދިރާސާއަކީ އަޅުގަނޑުމެން ކިޔަވާ މާއްދާއަކާއި ގުޅިގެން ކުރާ ދިރާސާއެކެވެ.

މިދިރާސާ ހެދުމުގެ މައިގަނޑު މަޤްޞަދަކީ ހަމައެކަނި ގާތުން ކިރުދިނުމަށް ދިމާވާ ދަތިތަކާއި ގާތުން ކިރުދިނުމާއި ހުރިގުޅުން ދެނެގަތުމެވެ. މިދިރާސާގައި އެއްކުރެވޭ އެއްވެސް މައުލޫމާތެއްގައި ތިޔަބޭފުޅަކީ ކާކުކަން އަންގައިދޭނެ އެއްވެސް މައުލޫމާތެއް ހިމެނިފައިނުވާނެއެވެ. އަދި މިބޭފުޅުންގެ ހުރިހާ މައުލޫމާތުތަކަކީ ވަރަށް ސިއްރުކޮށް ރައްކާކޮށް ބަލަހައްޓާނެ މައުލޫމާތުތަކެކެވެ. އަދި މިދިރާސާގައި އެއްކުރެވޭ މައުލޫމާތުތައް ބޭނުންކުރެވޭނީ ޖުމުލަ ނަތީޖާއެއްގެ ގޮތުގައެވެ.

މިދިރާސާގައި ބައިވެރިވާނީ އެބޭފުޅުން އަމިއްލަ އިޚްތިޔާރުގައި އެއްވެސް މަޖުބޫރުކުރުމެއްނެތިއެވެ. ބޭނުންވެއްޖެ ހާލަތެއްގައި އިންޓަވިއު ކުރިއަށްގެންދިޔުން ދޫކޮށްލެވިދާނެއެވެ. ދިރާސާގައި ކުރާ ސުވާލުތަކާއި ބެހޭގޮތުން އެއްވެސް ސުވާލެއް އުފެދިއްޖެނަމަ އަޅުގަނޑާ އިސްތިފްސާރުކޮށް ކުރައްވާނެއެވެ.

މިދިރާސާގެ ސަބަބުން ތިޔަބޭފުޅަކަށް އެއްވެސް ގެއްލުމެއް އަދި ފައިދާއެއްވެސް ނުލިބޭނެއެވެ. އެހެންނަމަވެސް ހަމައެކަނި ގާތުން ކިރުދިނުމުގެ އާދަ ކުއްޖާގެ އުމުރުން 6 މަސްވަންދެން [illegible] ޕްރޮގްރާމްތައް

ހިންގުމަށް ވަރަށް މުހިއްމު މަޢުލޫމާތުތަކެއް، ހުރިހާ ސުވާލުތަކަށްވެސް ފުރިހަމައަށް ޖަވާބު ދެއްވުމަކީ އަޅުގަނޑުގެ ވަރަށްބޮޑު އެދުމެކެވެ. މިދިރާސާކުރުމަށް ބޭނުންކުރާ ސުވާލުކަރުދާހުގައި ހިމެނޭ ޖުމުލަ 67 ސުވާލުތަކަކުންވާއިރު، ސުވާލުކަރުދާސް ފުރިހަމަކުރުމަށް 15-20 މިނިޓު ހޭދަވާނެއެވެ.

ދިރާސާގައި ބައިވެރިވާ ފަރާތުގެ އިޤްރާރު ކަރުދާސް

ދިރާސާގެ ނަން: ފެކްޓަރސް އިންފްލުއެންސިންގ އެކްސްކްލޫސިވް ބްރެސްޓްފީޑިންގ އެމަންގް އިންފަންޓްސް އޭޖްޑް 12-0 މަންތްސް އިން މާލެ ސިޓީ، މޯލްޑިވްސް

ހަމައެކަނި [illegible] ބެހޭގޮތުން ހިންގާ މިދިރާސާއާއި ބެހޭ މަޢުލޫމާތު ކަރުދާސް ނުވަތަ މިއާއިބެހޭ މަޢުލޫމާތު އަޅުގަނޑަށް އޮޅުންފިލުވައިދީފައިވެއެވެ.

އަދި މިދިރާސާ އާއި ބެހޭގޮތުން ސުވާލުކުރުމަށް ފުރުޞަތު ދީފައިވެއެވެ. އަޅުގަނޑު ބޭނުންވެއްޖެ ހިނދެއްގައި މިދިރާސާގައި ބައިވެރިވުމަށް އިންކާރު ކުރެވޭ އަދި ބައިވެރިވުމަށްފަހުވެސް ކުރިއަށް ނުގެންގޮސް ހުއްޓާލެވޭނެކަން އަޅުގަނޑަށް އެނގެއެވެ. އަދި މިގޮތް ސަބަބުން އަޅުގަނޑަށް ލިބެމުންދާ ހިދުމަތުގައި އެއްވެސް ބަދަލެއް ނާންނާނެކަންވެސް އަޅުގަނޑަށް އެނގެއެވެ. މިމަޢުލޫމާތުތައް އެނގިހުރުމާއެކު މި ދިރާސާގައި ބައިވެރިވުމަށް އަޅުގަނޑު އެއްބަސްވަމެވެ.

ބައިވެރިވާ ފަރާތުގެ ސޮއި:..

ކާޑު ނަންބަރު..

ތާރީޚް:..

މި ދިރާސާގެ މަޢުލޫމާތު އޮޅުން ފިލުވައިދީ ކޮންސެންޓް ސޮއިކުރުމަށް އެދުނު ފަރާތުގެ ސޮއި:..

ތާރީޚް:..

7.2 Dhivehi Consent Form

Factors influencing Exclusive breastfeeding among infants aged 0-12 months in Male', City Maldives 2015

Participation: You are invited to take part voluntarily in the research study conducted by me; Aminath Abdullah Nasir, A student of faculty of health sciences studying bachelor of Primary Health care.

The purpose of this research study is to collect information regarding exclsuive breastfeeding practices including current breastfeeding practices and factors influencing the practices.

Before agreeing to participate in this research study, it is impotant that you read and understand this form. If you participate, you will recive a copy of this form to keep for your records. your participation can help to bring changes or modification to the current intervention stretegies. However, your participation is voluntary. This study will take around 15 minutes. Up to 100 patients will be participating in this study.

Confidentiality: the information you provided in this survey will be confidential and to protect your confidentiality, this survey will not contain identification information. However, the only personal information collected will be your phone number in case I might have to call you if I come across any doubt regarding the information you have already provided me. The results of this survey were used for academic purposes only.

Voluntary Participation: Your participation in this survey is voluntary. You may choose not to participate. If you decide to participate in this survey, and want to withdraw, you may withdraw at any time. If you decide not to answer any of the questions asked during the survey, you can refuse to answer the question. If you need to know more information regarding the survey, you can ask me.

Statement of your consent: I have read the above information of this research study. I voluntarily agree to participate in this study. I understand I will receive a copy of this consent form. If the subject is below 18 years of age, the parent or guardian must sign the form.

Signature: ____

Date: ____

Thank you for agreeing to participate in my survey!

7.2.1 Instrument I (0-6 months)

FACTORS INFLUENCING EXCLUSIVE BREASTFEEDING FOR THE FIRST SIX MONTHS AMONG INFANTS AGED 0-12 MONTHS IN

MALE’ CITY, MALDIVES - 2015

ADMINISTRATIVE DETAILS		
	Questionnaire No	....
	Date of Interview	....

SECTION A

SOCIO-DEMOGRAPHIC INFORMATION			
1.	Age of infant (in weeks /Months)	……………………………..	
2.	Gender	Male Female	1 2
3.	How old are you? (Age in completed years)	……………………………..	
4.	What is your marital status?	Married Divorced/living separate Widowed Never married	1 2 3 4
MATERNAL FACTORS			
5.	Are you working anywhere?	Govt worker Pvt worker Self employed House wife Other (specify)……………………	1 2 3 4 5
6.	What is your monthly income	MVR Less than 5000 MVR 5000-10,000 MVR 10,000-15,000 MVR Above 15,000	1 2 3 4
7.	Highest education level attained	Primary school Secondary School	1 2

		Higher Secondary School Certificate Diploma First degree Masters/PHD	3 4 5 6 7
DELIVERY EXPERIENCES AND CURRENT PRACTICES			
8.	No of Children	…………………………….	
9.	Where was the child born	Home IGMH ADK Atoll Hospital Health Center	1 2 3 4 5
10.	Mode of delivery	Normal Cesarean Elective cesarean Others (specify)………………………	1 2 3 4
11.	Did you breastfeed your baby? **If YES go to 13**	Yes No	1 2
12.	If **NO** what is the reason?	Mother is sick Baby is sick Not enough milk Breast pain/engorgement/bleeding Have to attend to work Baby is crying too much Advised by a health professional Others (specify)……………………	1 2 3 4 5 6 7 8
13.	If **YES**, how soon did you breastfed after delivery?	Within first hour after birth After the first hour Don't remember/Don't know Others (specify)	1 2 3 4
14.	Did your baby receive any food or drink before putting the baby on to the breast after delivery **If NO go to Q17**	Yes No	1 2
15.	What other food or drink was given to the baby?	Honey Dates Water	1 2 3

		Pomegranate juice Breast Milk Infant formula milk Others (specify)……………………..	4 5 6 7
16.	What was the reason for giving this liquid/food?	Returning to work Not enough milk Baby sick Mother sick Right age for complementation Sunnah of Muslim	1 2 3 4 5 6
17.	If **NO** after initiating breastfeeding, was the child given any food/drink **If NO Go to Q20**	Yes No	1 2
18.	What was given?	Formula Water Homemade food Others (specify)…………………….	1 2 3 4
19.	Why was the baby given this food/drink?	Baby gets hungry Mother not producing enough milk Advised by relatives/friends/neighbors Advised by health care providers Others (specify)……………………..	1 2 3 4 5
20.	Are you still breastfeeding the baby?	Yes No	1 2
BREASTFEEDING PRACTICES BASED ON A 24-HOUR RECALL			
21.	Has the baby given any food or drink in the last 24 hour? **If NO go to Q25**	Yes No	1 2
22.	What was given?	Formula Water Homemade food Others (specify)……………………	1 2 3 4
23.	If Why did you not breastfeed your baby?	Baby is sick Mother is sick Returning to work	1 2 3

		Not producing enough milk Advised by relatives/friends/neighbors Advised by health care providers Religion Others (specify)…………………	4 5 6 7 8
24.	Breastfeeding status of the baby (to be determined from the information given above based on the previous 24 hours and the definitions below) 1-Exclusive breastfeeding 2-Predominant breastfeeding 3-Partly breastfed 4-Non-breastfed		1 2 3 4

BREASTFEEDING KNOWLEDGE SCALE

PLEASE INDICATE **(√)** WHETHER YOU AGREE OR DISAGREE WITH EACH STATEMENT

		Agree	**Disagree**	**Don't Know**
25.	Babies who are bottle-fed have more illnesses than babies who are breastfed			
26.	Breastfeeding helps bonding between mother and baby			
27.	Breastfeeding prevents a woman from returning to her pre-pregnancy weight			
28.	Small breasts will not produce milk			
29.	Breastfeeding mothers have less risk of breast and ovarian cancer			
30.	Breast milk protects a baby from infection			
31.	The more often you breastfeed, the more milk you will have for your baby			
32.	When breastfeeding no extra food, water, or vitamins are needed for the first 6 months			
33.	Expressed milk can be kept for 4 hours at room temperatures			
34.	Breastfeeding mothers' nipples get sore easily if babies suck frequently			

CONTEXTUAL FACTORS

BREASTFEEDING COUNSELING

35.	Did you receive any exclusive breastfeeding Antenatal counseling **If NO go to Q37**	Yes No	1 2
36.	What was the source of the Counseling?	Hospital Health center Traditional Birth Attendant Other (specify)………………………	1 2 3 4
37.	Did you receive any post-natal exclusive breastfeeding counseling?	Yes No	1 2
38.	What was the source of the Counseling?	Hospital Health center Traditional Birth Attendant Other (specify)………………………	1 2 3 4
39.	Has anyone shown you how to breastfeed	Yes No	1 2
40.	Were you told at the hospital the correct position to keep the baby and how to put the baby onto breast?	Yes No	1 2
BREAST FEEDING INFORMATION THROUGH MEDIA			
41.	Have you had any information about exclusive breastfeeding **If NO Go to Q43**	Yes No	1 2
42.	If **YES**, From where have you received information on exclusive breastfeeding (Tick all that apply)	TV News Social Media Others (specify)….	1 2 3 4

2 ވަނަ ބައި

ތިރީގައިވާ ކަންތައްތަކާމެދު ތިޔަބޭފުޅާ އެއްބަސްވެލައްވާ ވަރެއް ފާހަގަ ކޮށްދެއްވާށެވެ. ތިޔަބޭފުޅާ ފާހަގަ(√) ޖައްސަވާނީ އެކަމަކާއިބެހޭ ގޮތުން އެންމެ ބޮޑަށް ދެކެވަޑައިގަންނަވާ ނަންބަރުގައެވެ. ޖަވާބުގެ މަތީގައި ފާހަގަ ކުރެވިފައިވާ ކޮންމެ ނަންބަރެއް ދޭހަކުރަނީ ބައިތަކެވެ.

ހަމައެކަނި ގާތުން ކިރުދިނުމަށް ރުހިފައިވާގޮތް

#	ބަޔާން	އެއްގޮތަކަށްވެސް އެއްބަސްނުވަން	އެއްބަސްނުވަން	ކުޑަކޮށް އެއްބަސްނުވަން	[illegible]	ކުޑަކޮށް އެއްބަސްވަން	އެއްބަސްވަން	ފުރިހަމައަށް އެއްބަސްވަން
		1	2	3	4	5	6	7
43	އަހަރެން ރާވާފައި އޮތީ ވިހެއުމަށްފަހު 6 މަސް ވަންދެން ހަމައެކަނި ގާތުން ކިރުދިނުމަށެވެ.							
44	6 މަސް ވަންދެން ހަމައެކަނި ގާތުން ކިރުދިނުމަށް އަހަރެން ބޭނުންވޭ							

ހަމައެކަނި ގާތުން ކިރުދިނުމާއި ބެހޭގޮތުން ދެކޭގޮތް

#	ބަޔާން	އެއްގޮތަކަށްވެސް އެއްބަސްނުވަން	އެއްބަސްނުވަން	ކުޑަކޮށް އެއްބަސްނުވަން	[illegible]	ކުޑަކޮށް އެއްބަސްވަން	އެއްބަސްވަން	ފުރިހަމައަށް އެއްބަސްވަން
		1	2	3	4	5	6	7
45	ތުއްތު ދަރިފުޅު ފުރިހަމަ ސިއްހަތާއިއެކު ހެދި ބޮޑުވުމަށް ބޭނުންވާ އެންމެ ފައިދާހުރި ބައިތައް ލިބޭނީ 6 މަސްވަންދެން ހަމައެކަނި ގާތުން ކިރު ދިނުމުން							
46	މައިމީހާގެ ގާތުން ދަރިފުޅަށް ކިރުދިނުމަށްވުރެ ތައްޔާރީ ކިރުދިނުން ފަސޭހަ							
47	ކުޑަކުދިންނަށް ދޭ ތައްޔާރީ ކިރަކީ މައިމީހާގެ ގާތުން ދޭ ކިރާއި އެއްވަރަށް ސިއްހަތަށް ފައިދާ ހުރި ކިރެއް							
48	މަންމަ މަސައްކަތުގައި ގެއިން ބޭރުގައި އުޅޭނަމަ ދަރިފުޅަށްދިނުން ޒާތުކުރަން އެންމެ ރަނގަޅީ ތައްޔާރީ ކިރު							
49	ބަރުދަން އިތުރު ކުދިންނަކީ ސިއްހަތު ރަނގަޅު ކުދިން							
50	ގާތުން ކިރު ދިނުމުން މަންމަގެ ހަށިގަނޑުގެ ބައްޓަމަށް ނުރަނގަޅު ބަދަލު އާދޭ							
51	ގާތުން ކިރު ދޭ ކުދިން. ތައްޔާރީ ކިރު ދޭކުދިންނަށްވުރެ ސިއްހަތު ރަނގަޅު							
52	ކުޑަދަރިފުޅަށް އެންމެ ރަނގަޅީ މައިމީހާގެ ގާތުން ދޭކިރު							

ގާތުން

ކިރުދިނުމުގައި އާއިލީ ނުފޫޒު

#	ސުވާލު	1 އެއްގޮތަކަށްވެސް އެއްބަހެއްނުވަން	2 އެއްބަހެއްނުވަން	3 މުޅިއަކުން އެއްބަހެއްނުވަން	4 ވަކިކޮޅަކަށް ނުޖެހެން	5 ކޮންމެވެސް ވަރަކަށް އެއްބަސްވަން	6 އެއްބަސްވަން	7 ވަރަށްބޮޑަށް އެއްބަސްވަން
53	އަހަރެންގެ ފިރިމީހާ ދެކޭގޮތުގައި ދަރިފުޅަށް ބޭރުގެ ކާނާ ދޭން ފަށަންވީ ދަރިފުޅަށް 6 މަސްވުމުން							
54	އަހަރެންގެ މަންމަ ދެކޭގޮތުގައި ދަރިފުޅަށް ބޭރުގެ ކާނާ ދޭން ފަށަންވީ ދަރިފުޅަށް 6 މަސްވުމުން							
55	އަހަރެންގެ މައިދައިތަ ދެކޭގޮތުގައި ދަރިފުޅަށް ބޭރުގެ ކާނާ ދޭން ފަށަންވީ ދަރިފުޅަށް 6 މަސްވުމުން							
56	އަހަރެންގެ ގާތްއަވަށްޓެރިން ދެކޭގޮތުގައި ދަރިފުޅަށް ބޭރުގެ ކާނާ ދޭން ފަށަންވީ ދަރިފުޅަށް 6 މަސްވުމުން							
57	އަހަރެންގެ ސިއްހީ އެހީތެރިޔާ ދެކޭގޮތުގައި ދަރިފުޅަށް ބޭރުގެ ކާނާ ދޭން ފަށަންވީ ދަރިފުޅަށް 6 މަސްވުމުން							

ހަމައެކަނި ގާތުން ކިރުދިނުމުގައި ތިމާގެ އަމިއްލަ ނަފްސަށް އޮތް އިތުބާރު

#	ސުވާލު	1 އެއްގޮތަކަށްވެސް އެއްބަހެއްނުވަން	2 އެއްބަހެއްނުވަން	3 މުޅިއަކުން އެއްބަހެއްނުވަން	4 ވަކިކޮޅަކަށް ނުޖެހެން	5 ކޮންމެވެސް ވަރަކަށް އެއްބަސްވަން	6 އެއްބަސްވަން	7 ވަރަށްބޮޑަށް އެއްބަސްވަން
63	ދަރިފުޅަށް 6 މަސްވަންދެން ހަމައެކަނި ގާތުން ކިރުދިނުމަށްޓަކައި ފުރިހަމަ ތައްޔާރުކަން އަހަރެންގެ އެބައޮތް							
64	6 މަސްވަންދެން ހަމައެކަނި ގާތުން ކިރުދިނުމަކީ އަހަރެންނަށް ވަރަށް ފަސޭހަކަމެއް							
65	6 މަސް ވަންދެން ހަމައެކަނި ގާތުން ކިރުދިނުމުގެ ނިންމުން އޮތީ އަހަރެންގެ ބާރުގެ ދަށުގައި							
66	6 މަސްވަންދެން ހަމައެކަނި ގާތުން ކިރުދިނުން ނުވަތަ ނުދިނުން އޮތީ އަހަރެންގެ އަތްމަތީގައި							
67	6 މަސްވަންދެން ހަމައެކަނި ގާތުން ކިރުދިނުމާބެހޭ މައުލޫމާތު ލިބިފައިވާ ކަމަށް އަހަރެންނަށް އިޙްސާސްކުރެވޭ							

ބައިވެރިވެދެއްވީތީ ޝުކުރިއްޔާ

Survey Instrument II

FACTORS INFLUENCING EXCLUSIVE BREASTFEEDING FOR THE FIRST SIX MONTHS AMONG INFANTS AGED 0-12 MONTHS IN

MALE' CITY, MALDIVES - 2015

ADMINISTRATIVE DETAILS		
	Questionnaire No	....
	Date of Interview	....

SECTION A

SOCIO-DEMOGRAPHIC INFORMATION			
1.	Age of infant (in weeks /Months)	……………………………..	
2.	Gender	Male Female	1 2
3.	How old are you? (Age in completed years)	……………………………..	
4.	What is your marital status?	Married Divorced/living separate Widowed Never married	1 2 3 4
MATERNAL FACTORS			
5.	Are you working anywhere?	Govt worker Pvt worker Self employed House wife Other (specify)…………………….	1 2 3 4 5
6.	What is your monthly income	MVR Less than 5000 MVR 5000-10,000 MVR 10,000-15,000 MVR Above 15,000	1 2 3 4
7.	Highest education level attained	Primary school Secondary School Higher Secondary School Certificate Diploma First degree	1 2 3 4 5 6

		Masters/PHD	7
DELIVERY EXPERIENCES AND CURRENT PRACTICES			
8.	No of Children	…………………………….	
9.	Where was the child born	Home IGMH ADK Atoll Hospital Health Center	1 2 3 4 5
10.	Mode of delivery	Normal Cesarean Elective cesarean Others (specify)………………………	1 2 3 4
11.	Did you breastfeed your baby? **If YES go to 13**	Yes No	1 2
12.	If **NO** what is the reason?	Mother is sick Baby is sick Not enough milk Breast pain/engorgement/bleeding Have to attend to work Baby is crying too much Advised by a health professional Others (specify)……………………	1 2 3 4 5
13.	If **YES**, how soon did you breastfed after delivery?	Within first hour after birth After the first hour Don’t remember/Don’t know Others (specify)	1 2 3 4
14.	Did your baby receive any food or drink before putting the baby on to the breast after delivery **If NO go to Q17**	Yes No	1 2
15.	What other food or drink was given to the baby?	Honey Dates Water Pomegranate juice Breast Milk Infant formula milk Others (specify)……………………..	1 2 3 4 5 6 7
16.	What was the reason for giving this liquid/food?	Returning to work Not enough milk	1 2

		Baby sick Mother sick Right age for complementation Sunnah of Muslim	3 4 5 6
17.	If **NO** after initiating breastfeeding, was the child given any food/drink before 6 months **If NO Go to Q20**	Yes No	1 2
18.	What was given?	Formula Water Homemade food Others (specify)……………………	1 2 3 4
19.	Why was the baby given this food/drink?	Baby gets hungry Mother not producing enough milk Advised by relatives/friends/neighbors Advised by health care providers Others (specify)……………………..	1 2 3 4 5
20.	How long have you breastfed exclusively?	……………………………	
21.	Are you still breastfeeding the baby?	Yes No	1 2

BREASTFEEDING KNOWLEDGE SCALE

PLEASE INDICATE WHETHER YOU AGREE OR DISAGREE WITH EACH STATEMENT

		Agree	Disagree	Don't know
22.	Babies who are bottle-fed have more illnesses than babies who are breastfed			
23.	Breastfeeding helps bonding between mother and baby			
24.	Breastfeeding prevents a woman from returning to her pre-pregnancy weight			
25.	Small breasts will not produce milk			
26.	Breastfeeding mothers have less risk of breast and ovarian cancer			
27.	Breast milk protects a baby from infection			

28.	The more often you breastfeed, the more milk you will have for your baby			
29.	When breastfeeding exclusively no extra food, water, or vitamins are needed for the first 6 months			
30.	Expressed milk can be kept for 4 hours at room temperatures			
31.	Breastfeeding mothers’ nipples get sore easily if babies suck frequently			

CONTEXTUAL FACTORS **BREASTFEEDING COUNSELING**			
32.	Did you receive any exclusive breastfeeding Antenatal counseling **If NO go to Q34**	Yes No	1 2
33.	What was the source of the Counseling?	Hospital Health center Traditional Birth Attendant Other (specify)……………………….	1 2 3 4
34.	Did you receive any post-natal exclusive breastfeeding counseling?	Yes No	1 2
35.	What was the source of the Counseling?	Hospital Health center Traditional Birth Attendant Other (specify)……………………….	1 2 3 4
36.	Has anyone shown you how to breastfeed	Yes No	1 2
37.	Were you told at the hospital the correct position to keep the baby and how to put the baby onto breast?	Yes No	1 2
BREAST FEEDING INFORMATION THROUGH MEDIA			
38.	Have you had any information about exclusive breastfeeding **If NO Go to Q40**	Yes No	1 2
39.	If **YES**, From where have you received information on exclusive breastfeeding (Tick all that apply)	TV News Social Media Others (specify)….	1 2 3 4

2 ވަނަ ބައި

ތިރީގައިވާ ކަންތައްތަކާމެދު ތިޔަބޭފުޅާ އެއްބަސްވެޑައްވާ ވަރެއް ފާހަގަ ކޮށްދެއްވާށެވެ. ތިޔަބޭފުޅާ ފާހަގަ(√) ޖައްސަވާލީ އެކަމަކާއިބެހޭ ގޮތުން އެންމެ ބޮޑަށް ދެކޭވަޑައިގަންނަވާ ނަންބަރެއްގައެވެ. ޓޭބަލްގެ މަތީގައި ފާހަގަ ކުރެވިފައިވަނީ ކޮންމެ ނަންބަރެއް ދޭހަކޮށްދޭ ބައިތަކެވެ.

ހަމައެކަނި ގޮތުން ކިރުދިނުމަށް ރޫހިފައިވާގޮތް

#	ސުވާލު	އެއްގޮތަކަށްވެސް އެއްބަސްނުވަން	އެއްބަސްނުވަން	ކުޑިއަކުން އެއްބަސްނުވަން	ވަކިކޮޅަކަށް ނުޖެހެން	ކޮންމެވެސް ވަރަކަށް އެއްބަސްވަން	އެއްބަސްވަން	ވަރަށްބޮޑަށް އެއްބަސްވަން
		1	2	3	4	5	6	7
40	އަހަރެން ރާވާފައި އޮތީ ވިހެއުމަށްފަހު 6 މަސް ވަންދެން ހަމައެކަނި ގޮތުން ކިރުދިނުމަށެވެ.							
41	6 މަސް ވަންދެން ހަމައެކަނި ގޮތުން ކިރުދިނުމަށް އަހަރެން ބޭނުންވޭ							

ހަމައެކަނި ގޮތުންކިރުދިނުމާއިދޭތެރޭ ދެކޭގޮތް

#	ސުވާލު	އެއްގޮތަކަށްވެސް އެއްބަސްނުވަން	އެއްބަސްނުވަން	ކުޑިއަކުން އެއްބަސްނުވަން	ވަކިކޮޅަކަށް ނުޖެހެން	ކޮންމެވެސް ވަރަކަށް އެއްބަސްވަން	އެއްބަސްވަން	ވަރަށްބޮޑަށް އެއްބަސްވަން
		1	2	3	4	5	6	7
42	ތިމާގެ ދަރިފުޅު ފުރިހަމަ ސިއްޙަތެއްގައި ހުރި ކުޑަކުއްޖަކަށް ބޭނުންވާ އެންމެ ފައިދާހުރި ބައިބަލުން ލިބޭނީ 6 މަސްވަންދެން ހަމައެކަނި ގޮތުން ކިރު ދިނުމުން							
43	މައިމީހާގެ ގޮތުން ދަރިފުޅަށް ކިރުދިނުމުގެ ބަދަލުގައި ކިރުދޭން ފަސޭހަ							
44	ކުޑަކުދިންނަށް ދޭ ބައްތާއި ކިރަކީ މައިމީހާގެ ގޮތުން ދޭ ކިރާއި އެއްވަރަށް ސިއްޙަތަށް ފައިދާ ހުރި ކިރެކެވެ							
45	މަންމަ މަސައްކަތުގައި ގެއިން ބޭރުގައި އުޅޭނަމަ ދަރިފުޅަށް ކިރުދިނުން ހުއްޓާލާފައި އެންމެ ރަނގަޅީ ބައްތާއި ކިރު							
46	ބޭރުން އިތުރު ކިރުދިނުން ސިއްޙަތަށް ރަނގަޅު ކިރެއް							
47	ގޮތުން ކިރު ދިނުމުން މަންމަގެ ހަށިގަނޑުގެ ބާރުތައް ކުޑަވެ ބަލިވެ އުޅޭ							
48	ގޮތުން ކިރު ދޭ ކުދިން. ފައިދާތަކެއް ކިރު ދޫކޮށްލުމުގެ ސިއްޙަތާ ރަނގަޅު							
49	ކެކެހިކުރުމަށް އެންމެ ރަނގަޅީ މައިމީހާގެ ގޮތުން ދޭކިރު							

ގާތުން ކިރުދިނުމުގައި އާއިލީ ނުފޫޒު

#	ސުވާލު	އެއްގޮތަކަށްވެސް އެއްބަހެއްނުވަން	އެއްބަހެއްނުވަން	ކުޑަކޮށް އެއްބަހެއްނުވަން	[illegible]	ކޮންމެވެސް ވަރަކަށް އެއްބަސްވަން	އެއްބަސްވަން	ވަރަށްބޮޑަށް އެއްބަސްވަން
		1	2	3	4	5	6	7
50	އަހަރެންގެ ފިރިމީހާ ދެކޭގޮތުގައި ދަރިފުޅަށް ތައްޔާރީ ކާނާ ދޭން ފަށަންވާނީ ދަރިފުޅަށް 6 މަސްވުމުން							
51	އަހަރެންގެ މަންމަ ދެކޭގޮތުގައި ދަރިފުޅަށް ތައްޔާރީ ކާނާ ދޭން ފަށަންވާނީ ދަރިފުޅަށް 6 މަސްވުމުން							
52	އަހަރެންގެ މައިދައިތަ ދެކޭގޮތުގައި ދަރިފުޅަށް ތައްޔާރީ ކާނާ ދޭން ފަށަންވާނީ ދަރިފުޅަށް 6 މަސްވުމުން							
53	އަހަރެންގެ ގާތްރަށްޓެހިން ދެކޭގޮތުގައި ދަރިފުޅަށް ތައްޔާރީ ކާނާ ދޭން ފަށަންވާނީ ދަރިފުޅަށް 6 މަސްވުމުން							
54	އަހަރެންގެ ސިއްޙީ އެހީތެރިޔާ ދެކޭގޮތުގައި ދަރިފުޅަށް ތައްޔާރީ ކާނާ ދޭން ފަށަންވާނީ ދަރިފުޅަށް 6 މަސްވުމުން							

#	ސުވާލު	އެއްގޮތަކަށްވެސް މުހިއްމުކަމެއްނޫން	ކުޑަކޮށް މުހިއްމު	އާދައިގެ ވަރަކަށް މުހިއްމުކަމެއް	ދެމެދުން	[illegible] ވަރަކަށް މުހިއްމުކަމެއް	ވަރަށް މުހިއްމުކަމެއް	އާދައާ ހިލާފަށް މުހިއްމުކަމެއް
		1	2	3	4	5	6	7
55	ގާތުން ކިރުދިނުމުގައި ތިބޭފުޅާ އަމަލުކުރަންވީގޮތާއި ދޭތެރޭ ފިރިމީހާ ދެކޭގޮތަށް ކަންތައްކުރުމަށް ތިބޭފުޅާއަށް ކިހާ މުހިއްމުކަމެއްތޯ؟							
56	ގާތުން ކިރުދިނުމުގައި ތިބޭފުޅާ އަމަލުކުރަންވީގޮތާއި ދޭތެރޭ މަންމަ ދެކޭގޮތަށް ކަންތައްކުރުމަށް ތިބޭފުޅާއަށް ކިހާ މުހިއްމުކަމެއްތޯ؟							
57	ގާތުން ކިރުދިނުމުގައި ތިބޭފުޅާ އަމަލުކުރަންވީގޮތާއި ދޭތެރޭ މައިދައިތަ ދެކޭގޮތަށް ކަންތައްކުރުމަށް ތިބޭފުޅާއަށް ކިހާ މުހިއްމުކަމެއްތޯ؟							
58	ގާތުން ކިރުދިނުމުގައި ތިބޭފުޅާ އަމަލުކުރަންވީގޮތާއި ދޭތެރޭ ގާތްރަށްޓެހިން ދެކޭގޮތަށް ކަންތައްކުރުމަށް ތިބޭފުޅާއަށް ކިހާ މުހިއްމުކަމެއްތޯ؟							
59	ގާތުން ކިރުދިނުމުގައި ތިބޭފުޅާ އަމަލުކުރަންވީގޮތާއި ދޭތެރޭ ސިއްޙީ އެހީތެރިޔާ ދެކޭގޮތަށް ކަންތައްކުރުމަށް ތިބޭފުޅާއަށް ކިހާ މުހިއްމުކަމެއްތޯ؟							

ހަމައެކަނި ގާތުން ކިރުދިނުމުގައި ތިމާގެ އަމިއްލަ ނަފުސަށް އޮންނަ އިތުބާރު

#	ސުވާލު	އެއްގޮތަކަށްވެސް އެއްބަސްވަން	އެއްބަސްވަން	މުޅިއަކުން އެއްބަސްވަން	ވަކިފަރާތަކަށް ނުޖެހޭ	ކޮންމެވެސް ވަރަކަށް އެއްބަސްނުވަން	އެއްބަސްނުވަން	ވަރަށްބާރަށް އެއްބަސްނުވަން
		1	2	3	4	5	6	7
60	ދަރިފުޅަށް 6 މަސްވަންދެން ހަމައެކަނި މާމުން ކިރުދެވިދާނެކަމުގެ ފުރިހަމަ ޔަޤީންކަން އަހަރެންގެ އެބައޮތް							
61	6 މަސްވަންދެން ހަމައެކަނި މާމުން ކިރުދިނުމަކީ އަހަރެންނަށް ވަރަށް ފަސޭހަކަމެއް							
62	6 މަސް ވަންދެން ހަމައެކަނި މާމުން ކިރުދިނުމުގެ ނިންމުން އޮތީ އަހަރެންގެ ބާރުގެ ދަށުގައި							
63	6 މަސްވަންދެން ހަމައެކަނި މާމުން ކިރުދިނުން ނުވަތަ ނުދިނުން އޮތީ އަހަރެންގެ އަތްމަތީގައި							
64	6 މަސްވަންދެން ހަމައެކަނި މާމުން ކިރުދޭނެގޮތުގެ މައުލޫމާތު ލިބިފުރި ކަމަށް އަހަރެންނަށް އިޙްސާސްކުރެވޭ							