KNOWLEDGE AND PRACTICES OF MOTHERS ON COMPLEMENTARY FEEDING IN MALE’, MALDIVES

SARA MOHAMED

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Faculty of Health Sciences
The Maldives National University

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DECLARATION

Name: Sara Mohamed

Student Number: 000032607

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: 11. 11. 2015
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ABSTRACT

Adequate nutrition during the infancy and early childhood (first 2 years of a child) is essential to ensure the growth, development and overall health of children to their full potential. Complementary feeding is the process starting when breast milk alone or infant formula alone is no longer sufficient to meet the nutritional requirements of infants, and therefore other food and liquids are needed, along with breast milk or a breast-milk substitute. This study aimed to identify the practices and examine the knowledge of mothers of 6 to 24 months children in Male’ regarding complementary feeding and the factors that influence it. The study consisted of interviewing 90 participants who are mothers of children of 6 to 24 months of age registered at “Dhamana Veshi” using a semi-structured questionnaire. The study revealed that a high percentage of the mothers were aware of the appropriate duration of exclusive breastfeeding (93%) and complementary feeding (96%). However, only 58% of the mothers correctly practiced exclusive breastfeeding and 63% initiated complementary feeding at the recommended time. Hence there was a large gap between the knowledge of mothers and actual practice which was influenced by a number of factors. Socioeconomic factors that significantly affected both the level of knowledge and practices include the type of family, education level of the mother and number of children in the family. Factors such as lactation failure and working mothers largely contributed to early initiation of complementary feeding. Flexible working hours, increased guidance and support by the health care providers and better methods of information dissemination needs to be established to improve the current situation.

Keywords: breastfeeding, Complementary feeding
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LIST OF ABBREVIATIONS

**WHO** - World Health Organization

**CF** - Complementary feeding

**BF**- breastfeeding

**EBF**- exclusive breastfeeding

**IYCF**- Infant and Young child feeding

**UNICEF**- United Nations International Children's Emergency Fund
CHAPTER 1

INTRODUCTION

1.1 Background to the study

Optimal Infant and Young Child Feeding (IYCF) practices rank among the most effective interventions to improve child health. Adequate nutrition during the infancy and early childhood which is referred to the first 2 years of a child is particularly essential to ensure the growth, development and overall health of children to their full potential. Inadequate nutrition during this period could increase the overall morbidity and mortality, and the risk of chronic illnesses (World Health Organization, 2009).

To improve the nutritional status, growth and development of infants and young children, WHO and UNICEF jointly developed a global strategy for infant and young child feeding in 2002. It recommends that every child should be exclusively breastfed for 6 months (180 days) followed by nutritionally adequate and safe Complementary Feeding (CF) starting from the age of 6 months with continued breastfeeding up to 2 years of age or beyond. Therefore, in IYCF, adequate and proper CF practices are equally important as breastfeeding, for the child, after 6 months of age (WHO, 2003).

WHO defines complementary feeding as “the process starting when breast milk alone or infant formula alone is no longer sufficient to meet the nutritional requirements of infants, and therefore other food and liquids are needed, along with breast milk or a breast-milk substitute” (WHO, 2015).
The transition period from exclusive breastfeeding (EBF) to family food typically covers the period from 6 to 24 months of age. It is called as the “critical window” for the promotion of optimal growth, health and behavioral developments (WHO, 2015). During this period of time, infants and young children are at an increased risk of malnutrition. From six months onwards, breast milk alone is no longer adequate to meet all their nutritional requirements and CF should be initiated (WHO, 2015).

Malnutrition is reflected as a continuous cycle. A malnourished girl child faces greater probabilities of giving birth to a malnourished, low birth weight infant when she grows up. Furthermore, poor feeding practices could cause immediate consequences and long term consequences. The immediate consequences of poor nutrition during these formative period results in significant morbidity, mortality, delayed mental health and motor development. In the long term basis, nutritional defects could lead to impairment of intellectual performances, work capacity, reproductive outcomes and overall health during adulthood (WHO, 2005).

The convention on the rights of the child (as cited in WHO, 2015) states that, each and every child has the right to receive good nutrition. Recent records of WHO shows that, 45% of child deaths are associated with undernutrition. Globally in 2012, 162 million children who are under 5 years of age are estimated to be stunted, and 51 million have low weight- for height and 42 million children were overweight or obese. Worldwide, only about 36% of infants 0 to 6 months old are exclusively breastfed. It gives evidence that many infants and children do not receive optimal feeding (WHO, 2015).

According to WHO statistics 2015, globally, the number of deaths of children under-5 years of age reduced by 12.7 million to 6.3 million, from 1990 to 2013. It is estimated
that, 45% of these deaths are due to undernutrition which includes fetal growth restriction, stunting, wasting and deficiencies of vitamin A and zinc, along with suboptimal breastfeeding (WHO, 2015).

The Rate of malnutrition is still high in most of the developing countries. Researches have shown that in developing countries, one-third of children less than five years of age are stunted (low height-for-age), and a large proportion of children are also deficient in one or more micronutrients (UNICEF, 2005). Recent data indicates that just over half of 6-9 month olds are breastfed and given adequate complementary food and only 39 per cent of 20-23 month olds are provided with continued breastfeeding (WHO, 2015). The proportion of underweight children in developing countries has declined from 28% to 17% between 1990 and 2013. This rate of progress is close to the rate required to meet the MDG target, however improvements have been unevenly distributed between and within different regions.

1.2 Problem Statement

Adequate nutrition during infancy and early childhood is the foremost fundamental for each child in order to bring about the developments to full human potential. Lack of knowledge and proper feeding practices contribute to higher childhood morbidity and mortality. Poor infant feeding practices is one of the principal proximate causes of malnutrition during the first two years of life (WHO, 2005). Martoral et al., in 1964 (as cited in WHO, 2013) agreed that, it is very difficult to reverse the stunting that has occurred earlier, after the child reaches 2 years of age. Hence, it is essential to ensure that the mothers or caregivers are provided with appropriate guidance regarding optimal feeding of the infants and young children during the period of 6-24 months.
Maldives under-five mortality rate has declined by less than half, dropping from 32.5 to 17.5 deaths per 1,000 live births between 1994 and 2009. According to the published statistics of Health Protection Agency; (HPA, 2014), in Maldives there are 17.3% of under weighed, 18.9% with stunted growth rate and 10% of wasted children among less than 5 years of age population. Moreover, there are children with vitamin A deficiency rate of 5.1% and iodine deficiency of 0.7%. It is notified that, these were the data of the demographic health survey that was conducted in 2009.

Knowledge on infants and young children feeding Practices (IYCP) are crucial for undertaking or improving health and nutrition programme in a country. To the best of the knowledge, no studies have been undertaken recently, on CF practices among the mothers in Maldives. Hence, in this study CF practices of 6-24 month old children from Male’ will be assessed and the knowledge gaps among their mothers will be identified.
1.3 Objectives of the Study

1.3.1 General Objective
- To identify the practices and examine the knowledge of mothers of 6 to 24 months children in Male, regarding CF and determine factors influencing it.

1.3.2 Specific Objectives
- To identify the socio-demographic and socio-economic characteristics of the mothers of 6-24 months aged children
- To assess the knowledge of mothers of 6-24 months aged children with regard to correct EBF and CF practices.
- To evaluate the practices of EBF and CF in terms of quality, quantity and timing of CF for infants and young children of aged 6-24 months
- To determine the factors influencing proper EBF and CF practices by the mothers of 6 to 24 months’ children in Male’

1.4 Research Questions

1. What is the scope of knowledge on EBF and CF practices among mothers of children aged 6-24 months?
2. What are the EBF and CF practices implemented by mothers of children aged 6-24 months?
3. What are the factors influencing EBF and CF practices among mothers of children age 6-24 months?

3.1 Significance of the study
The findings of this study will be useful for all the health planners, health policy makers among governmental and non-governmental organizations to improve the
feeding practices of the mothers, of infant and young child feeding, which would have impact on overall health of infants and young children.

Moreover, this study will help planners to identify the knowledge gaps to strengthen the actions to be taken to improve feeding practices of infants and young children of 6-24 months. It will help plan efforts for creating awareness and increase commitment of the government sectors, national organizations and other professional group for achieving optimal feeding practices for infants and young children. It would also be a great contribution for the health professionals to improve the quality of counseling for mothers and caregivers.

3.2 Scope of the study

This cross-sectional descriptive study was carried out within the registered population of mothers of children between the ages 6 - 24 months of age in “Dhamana Veshi”, which is the main institute in Maldives for child health in Male’. Hence, the study may not be magnified to the whole population of the country.

There might be other factors that can be addressed in the topic. Only major were taken into consideration.
3.3 Definition of terms

**Exclusive breastfeeding:** The infant receives no other food or drink, not even water, except breast milk (including milk expressed or from a wet nurse) for 6 months of life, but allows the infant to receive ORS, drops and syrups (vitamins, minerals and medicines)

**Infant and young child feeding practice:** It includes the following practices: early initiation of breastfeeding, colostrum feeding, use of bottle for feeding, prelacteal feeding, duration of exclusive breastfeeding, introduction of CF, meal frequency, use of oil/ghee in preparing child's food and feeding practice of diverse food.

**Early initiation of breastfeeding:** Early initiation of breastfeeding: Proportion of children born in the last 24 months who were put to the breast within one hour of birth.

**Complementary feeding:** It included feeding breast milk (including milk expressed or from a wet nurse) and solid and semi-solid food. It allowed any food or liquid including non-human milk and formula feeding for the children 6 - 24 months of age. It did not include the non-breast feed children.

**Minimum dietary diversity:** Proportion of children 6–23 months of age who receive food from 4 or more food groups Children 6–23 months of age.

**Meal frequency:** It was defined as the number of times the child was fed as per the age requirement in addition to the breast-feeding per day. According to WHO, two 50 meals per day for 6 months old children, 3 times for 7-8 months children, 3 meals and 1 snack for 9-11 and 3 meals and 2 snacks for 12-24 months old children.
**Consistency of food:** It was described as the property of food when it was kept in spoon and measured in nominal scale.

Just right: Food that is thick enough to stay in spoon.

Too thin: Food that is spilled easily from the spoon.

Too thick: Food that is too hard to pour from the spoon.
CHAPTER 2

REVIEW OF LITERATURE

2.1 Breast Feeding

Breastfeeding is an unequalled way of providing ideal food for the healthy growth and development of infants. As stated in the Global Strategy on Infant and Young Child Feeding, it is also an integral part of the reproductive process with important implications for the health of mothers (WHO, 2014). It is recommended by several international organizations that an infant should be exclusively breastfed for the first six months of life to achieve optimal growth, development and health.

“Exclusive breastfeeding" is defined by WHO, (2014) as no other food or drink, not even water, except breast milk (including milk expressed or from a wet nurse) for 6 months of life, but allows the infant to receive ORS, drops and syrups (vitamins, minerals and medicines). After the 6 months period in an infant’s life, additional nutritional requirements need to be met. An infant should receive nutritionally adequate and safe complementary food while breastfeeding continues for up to two years of age or beyond.

Research shows that breastfeeding practices are different in different parts of the world. However, exclusive breastfeeding for the first 6 months is generally low everywhere, even though the number of mothers who initiate breastfeeding is increasing (Motee, Ramasawmy, Gunsam, & Jeewon, 2013). A cross-sectional study
conducted in Vijayawada city, one of the major cities in coastal Andhra Pradesh, India from a period of June 2010 to May 2011, shows that 62.33% of the mothers practiced exclusive breastfeeding and 30.26% of the mothers had given infant formula or artificial feeding. The major reason for starting artificial feeding was found to be insufficient breast milk in mothers (Sweth, Ravikumar & Rao, 2014).

2.2 Complementary feeding

When breast milk is no longer enough to meet the nutritional needs of the infant, complementary food should be added to the diet of the child. The transition from exclusive breastfeeding to family food is referred to as complementary feeding (WHO, 2014). It is the time when malnutrition starts in many infants, contributing significantly to the high prevalence of malnutrition in children less than five years of age world-wide. WHO estimates that as many as 2 out of 5 children are stunted in low-income countries (WHO, 2014).

Around 10 million children under the age of five die each year, mostly from preventable causes. Many of these causes are related to malnutrition, or undernutrition. Approximately one-third of children less than five years of age in developing countries are stunted (low height-for-age), and large proportions also has micronutrient deficiencies (UNICEF, 2005). Recent data shows that just over half of 6-9 month olds are breastfed and given complementary food and only 39 per cent of 20-23 month olds are provided with continued breastfeeding (UNICEF, 2005).

Even after complementary food has been initiated, breastfeeding remains one of the critical sources of nutrients for the young infant and child. It provides about one half of an infant’s energy needs, up to the age of one year, and up to one third during the
second year of life. Breast milk continues to supply higher quality nutrients than complementary food, and also protective factors. It is, therefore, recommended that breastfeeding on demand is continued with adequate CF up to 2 years or beyond (WHO, 2012).

Complementary food need to be nutritionally sufficient, safe, and properly fed in order to meet the young child’s energy and nutrient needs. Yet, CF is often fraught with problems, with food being too dilute, not fed often enough or in too small amounts, or replacing breast milk while being of an inferior quality. Both food and feeding practices influence the quality of CF (WHO, 2012).

2.2.1 Guiding principles for complementary feeding

The WHO Guiding Principles for CF reflect the main considerations, for both breastfed and non-breast fed children (WHO, 2009). There are evidence based guidance to guide policy development and programming, adapted to local contexts and conditions. Below are the summery of requirements of CF of a breast fed child.

- Practice exclusive breastfeeding from birth to 6 months of age, and introduce complementary food at 6 months of age (180 days) while continuing to breastfeed.
- Continue frequent, on-demand breastfeeding until 2 years of age or beyond.
- Practice responsive feeding, applying the principles of psychosocial care.
- Practice good hygiene and proper food handling.
- Start at 6 months of age with small amounts of food and increase the quantity as the child gets older, while maintaining frequent breastfeeding.
- Gradually increase food consistency and variety as the infant grows older, adapting to the infant’s requirements and abilities.
• Increase the number of times that the child is fed complementary food as the child gets older.

• Feed a variety of nutrient-rich food to ensure that all nutrient needs are met.

• Use fortified complementary food or vitamin-mineral supplements for the infant, as needed.

• Increase fluid intake during illness, including more frequent breastfeeding, and encourage the child to eat soft, favorite foods. After illness, give food more often than usual and encourage the child to eat more (WHO, 2009).
The table 2.1 below shows the practical guidance on quality, frequency and amount of food that are recommended to offer for the children of 6-24 months of age.

**Table 2.1: Practical guidance on the quality, frequency and amount of food to offer for children 6-24 months of age who are breastfed on demand**

<table>
<thead>
<tr>
<th>AGE</th>
<th>ENERGY NEEDED PER DAY IN ADDITION TO BREAST MILK</th>
<th>TEXTURE</th>
<th>FREQUENCY</th>
<th>AMOUNT OF FOOD AN AVERAGE CHILD WILL USUALLY EAT AT EACH MEAL*</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-8 months</td>
<td>200 kcal per day</td>
<td>Start with thick porridge, well mashed foods</td>
<td>2-3 meals per day</td>
<td>Start with 2-3 tablespoons per feed, increasing gradually to ½ of a 250 ml cup</td>
</tr>
<tr>
<td>9-11 months</td>
<td>300 kcal per day</td>
<td>Continues with mashed family foods</td>
<td>Depending on the child’s appetite, 1-2 snacks may be offered</td>
<td></td>
</tr>
<tr>
<td>12-23 months</td>
<td>350 kcal per day</td>
<td>Finely chopped or mashed foods, and foods that baby can pick up</td>
<td>3-4 meals per day</td>
<td>½ of a 250 ml cup/bowl</td>
</tr>
<tr>
<td>Family foods, chopped if necessary</td>
<td>3-4 meals per day</td>
<td>Depending on the child’s appetite, 1-2 snacks may be offered</td>
<td>¾ to full 250 ml cup/bowl</td>
<td></td>
</tr>
</tbody>
</table>

Further information

- The amounts of food included in the table are recommended when the energy density of the meals is about 0.3 to 1.0 kcal/g.
- If the energy density of the meal is about 0.6 kcal/g, the mother should increase the energy density of the meal (adding special foods) or increase the amount of food per meal, for example:
  - for 6 to 8 months, increase gradually to two thirds cup
  - for 9 to 11 months, give three quarters cup
  - for 12 to 23 months, give a full cup.
- The table should be adapted based on the energy content of local complementary foods.
- The mother or caregiver should lead the child using the principles of responsive feeding, recognizing the signs of hunger and satiety. These signs should guide the amount of food given at each meal and the need for snacks.

* If baby is not breastfed, give in addition: 1-2 cups of milk per day, and 1-2 extra meals per day (1/3).

Source: World Health Organization, 2009

### 2.3 Maternal knowledge and practices

Poor breastfeeding and CF practices are widely spread throughout the world. It is estimated that only 38% of infants are exclusively breastfed for the first 6 months of life (WHO, 2014), which implies that, the majority receives some other food or fluid before 6 months of age.
A hospital-based longitudinal study exposed that, 37% of infants were not breastfed in the first hour following delivery, and 40% were given something to drink other than the breast milk within 3 days from the delivery (Kimani-Murage et al., 2011). In this study about 85% of infants were breastfed till the end of the 11th month. Also only 2% of infants were exclusively breastfed for the first six months. According to this study, factors associated with sub-optimal infant breastfeeding and feeding practices in these settings include child’s sex, perceived size at birth, mother’s marital status, ethnicity, education level, family planning (pregnancy desirability), health seeking behavior (place of delivery) and neighborhood (Kimani-Murage et al., 2011).

In a study conducted on patterns and determinants of breastfeeding and CF practices of Emirati Mothers in the United Arab Emirates, among the 593 infants in the study, 24.1% had CF, 25% of the infants were exclusively breastfed, and 49.4% were predominantly breastfed since birth. The study also found that, 30% of the infants were given non milk fluids such as gripe water and tea before 3 months of age. The majority of the infants (83.5%) in the three areas received solid food before the age of 6 months. The most common reasons for terminating breastfeeding were new pregnancy (32.5%), insufficient milk supply (24.4%) and infant weaning itself (24.4%) (Radwan, 2014).

A similar type of study conducted for the infants less than 12 months of age in Nigeria, all the infants studied were still on breast milk. However, none of the infants was either exclusively breastfed for 6 months or currently on exclusive breastfeeding. Furthermore, only 64 (58.2%) of the 110 infants that were more than 6 months of age had appropriately been started on CF from 6 months of age. Overall, most caregivers (88.7%) had “fair” to “good” infant feeding practices (Lawan et al., 2014). According
to this survey, the practices were significantly associated with their level of education, and their relationship with the infants. Up to 40.0% and 73.7% of the infants had varying degrees of wasting and stunting respectively. Infant feeding practices and the age of the infants emerged as the only factors significantly associated with stunting, while both the knowledge of caregivers’ practices and age of the infants emerged as significant predictors of wasting in the infants. (Lawan et al., 2014)

A descriptive cross-sectional study conducted in Kware town of Sokoto State in Nigeria revealed that, 54(31%) of the mothers had sufficient knowledge of exclusive breastfeeding with 94(53%) of them initiating breastfeeding immediately after birth. However, only 55(31%) of the mothers practiced exclusive breastfeeding. Out of the 53 mothers that stopped breastfeeding, 85% of them did so between 16–20 months. (Oche & Omar, 2011)

A survey conducted in Nepal on CF practices of mothers for 6 months to 24 months revealed that, 87% of the mothers were aware of the duration of CF but only 33% of mothers had practiced it. Also 87% of the mothers were also aware about the timing of the initiation of complementary food. In the study they have found that, though 36.6% of mothers had proper knowledge of frequency of complementary food, only 33.27% were actually practicing it. In addition 9.9% of mothers were offering meals for the child more frequently than recommended (Chapagain, 2013).

A study carried out in coastal south India shows that 77.5% mothers had started CF at the recommended time of six months. Only 32% of mothers were giving an adequate quantity of complementary feeds. The association of initiation of CF with socio-economic status, maternal education was found to be statistically significant. However
the practice of giving an adequate quantity of complementary feeds was significantly associated only with the place of delivery (Rao, et al, 2011).

2.4 Factors associated with knowledge and practices on complementary feeding

A hospital based cross-sectional study; conducted by Chapagain (2013) found that lack of knowledge regarding ideal feeding practice was found to be the most important factor associated with improper feeding practices in Nepal. He also revealed that, whether or not mother received feeding advice during immunization of the child was found to be significantly associated with appropriate feeding practice. In addition to that, education of mother, type of family, profession of father, whether mother is a housewife or job holder was other important associations found in the study.

Another study conducted in south coastal India found that, practice of giving the adequate quantity of complementary feeds was significantly associated with only the place of delivery (p=0.045). They also found that the practice of CF at the recommended time of six months was significantly associated with socio-economic status (p=0.036), birth order (p=0.013), place of delivery (0.033), and maternal education (p=0.038). However, in this study, no significant relationship was noted with gender of the child, maternal age, maternal employment status, type of family and advice about CF during immunization (Rao, Swathi, Unnikrishnan & Hegde, 2011).
A Community-Based Cross-Sectional Study conducted in Kamba Woreda, South West Ethiopia found that, age of mothers who are in age group ≥30, AOR 2.60(1.07 - 6.35) years, education level those who have no formal education AOR 2.76(1.63 - 4.69), occupational of mothers those who work as daily worker AOR 3.06(1.03 - 9.12) and private work activity AOR 2.39(1.61-3.53), were significantly associated factors for early initiation of CF in the study area (Agedew, Demissie, Direslgne Misker & Haftu, 2014).

From various studies carried out in different parts of the world, it can be deduced that many factors influence feeding practices. This includes proper knowledge about feeding practices, educational qualifications of parents, employment status of mothers, birth orders and socio-economic status.
2.5 Conceptual Framework and Measurement of variables

The conceptual framework shows the dependent variable and independent variable of this study. The dependent variable is CF practices and independent variables include; age, gender, education level, and income. The four main categories that were included in the study were; socio-demographic factors, socio-economic factors, knowledge and practices of CF.
CHAPTER 3

METHODOLOGY

This chapter includes the research methodology. It consists of brief description of the research design selected for the study, the population and the sample, sample size determination, sampling framework, instrumentation, data collection techniques and data analysis.

3.1 Research Design

The study adopted descriptive cross-sectional design to investigate the CF practices of mothers of children between 6-24 months in Male’ the capital of Maldives. This was used to facilitate the quantitative data and to enable identification of association between the variables of the study. In the study the data were collected in the aspect of knowledge and practices of CF practices without manipulating the study environment. This design enabled the compression of different variables which are related to CF at the same time.
3.2 Population and Sample

The survey was conducted in Male’ the capital of Maldives, which is the most populous city in the Republic of Maldives. The study population was selected from the Urban Primary Health Centre “Dhamana Veshi” where most children living in Male’ are registered.

Mothers of children of 6 to 24 months of age who were registered in Dhamana Veshi were selected as the study population. There were total 1125 children who were registered in this age group.

3.3 Sample size determination

The sample size of 90 mothers of children in the age 6 to 24 months out of 1125 currently registered in the centre were chosen to obtain information with regard to CF. Initially the sample size calculated was 89 mothers of children with the age 6 to 24 months using online sample size calculator “The survey system” with a confidence level of 95% and confidence interval (margin error) of 10% (The survey system, 2012). The calculated sample size was than inflated by 5% which was to cater for non-response.

3.4 Sampling frame and technique

Mothers of 6 to 24 months aged children, attending “Dhamana Veshi” for growth monitoring and immunization were the sampling frame. Simple random sampling technique was used for sample selection by randomly selecting from the list of mothers who visited the centre during each day of sampling. This was repeated every day till the required sample size was reached, that is for 12 days.
3.5 Instrumentation

A semi-structured questionnaire which was designed based on the WHO Indicators for assessing infant and young child feeding practices (WHO, 2008) was used. The questionnaire is categorized into three main sections, which are: general information; knowledge; and practices. Questions were based on variables in the conceptual framework. The Questionnaire was constructed with Multiple Choice Questions (MCQ), close ended questions and open ended questions. Questionnaire used in the study is in Appendix A.

Section 1 is based on personal information of the child and mother. This section will also cover the socio-demographic and socio-economic factors that could influence CF practices. Section 2 aims to assess the knowledge of the mother on CF irrespective of what she has been practicing for her child. It covers the knowledge in association to initiation of BF and CF, and duration for exclusive breastfeeding. Section 3 questions were designed to assess the practices of the respondents on CF including time, quality and quantity of CF.

The questionnaire used as the survey instrument was peer reviewed by the students of Faculty of Health Science. Furthermore, it was pretested and the pilot study was done with 10 mothers of the target age group. Minor changes that were noted in the process were brought to the questionnaire prior to the actual data collection procedure.

3.6 Validity and Reliability of the research

The validity and reliability of the instrument was ensured to decrease the error in the study. Therefore the reliability of the instrument was proven by pretesting and it was done in order to bring further changes in the questionnaire before it was finalized. Therefore, identified errors and mistakes in the questionnaire were improved. The
objectives of the study were explained to the study participants prior to data collection, and their consents were obtained, and the questionnaires were filled only by those who agreed (refer Appendix B for Consent Form).

3.7 Data collection procedure

Face-to-face interviews were conducted to collect data for the research. Mothers were interviewed face-to-face; to obtain information with regard to CF. Informed consent was taken prior to the interview. Any participant who hesitated to give consent was eliminated and skipped during the data collection procedure.

3.8 Framework for Data Analysis

The data underwent rigorous daily checking to identify and correct errors. The data was entered and analyzed using SPSS software version 20 and Microsoft excel 2010. Socio-demographic, economic and CF data was entered and assessed for descriptive statistics (frequency, and percentage). The data were used to describe socio-demographic and economic characteristics of the study population, knowledge and CF practices of the population.
CHAPTER  4

DATA ANALYSIS AND RESULTS

This chapter consists of the description and analysis of the data obtained from 90 respondents of the study. The chapter is organized mainly into two parts. The first part includes descriptive information of the characteristics of the study population and knowledge and practices related to CF in relation to timing, frequency and duration. The second part of it includes the percentage analysis to determine the factors effecting knowledge and practices of CF.

4.1 Socio-demographic and socio-economic profiles of the respondents

In the study, Ninety four (94) mothers were selected as a sample. However, the data were obtained from ninety (90) mothers with response rate of 96%. Figure 4.1 represents age group of the children who were selected for the study. Thirty seven (41%) were 06 to 12 months of age followed by, 35(38%) of children aged 13 to 18 months and 18 (20%) children with the age of 19 to 24 months. Gender distribution of the children was almost equal for both males and females. Of all the children, 46 (51%) were female and the rest are males as shown in figure 4.2.
Out of 90 respondents (mothers), majority of the mothers are below 32 years, adding up to 62 (69%) of the total sample. The age distributions of the respondents are shown in figure 4.3.

There were 56% of the respondents with their first child. The rest of the respondents (44%) had two or more children. Over the half (53%) of the respondents had normal delivery while the rest (46%) had undergone caesarian section for the child. Extended family system was more common than nuclear family, 56% and 34% respectively, as shown in figure 4.4.
Figure 4.4: Type of family of the respondents

Over half (13.3%) of the mothers had primary school education while 86.7% had secondary education and higher. Education levels of mothers are shown in bar graph in figure 4.5.

![Bar graph showing education levels of respondents](image)

**Figure 4.5: Education level of the respondents**

Nearly three quarters (70.0%) of the mothers were not employed while slightly less than a third (21.1%) were formally employed, and the rest were self-employed as represented in figure 4.6.
The average monthly income for the immediate family is represented in figure 4.7. It shows that, 58 (64.4%) of the total respondent families earn more than 10000 Rufiyaa per month.

Figure 4.6: Employment status of the respondents

Figure 4.7: Average monthly income for the family (in MVR)
4.2 Knowledge on complementary feeding practices

The table 4.1 below shows the knowledge of the respondents with regard to the timing of the feeding practice.

Table 4.1: Knowledge on feeding practices

<table>
<thead>
<tr>
<th>Maternal Knowledge</th>
<th>N= 90</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
</tr>
<tr>
<td>Initiation of Breastfeeding after the delivery:</td>
<td></td>
</tr>
<tr>
<td>Within 1 Hour after the delivery</td>
<td>76</td>
</tr>
<tr>
<td>Within 2-3 hours after the delivery</td>
<td>14</td>
</tr>
<tr>
<td>Duration for Exclusive Breastfeeding:</td>
<td></td>
</tr>
<tr>
<td>Till 4 Months of age</td>
<td>5</td>
</tr>
<tr>
<td>Till 6 Months of Age</td>
<td>84</td>
</tr>
<tr>
<td>Up to the will of the mother</td>
<td>1</td>
</tr>
<tr>
<td>Initiation of complementary feeding:</td>
<td></td>
</tr>
<tr>
<td>At 6 Months of age</td>
<td>86</td>
</tr>
<tr>
<td>At 4 months of age</td>
<td>3</td>
</tr>
<tr>
<td>At 9 months of age</td>
<td>1</td>
</tr>
<tr>
<td>Continuation of breastfeeding:</td>
<td></td>
</tr>
<tr>
<td>Till 1 year of age</td>
<td>5</td>
</tr>
<tr>
<td>Till 2 years of age</td>
<td>43</td>
</tr>
<tr>
<td>More than two years</td>
<td>42</td>
</tr>
</tbody>
</table>

Seventy six (85.5%) of the total respondents were aware that the child should be initiated with breast milk within an hour after the delivery, whereas, the rest 16% stated that, the child should be initiated with breastmilk within 2-3 hours of delivery. Of all, 93% of the respondents were aware that the child should be exclusively breastfed till 6 months of age. The rest of the respondents, 7% stated that, the child should be exclusively breastfed till four months of age (see table 4.1).
Knowledge on the timing on initiation of CF was sought. Eighty six (96%) respondents agreed that the child should be initiated with CF at 6 months of age. Three (3%) of them stated it should be initiated at 4 months of age and 1% of the total stated that introduction of CF should be at the age of 9 months for the child as shown in table 4.1.

Even after the initiation of complimentary food, it is recommended to continue BF at least until 2 years of age. Forty three (48%) respondents were aware that along with the CF, BF should be continued until child reaches 2 years of. The rest, 47% stated that, the child should be continued with BF more than two years and 6% of the respondents stated that BF should be continued with CF till one year of age (see table 4.1).

Out of 90 respondents, 69% of them never received counseling on CF. The rest of the respondents, 30% of the respondents received counseling on CF. Of all who have received counseling, 48% of them received counseling during their maternal period. The figure 4.8 shows when the respondents have received counseling regarding CF.

![Graph showing percentage of respondents who have received counseling](attachment:graph.png)

Figure 4.8: Percentage of the respondents who have received counseling
4.3 Feeding Practices

Of all, 73(81%) of the respondents introduced breastmilk as the first feed for the child after the delivery. Whereas, 17(90%) of the introduced infant formula for the child after the delivery. EBF was established by 53(59%) of the total respondents. However, 17 (19%) of them reported that they offered only breast feed for the child till 4 to 5 months and there were 13(15%) who offered only breastmilk for the child till 3-4 months of age. Seven (8%) of the respondents initiated other source of feed for the child at less than 3 months of age.

All the children 6-8 months (100%) had received solid, semi-solid or soft food the previous day. However 62% of the respondents had initiated with complimentary food at the recommended time of 6 months of the age for the child. Rest of the respondents (36%) had initiated it earlier than the recommended time and only 2% of the respondents initiated later than the recommended time (see figure 4.9).

![Figure 4.9: Timing of initiation of complementary feeding](image)

The commonest reason for earlier initiation was reported was that the respondent felt that the child is not feeding properly as shown in figure 4.10. The reasons for early
initiation of BF are represented in figure 10. Also (17%) of the mothers had to go back to work or study and this was quote as the reason for early initiation of CF while same number of respondents did know the exact time of the introduction of CF.

![Figure 4.10: Reasons for early initiation of complementary feeding](image)

Meal frequency was asked from all the respondents. The proportion of children 6–23 months of age who receive solid, semi-solid, or soft food (but also including milk feeds for non-breastfed children) the minimum number of times or more is the recommended meal frequency (WHO, 2008). This was established by majority of the respondents, which was over 94 % of the total respondents. Merely, 6% of the respondents did not provide the recommended minimum number of feeds for the child.

Dietary diversity was assessed in the study. Respondents were asked about the food that they had provided for the child in the previous day. Proportion of children 6 –23 months of age who received food from 4 or more food groups were considered as the children who have received minimum dietary diversity (WHO, 2008). Of all the respondents, 51% of the respondents reported to have fed their child more than four group of food. The remaining respondents (49%) have fed less than four varieties for the child as shown in the table 4.1 below.
Table 4.2: Variety of food given for the Child

<table>
<thead>
<tr>
<th>Variety of food given for the child</th>
<th>Frequency (N=90)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appropriate</td>
<td>46</td>
<td>51%</td>
</tr>
<tr>
<td>Inappropriate</td>
<td>44</td>
<td>49%</td>
</tr>
</tbody>
</table>

4.4 Factors effecting complementary feeding practices

4.4.1 Number of children in the family

4.4.1.1 Number of children in the family with feeding practices

Practices including duration of EBF, initiation of CF, amount of CF and variety of food were related with number of children in the family. Of all, 83% of the total respondents were having 1 or 2 children and 17% were having more than 2 children. A total of 28% of the respondents having less than 2 children were practicing all the above mentioned practices in the recommended way. However, only 13% of the respondents having more than 2 children were practicing the factors in the recommended manner.

4.4.1.2 Number of children in the family with exclusive breastfeeding, initiation of complementary feeding

Out of this above mentioned 83% having 1 or 2 children, 56% had provided EBF for 6 months and had initiated CF at 6 months. On the other hand, 47% of the group having more than 2 children (17%) had practiced right timing of EBF and initiation of CF.
4.4.1.3 Age of the mother with duration of exclusive breastfeeding, initiation of complementary feeding

Majority (69%) of the survey respondents were below the age group 18-31 years, of these 55% had followed the duration of EBF and initiated of CF at the recommended timing. There were 31% of the respondents with the age group 32-45 years of which 54% had followed the duration of EBF and initiated of CF at the recommended timing.

4.4.2 Type of family in relation with the duration of exclusive breastfeeding, initiation of complementary feeding

Of all the respondents, 40% were living in the nuclear family and 60% were living in extended family. A total of 58% of the respondents from nuclear family were practicing EBF for 6 months and had initiated CF at 6 months. But, only 52% of the respondents from joint family were practicing it in the recommended manner.

4.4.3 Education level of the mothers

4.4.3.1 Education level with duration of exclusive breastfeeding, initiation of complementary feeding

There are 30% respondents who continued their education till primary level but the remaining 87% had higher level of education. Out of those 87% higher educated respondents, 58% were practicing EBF for 6 months and had initiated CF at 6 months. However, when the “low” educated respondents were compared, only 33% were following the standard recommended practices.
4.4.3.2 Education level with feeding practices (variety and quantity)

Out of those 87% higher educated respondents, 94% were providing appropriate, recommended quantity of CF for the child, while 100% of those 13% “less” educated respondents were practicing the same. Similarly, in case of variety of complimentary food, 50% of respondents having higher education level, compared to 58% of “less” educated respondents were sticking to the recommended dietary diversity.

4.4.4 Monthly income with type of food

The income level has been categorized as, high if it is more than MVR 7000 per month and the other group fall under low income category. A total of 93% of the respondents were found to be in the first category. The remaining 7% were in the low income group. Home-made and market food if considered separately, it was found that the “low” income group were more likely to go for homemade food (43%) than only market food (14%). In terms of homemade and market food together, it is observed that majority of “high” income group were trying both market and homemade food as complimentary food (72%). However, the “low” income respondents were not that familiar in trying both types (43%) as shown in figure 4.11.

![Figure 4.11: Level of income of the family and type of food offered to the infant](image-url)
4.4.5 Type of delivery with duration of exclusive breastfeeding, initiation of complementary feeding

Out of the total respondents, 53% have had normal delivery and 47% of them have had caesarian section. In terms of duration of EBF, the normal delivery case respondents had practiced the recommended duration better (65%) than the caesarian delivery cases respondents (50%). If the above mentioned practice and initiation of CF, are considered together, the normal delivery case respondents are still practicing the recommended CF timings in relatively better way than their counterparts (see figure 4.12).

![Bar Chart]

**Figure 4.12:** Type of delivery of the baby in relation to the exclusive breastfeeding and complementary feeding practices
4.5 Factors influencing knowledge on feeding practices

In the present study, out of all the factors, type of family, education level and number of children in the family are the significant factors that were related to the level of knowledge of the respondents. The results are as follows:

4.5.1 Number of children

Respondents having more than a single child are expected to have more knowledge from their previous experiences. Hence, the analysis is performed on two categories, one experienced that is having more than one child and the other first time mothers having just one child. It was found that 57% of the total respondents were having one child and the remaining 43% of the respondents were having more than one child. Among the respondents with one child, 43% are having all the proper knowledge while only 33% of them with more than one child had proper knowledge.

4.5.2 Type of Family

The respondents in the present survey had been categorized into nuclear and joint family types. A total of 40% of the respondents were found to be from a nuclear family and remaining 60% were from extended or joint families. In terms of knowledge, 42% of the respondents from nuclear families are aware of all the desired knowledge related to CF, whereas, only 37% from the joint families have the proper knowledge about the same.

4.5.3 Education level

Among the study population, 87% of the total respondents were having education level above secondary level and the rest (13%) had education below primary level. Among the respondents with higher education, there were 44% having significant
knowledge about infant feeding. However, only 8% of the respondents with “low” education have all the appropriate knowledge on CF practices.

4.6 Knowledge and practice

Of all the respondents, 93% have the knowledge of duration of EBF and 58% of those are practicing it and high percentages (96%) of the total respondents were aware of the timing of initiation of CF; however, only 63% of them had established it at the recommended time.
CHAPTER 5

DISCUSSION AND CONCLUSION

5.1 Summary of main findings

a) Most of the respondents were young below the age of 32, with their first child and with higher than primary education with the majority of them being unemployed.

b) In the study, most of the respondents (84%) were aware that the child should be initiated with BF within one hour after the delivery. However, there were respondents who stated that child should be initiated with breast milk within 2 to 3 hours after the delivery.

c) It is found that, 93% of the total respondents were aware of the appropriate duration of EBF while 96% of the total respondents were aware of the timing of initiation of CF.

d) The study revealed that, most of the respondents (81%) introduced breast milk as the first feed for their child. EBF was established by 59% of the total respondents.

e) The correct timing of initiation of CF was established by 62% of the respondents. Of the total, 36% of them had initiated it earlier than the recommended time. Earlier initiation was reported by most of the respondents as the child was not BF properly.
f) Minimum meal frequency was achieved by most of the respondents (94%). However, almost half of the respondents have not provided the minimum dietary diversity for their children.

g) When looked on to the socio-economic and socio demographic factors in relation to the feeding practices, it is noted that the number of children, type of family and education level of mother were the main factors that were significantly related to CF practices.

h) In the present study, out of all the total factors, type of family, education level and number of children in the family, these three were significant factors related to the amount of knowledge that the respondents were having.

i) Of all the respondents, 93% have the knowledge of the correct duration of EBF while only 58% of those are practicing it. Out of the total respondents 96% were aware of the timing of initiation of CF; however, only 63% of them had established it at the recommended time.
5.2 Discussions

This study was conducted with 90 mothers of children aged 6 – 23 months to assess the knowledge of mothers regarding CF, to evaluate the practices of CF in terms of quantity, quality and timing and to determine the major factors influencing these practices and knowledge.

In the current study, 41% of children were below 1 year of age, 38% were at the age group 13-18 months and 20% were 19-24 months of age. This age distribution seemed satisfactory as all the age groups were involved in the study. The gender distribution of male and female were only one child as it consists of the most common reproductive age group in Maldives. The most common child bearing age group was recorded last in 2006, which was found to be 19-25 years (Ministry of Health and Gender, 2014).

The study revealed that most of the respondents (Mothers) knew the duration of EBF (EBF) and timing of initiation of CF. However, the ideal duration and timings being followed by them were found to be low. It is found that, majority of the total respondents (93%) had the knowledge on duration of EBF but only, 58% of those are practicing it. This means 35% of the respondents who are aware of the proper knowledge have not practiced in the recommended manner. This is similar to the finding of the study conducted in Kanti Children's Hospital, Nepal, with 1100 mothers where only a limited number of mothers practice exclusive breastfeeding although most are aware about the requirement. It revealed that 87% percent of mothers had knowledge about the duration of EBF but only 33% practiced it (Chapagain, 2015).

It was observed in the study that 93% of the respondents have knowledge on duration of EBF and the remaining 7% were not aware of the correct duration. About half, 54%
of the mothers stated that the child should be continued with BF up to 2 years or beyond. A study carried out in Kahawa West Public Health Centre among the randomly sampled 286 mothers and their children showed over 90% of the mothers had high knowledge on exclusive breastfeeding for the first 6 months and 77% of the mothers testified that infants and children should be breastfed for two years and beyond (Mueni, 2014). UNICEF and WHO recommendations specify that children should be exclusively breastfed fed for 6 months and that BF should be continued for two years and beyond (WHO, 2007). Although the knowledge level of exclusive breastfeeding seems to be high in the study population of Male’, half of the population are not aware of the time until which breastfeeding should be continued.

Majority of the study respondents (96%) were aware of the timing of initiation of the CF. A very few percentage of the respondent said that the timing of initiation of CF is at 4 months of age of the child. Despite the higher percentage of awareness of the timing of initiation, only 63% of them had established it at the recommended time. A similar study conducted in Pediatrics OPD Jinnah Hospital, Lahore from March – September, 2012 shows that only 54% of the mothers had the correct knowledge of initiation of CF and 43% of them practiced in the recommended manner (Hasnain, Majrooh & Anjum, 2012). Therefore, the percentage of mothers who started CF at the recommended time is higher in this study.

The study shows that counseling with regard to CF was received by 31% of the respondents. The rest stated that they had never received counseling on CF in any official mean. This could happen due to carelessness in attending the counseling sessions organized by the hospitals and health centers. Most of the participants who have received counseling on CF said that they received it during their antenatal period followed by post delivery period and growth monitoring visits (see figure 8). On the
other hand, some of the respondents mentioned that they get information on CF from the internet as well as from family and friends.

In the survey, the prevalence of EBF was 59% which is higher than the results of the Maldives Demographic Health Survey findings where children who were exclusively breastfed up to 6 months of age was found to be 48% in 2009 (Ministry of Health and Gender, 2014). Even though EBF prevalence is higher than the national findings, there are mothers who had offered only breast milk for their children up to 4-5 months of age and 3-4 months of age and had initiated other sources of food for their child before the age of 6 months. This could be the reason for the higher value.

CF was initiated at the right time by 62% of the respondents. The rest had not attained the appropriate timing of CF, with majority of respondents initiating it earlier than recommended. Earlier initiation was reported by the mothers who felt that the child was not feeding breast milk properly (see figure 10). A similar study done in Mauritius also shows that CF was more commonly initiated around 4-6 months (Motee, Ramasawmy, Gunsam, & Jeewon, 2013). Another hospital-based cross-sectional study conducted at one private hospital in Salem, Tamil Nadu in 2013, shows that about 62% of the mothers introduced complementary food to their infants before 5 months, while 36 % of introduced at 6 months (Kavitha, Nadhiya, & Parimalavalli, 2014). Various studies show that there are many reasons for early initiation of CF. Some of these includes not having enough breast milk, working mothers having to return to their jobs and feeling that the child needs more than breast milk for better growth (Basnet, Sathian, Malla, & Koirla, 2015).

The study shows that 94% of the respondents follow the recommended meal frequency even though the respondents who follow minimum dietary diversity were
comparatively low (51%). A similar study done in Northwest Ethiopia also shows that the proportion of children who met dietary diversity is very much less than that of minimum meal frequency (Beyene, Worku & Wassie, 2015). The possible reasons suggested for in the study could also be the reasons for this in Maldives. It includes lack of awareness about nutritional requirements for infants and young children, affordability to nutritious food products, tradition of cooking few verities of food for the family and sharing food with all siblings at home.

In the current study, 28% of the respondents who had 1 or 2 children and 13% of the respondents who had more than 2 children are practicing in the recommended way. Thus, it can be concluded that the population who had children less than 3 were practicing most of the recommended CF factors in the best possible manner. So, the number of children can be considered as a decisive factor in the practices of CF. It could be due to the knowledge they had received with the experience from the previous children.

In terms of duration of EBF and CF, the percentage of respondents having less than 3 children and respondents having more than 3 children are 56% and 17% respectively. Hence, it can be concluded that, the recommended timing for duration of EBF and initiation of CF are influenced radically by the number of children in the family. Practices like duration of EBF and initiation of CF are moderately influenced by the number of children in the family. This is congruent to the findings of similar studies. Previous studies revealed that mothers who had at least one child have high levels of breastfeeding related knowledge, including appropriate time of initiating CF. In the study carried out by Shumey, Demissie and Berhane (2013), mothers who had more than one child were 2.344 times higher in initiating CF at six months than mothers who had only one child. This could also be related to repeated exposure of health education
during the previous pregnancies and the experience they gained through time, therefore repeated exposure to health education will have an impact in subsequent pregnancies.

The current study revealed that the education level is one of the most important factors affecting the recommended practices as there were 58% of the respondents with higher educated and only 33% of respondents who are less educated respondents practicing EBF and initiation of CF in the appropriate way. A previous study agrees with our finding and reports that higher maternal educational level, high school and above (AOD = 2.361), was noted to increase timely initiation of CF (Shumey, Demissie & Berhan, 2013). This can due to improved maternal education enhancing mothers’ understanding and gratitude of the demands and benefits of introducing CF timely, and empowering them to resist external interferences and pressures.

The percentage of respondents practicing duration of EBF and initiation of CF in the age groups of 32 and below (55%) and above 32 (54%) are almost equal. Therefore, the age of the mother is not a decisive factor for good practices in CF. When the type of family are related with the practices, it is noted that there were 58% of the respondents in nuclear family and 52% of respondents from joint family who had practiced the correct duration of EBF and had initiated CF at the recommended timing. As in these two cases the percentages were differing a bit, it can be stated that the respondents from nuclear family are relatively better than their joint family counter parts. This small difference could be due to the employment status of the mothers.
5.3 Implications

The findings of the study responded to the study’s research questions and helped to achieve its objectives. These findings have several significant implications to determine the baseline information on the level of awareness and practices of CF. Based on the results of this study, further researches can be conducted in a large scale.

Findings of the study could be used by the health planners and health policy makers in Governmental and Non-governmental organization to further improve the practices of mothers regarding infant and young child feeding practices.

5.4 Limitations of the study

As the age of the children ranged up to 24 months, recall period might have introduced recall biases in relation to questionnaires regarding BF and initiation of CF. The study was conducted within a short duration of time. Hence time scale to which the study was undertaken was one of the major limitations. With respect to knowledge and feeding practices all the related factors were not considered in the study due to the time constrain.

This study was conducted in Male’ the capital of Maldives, which is the most urban city in Maldives. If similar study was undertaken in a rural island, the results of the study could differ due to several factors. Therefore, the study results would probably be applied to only urban areas of the country. Furthermore, this study was conducted with the registered mothers of the selected age group in “Dhamana Veshi”. Hence, it may not reflect values present in the general population as a whole.
5.5 Recommendations

Future research needs to be carried out in order to identify the factors associated with early cessation of BF and earlier initiation of CF. Such information can be used to increase breastfeeding rates, particularly the exclusive breastfeeding rates within the first 6 months after delivery.

The study was undertaken in urban area, similar types of studies are needed to be done in different parts of the countries to understand the level of knowledge and practices of the people on infant and young child feeding. In addition to this, the future studies could include more areas that need to be focused on Infant and young child feeding practices such as hygienic conditions and practices in preparation and storage of food that are provided for the children.
5.6 Conclusion

It can be concluded from the study that there was a large gap between the knowledge of mothers and actual practice with regards to both duration of EBF as well as timely initiation of CF by the respondents. As it was noted that most of the mothers mentioned lactation failure as the main cause of early initiation of CF, perhaps health service providers need to focus on provision of anticipatory guidance to overcome the common BF difficulties. It was also noted that one of the reason for early initiation of CF practice was working mothers having to end EBF earlier as they had to return to work. In addition to the considerations and strategies allowing more flexible working conditions, the health care providers need to guide mothers on providing breast milk by expressing breast milk. They should be provided with proper guidance on how to express milk and store it in an appropriate condition, thereby removing the need for earlier initiation to CF. Better methods for dissemination of information on feeding practices needs to be delivered to mothers; perhaps the most amenable time for mothers to gain this information could be during the visits for vaccination and growth monitoring.
REFERENCE


to two years- A study from costal south India. *AMJ* 2011, 4(5), 252-257, http://dx.doi.org/10.4066/AMJ.2011.60


Questionnaire

SURVEY QUESTIONNAIRE
I am Sara Mohamed, a student from faculty of health sciences, Maldives national university. This survey is about the knowledge and practices of mothers on complimentary feeding. The aim of this survey is to collect information for the subject 'Research' conducted for academic purpose. All the information collected through the questionnaire will be confidential and will be used in research purpose. If you feel uncomfortable answering a question, feel free to say so.

Respondent No: _ _ _ Date: _ _ / _ _ / _ _ _

SECTION 1. GENERAL INFORMATION
Choose the appropriate answer for the following.

<table>
<thead>
<tr>
<th>CHILD</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1. The Age of the child</td>
<td></td>
</tr>
<tr>
<td>1. 06-12 Months</td>
<td></td>
</tr>
<tr>
<td>2. 13-18 Months</td>
<td></td>
</tr>
<tr>
<td>3. 19-24 months</td>
<td></td>
</tr>
</tbody>
</table>

| 1.2. Gender of the child |  |
| 1. Male |  |
| 2. Female |  |

<table>
<thead>
<tr>
<th>MOTHER</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.3. What is your age group?</td>
<td></td>
</tr>
<tr>
<td>1. 18–24</td>
<td></td>
</tr>
<tr>
<td>2. 25–31</td>
<td></td>
</tr>
<tr>
<td>3. 32–38</td>
<td></td>
</tr>
<tr>
<td>4. 39–45</td>
<td></td>
</tr>
</tbody>
</table>

| 1.4. The total number of children you have. |  |
| 1. One |  |
| 2. Two |  |
| 3. Three |  |
| 4. Four |  |
| 5. More than four |  |
1.5. What is the type of family you are living with?
1. Nuclear
2. Extended/Joint

1.6. What is the level of your education?
1. Illiterate
2. Primary School
3. Middle/Secondary School
4. Higher secondary
5. College/University

1.7. What is your employment status?
1. Working (government/private)
2. Self employed
3. House Wife/unemployed

1.8. What is the estimated monthly income for your immediate family?
1. Less than 3000
2. 3000 - 5000
3. 5000 - 7000
4. 8000 - 10000
5. More than 5000

1.9. What is the type of the delivery for the child?
1. Normal Delivery
2. Caesarian Section

1.10. Where did you deliver your child?
1. Home
2. Health Center
3. Island Hospital
4. Atoll hospital
5. Regional Hospital
6. Central Hospital (IGMH)
7. Private Hospital

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SECTION II. KNOWLEDGE

Tick according to the answer given by the respondent for the following questions

2.1. How soon do you think the child should be initiated with breast milk within……. hour(s) after the delivery?
1. One hour after the delivery
2. 2-3 hours after the delivery
3. After 3 hours of delivery

2.2 How long do you think the child should be exclusively breast fed?
1. Till 4 months of age
2. Till 6 months of age
3. up to the will of mother

2.3 When do you think, the child should be initiated with complimentary feeding.
1. At 6 months of age
2. At 4 months of age
3. Others (Specify)………………

2.4 How long do you think breastfeeding should be continued?
1. Till 1 year of age
2. Till 2 years of age
3. three years or more

2.5 When did you receive counselling on complimentary feeding
1. During maternal period
2. During growth monitoring visits
3. During post Delivery period
4. During immunization
5. Never
SECTION III. FEEDING PRACTICES

Tick according to the answer given by the respondent for the following questions

3.1 What was the 1st feed given to the child soon after the delivery?
   1. Mineral Water
   2. Breast Milk
   3. Powdered milk

3.2 How long did you offer only breast milk for your child?
   1. Less than 3 months
   2. 3-4 Months
   3. 4-5 months
   4. up to the 6 months
   5. Others (Specify)……………………..

3.3 When did you start complimentary feeding for your child?
   1. Less than 3 months
   2. Less than 6 months
   3. At six months
   4. More than 6 months

   If the answer for 3.3 is 1 or 2, Go to 3.4, and If the answer for 3.3 is 4, Go to 3.5.

3.4 What is the reason for early initiation of complimentary feeding?
   1. Did not know exactly when to start
   2. Due to the influence from mother or other relatives.
   3. Mother had to go for work or study.
   4. Felt that your milk is no longer sufficient for your child
   5. Child is not feeding properly
   6. Childs father disapproves to continue breastfeeding
   6. Other, Specify………………………………………………..

3.5 What is the reason for late initiation of complimentary feeding for your child
   1. Did not know exactly when to start
   2. Felt that your milk is enough for the child
   3. Felt that the child may not be able to digest food properly
   4. Did not try to feed other food for the child, because the child had no teeth
   5. Other, Specify………………………………………………..

3.6 What type of food do you usually feed your child?
   1. Home Made food
   2. Market food
   3. Both homemade and market food

3.7 How many times did you complimentary feed your baby yesterday?
   Specify……………………………………………………………………………
   ……

3.8 What were the varieties of food that was fed to your baby yesterday?
   (Tick all that apply)
   1. Grains/ Cereal (Rice, Noodles, Bread etc.)
   2. Roots and tubers;
3.9. What is the consistency of the food you prepare for your child? (Ask by showing pictures provided)

1. Thick
2. Thin
3. Appropriate

THANK YOU FOR YOUR PARTICIPATION!!

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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<tbody>
<tr>
<td>3</td>
<td>Legumes and nuts;</td>
</tr>
<tr>
<td>4</td>
<td>Dairy products (milk, yoghurt and cheese);</td>
</tr>
<tr>
<td>5</td>
<td>Flesh foods (meat, fish, poultry and liver/organ meats);</td>
</tr>
<tr>
<td>6</td>
<td>Eggs;</td>
</tr>
<tr>
<td>7</td>
<td>Fruits and vegetables</td>
</tr>
</tbody>
</table>

APPENDIX B

INFORMATION SHEET AND INFORMED CONSENT FORM

Information Sheet

Purpose of the study
As part of the requirement for a bachelor’s degree in research subject, I have to carry out a research study. The study is concerned about the knowledge and practices of complimentary feeding practices and factors influencing feeding practices.

What does the survey involve?
The survey involves an interview of around 15-25 minutes in which you will be asked to provide answers in the questionnaire. This questionnaire consists of General information, knowledge based, and questions regarding the practices of complimentary feeding.

Do I have to Participate?
However, you are being selected for the survey; your participations in the study should be voluntary. You will be asked to sign a consent form to indicate that you provide consent for taking part in the study. And you will be provided a copy of the consent form. Even after signing the consent form, you have option of withdrawing from the study, any time you wish to.

Will you keep the information Confidential?
All the information provided by you would be used anonymously. I will ensure that no clue to your identity will be given away to anyone else or in the study. All the information you provide will be kept confidential.

What if I have a question?
If you have any further questions you are given fill authority to seek answer for them any time you wish to. Even if you need to clarify any information regarding the study you can contract me.

Sara Mohamed, Mobile No: 7898595, Email: sar.saramohamed@gmail.com

If you agree to take part in the study, please sign the consent form provided.

Thank you for your co-operation!
INFORMED CONSENT SHEET
INFORMED CONSENT SHEET IN ENGLISH

I …………………..am willingly participating in (Sara Mohamed)’s research

I have been explained fully about the details, its purposes and nature of the study. I understand that I can withdraw from the study at any time, before it starts or while I am participating. I have had opportunity to ask questions about the study and any questions that I asked have been answered to my satisfaction.

I understand that anonymity will be ensured and the information I provide will be kept confidential.

I consent voluntarily to participate as participant in this research and understand that I have the right to withdraw from the research at any time.

Signature: …………………………..

Date……………………………..