Complementary Feeding Practices among Mothers in selected Communities in Zamboanga City, Philippines

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ABSTRACT

This paper presents the complementary feeding practices of mother in Zamboanga City, Philippines. Infants and young children are at an increased risk of malnutrition from six months of age onwards, when breast milk only is no longer adequate to meet all their dietary requirements and complementary feeding should be started. Results show that majority of the mother respondents started the initiation for complementary feeding at 7 months with the use of water, juice or vitamins. The reason for complementary feeding is to have a healthy baby. Public health programs and policies should address issues concerning infant feeding processes for expectant and new mothers with short, clear and specific guidelines. A multidimensional approach that focuses on social, psychological, economic and personal concerns is an absolute prerequisite to ensure a supportive environment that will permit a mother to carry out the most favorable infant feeding methods.

Keywords : Breastfeeding, Complementary Feeding, Practices, Breast Milk

1 INTRODUCTION

Inappropriate feeding practices during the first two years of life are a major cause of under nutrition in young children. The number of global deaths and disability-adjusted life-years caused by under nutrition constitutes the largest proportion of any risk factors in children under the age of five [1]. Unbalanced nutrition in early life also has long-lasting and irreversible consequences, including growth failure, poor resistance to infections and impaired learning capabilities [2]. Children who are undernourished during the first two years of life and who then gain weight rapidly later in childhood, are in greater risk of chronic diseases in later life.

The incidence of under nutrition rises rapidly during the period of complementary feeding from the age of 6 months until 18 months in many developing countries [3], [4]. Complementary feeding is the vulnerable period of transition from exclusive breastfeeding to family diet. World Health Organization (WHO) recommends that children should receive adequate, safe and appropriate complementary foods from six months onwards while continuing to be breastfed until two years of age [5]. Adequate nutrition during infancy and early childhood is fundamental to the development of each child's full human potential. It is well recognized that the period from birth to two years of age is a critical window for the promotion of optimal growth, health and behavioral development.

Infants should be exclusively breastfed for 6 months to achieve optimal growth and development. They should be given adequate nutritional benefits and safe complementary feeding from the age of 6 months with continued breastfeeding up to 2 years of age or beyond [6]. Complementary foods should also meet the infant's daily energy requirements. An estimated 1.3 million lives are lost annually due to inadequate exclusive breastfeeding with an additional 600,000 from lack of continuation of breastfeeding with proper complementary feeding [7].

An appropriate diet is critical in the growth and development of children especially in the first two years of life [8]. The World Health Organization (WHO) [9] recommends exclusive breast feeding for the first six months of life, with the addition of complementary feeds at six months with continued breast feeds until at least the age of two.

Infants and young children are at an increased risk of malnutrition from six months of age onwards, when breast milk alone is no longer sufficient to meet all their nutritional requirements and complementary feeding should be started.

Initiating complementary feeds too early or too late can lead to malnutrition. The early introduction of complementary feeds before the age of six months can lead to displacement of breast milk and increased risk of infections such as diarrhea, which further contributes to weight loss and malnutrition.

Besides this, it is thought that babies are also not physiologically ready to receive complementary feeds below six months due to immaturity of the gastrointestinal and neurodevelopmental systems and the kidneys. Studies have demonstrated that early introduction of complementary feeds does not result in improved growth velocities or food acceptance [10].

Hence this study was undertaken to assess the practices of complementary feeding among mother in selected communities in Zamboanga City.

2 OBJECTIVE OF THE STUDY

Giving complementary foods too early could lead to malnutrition and other problems. If given too early the infant may not be ready to digest the food properly and it may also reduce intake of breast milk thereby losing out on appropriate energy intake for its growth. Early introduction of complementary

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food replaces breast milk by food which is usually less nutritious. It increases the risk of diarrhea and other infections. Diarrhea is a major cause of morbidity and mortality among infants and young children in developing countries [11]. Introduction of complementary foods too late results in an inadequate intake of energy and protein leading to poor growth, and stunting as well as iron and other nutrient deficiencies [12].

This study attempted to determine the complementary feeding practices of mother in selected communities in Zamboanga City.

3 METHODS

A cross-sectional survey was utilized following the inclusion criteria of the study. Purposive sampling was likewise utilized in the identification of the selected communities. Mother participants for the survey were identified through purposive sampling following the inclusion and exclusion criteria.

Key Informant Interviews (KIIs) were conducted among identified persons in the community who are knowledgeable about the local practices and at the same time, the standards set by the Department of Health and the World Health Organization in terms of exclusive breastfeeding. There were several KIIs (at least three or more) until saturation of information was reached.

Focus Group Discussion (FGD) sessions were conducted among mothers where each FGD had 5-8 participants with the following inclusion criteria: mothers who exclusively breastfed their infants for the first six months, ages between 19-45 years old, and a resident of Zamboanga City.

Survey Questionnaire was given to mother participants of the four selected communities in Zamboanga City by following the inclusion criteria.

Mothers with children over 6-12 months old were identified using the snowball sampling. Mothers were identified by numbers not by names.

Since the population of mothers who breastfeed is unknown in all the four communities, the study will use the following formula: Proportion Unknown $n = [(z^2 * p * q) + ME^2] / (ME^2)$ so the sample size needed was 385.

4 RESULTS

A greater number of the mother participants belong to ages between 26-32 years old (111 or 46%) followed by those between ages 19-25 years old (126 or 52%), 5 or 2% of them are between the ages of 33-39 years old. Based on occupation, 241 out of the 242 mother participants are housewives while 1 (1%) a BHW.

In terms of the number of children, 126 or 52% of the mother participants have 1-3 while 99 or 41% have 4-6 children and only 17 (7%) have more than 7-9 children.

TABLE 1
CHARACTERISTICS OF STUDY PARTICIPANTS

Characteristic	N (%) 242
Age	
19-25 years old	126 (52)
26-32 years old	111 (46)
33-39 years old	5 (2)
Occupation	
Housewife	241 (99)
BHW	1 (1)
Number of Children	
1-3 children	126 (52)
4-6 children	99 (41)
7-9 children	17 (7)
Age of Last Child	
6-7 months	143 (59)
8-9 months	95 (39)
10-11 months	4 (2)
Estimated Family Income	
500-2,000	196 (81)
2,001-4,000	44 (18)
4,001-6,000	2 (1)
Pre-natal Check-Up	
Yes	242 (100.0)
Time of Pre-natal Visits	
1st Trimester	175 (72)
2nd Trimester	57 (24)
3rd Trimester	10 (4)

In terms of the age of the last child, 143 (59%) of the 242 mother participants had 6-7 months old children while 95 (39%) of them had 8-9 months old children with only 4 (2%) who have 10-11 months old children.

For estimated family income, majority (196 or 81%) of the mother participants has an estimated family income between Php 500-Php 2,000; 44 (18%) of them has Php 2,001-Php 4,000 estimated family income while 2 (1%) of them have Php 4,001-Php 6,000.

All of the 242 mother respondents had their pre-natal visits at the local Community Health Center where 175 (72%) of them had their pre-natal visit during their 1st trimester while 57 (245) of them during their 2nd trimester and 10 (4%) of them during their 3rd trimester.

Complementary Feeding Practices

Table 2 discloses the initiation of complementary feeding of mothers to their infants or children.

Complementary feeding is recommended to start at around six months and continue up to around two years of age [13].

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TABLE 2
INITIATION OF COMPLEMENTARY FEEDING

Category	Total	
	f	%
3 months onwards	3	1
4 months onwards	5	2
5 months onwards	6	2
6 months onwards	16	7
7 months onwards	200	83
8 months onwards	12	5
Total	242	100

Type of Complementary Feeding

The table shows that water (38%) was utilize by majority of the mother respondents as a complementary food to their babies including vitamins 31%) and juices (23%).

During complementary feeding, both home-made and commercially available foods (rice powder) were given to the infants. But majority of the mothers used water, vitamins or juice.

TABLE 3
TYPE OF COMPLEMENTARY FEEDING

Category	Total	
	f	%
Water	91	38
Juice	56	23
Vitamins	75	31
Rice Powder	14	6
Lugaw	6	2
Total	242	100

Reasons for Complementary Feeding

It has been found out that weaning started with rice powder and the main reasons are due to the well-being of the baby, based on the needs for more milk since the mother felt that their infants were not satisfied with breast milk alone, good for the immune system and for the baby to gain weight.

TABLE 4
REASONS FOR COMPLEMENTARY FEEDING

Category	Total	
	f	%
Healthy baby	72	30
Gain weight	38	15
Cheap/affordable	10	4
Good for the mother	31	13
Easy to do	8	3
Good for the Immune system	18	7
Satisfy the baby	21	9
Needs	41	17
Taste sweet	3	1
Total	242	100

Insufficient breast milk was the main recorded reason for introducing first solid foods during the FGDs.

One of the most common reasons given for early introduction of complementary feeding is mothers feeling that they have insufficient milk.

Many factors contribute to the vulnerability of children during the complementary feeding period. The complementary foods are often low in nutritional quality. The complementary foods are often given in insufficient amounts, and displace breast milk if given too early or too frequently. Gastric capacity limits the amount of food that a young child can consume during each meal. Repeated infections reduce appetite and increase the risk of inadequate intakes.

5 DISCUSSIONS

Complementary feeding was more commonly initiated around 7 months (83%) for the large number of the participants but a few particularly started the introduction of water and vitamins at 3 months. Yet 12 of the respondents started giving of complementary feeding at 8 months.

After six months of age, breast milk alone is no longer sufficient according to the child´s nutritional needs, meaning that the child given only breast milk beyond this age is unlikely to remain healthy and grow well [14]. As long as children are breastfed they can easily assimilate the energy and nutrients that the breast milk contains because it is naturally hygienic. On the other hand, when complementary foods are introduced, an increased exposure to infection is common due to unhygienic conditions. Diarrhea is very common at this state and can cause malnutrition. Appropriate complementary feeding practices are therefore essential [15].

Similar findings were observed in other studies in Kenya [16], Nairobi [17], Belgium [18], and Germany [19] which could explain that improved maternal education through early visit at the local health center could enhance mother's understanding and appreciation of the demands and benefits of introducing complementary feeding timely and empowers them to resist external interferences and pressures.

To make sure that appropriate complementary feeding is practiced, it is important that mothers or other caregivers receive reliable knowledge regarding nutrition. It has been shown that malnutrition is often caused by incorrect knowledge about complementary feeding practices rather than by insufficient amounts of food [20]. It could also be speculated that it is possible for mothers to raise well-nourished children even though living in poverty [21]. A study made in Ghana on maternal nutritional knowledge related to child nutritional status shows that mothers without formal education can assimilate nutritional knowledge. Another interesting finding is that mothers are unlikely to give their children enough food if they do not relate malnutrition to lack of food [22].

Yet, the mothers remain as the most important decision maker when it comes to what foods to give or not to give their child.

During the FGD, the mothers revealed that they had introduced liquids which is the most common liquid introduced is

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water. The rest had introduced solid foods such as "lugaw" or rice powder.

Additionally, less than five of the participants reported during the FGD that they tried to give ripe banana to their babies as early as 2 months old based on the cultural practice of their ethnic group. It has also been found that the mothers did not encounter any difficulty with their infants during the weaning period.

However, the perceived 'insufficient milk' may not reflect the true reasons for introduction of solid foods but may be given by mothers as a socially acceptable reason when mothers want to stop breastfeeding. Moreover, a study in Beijing showed that before the introduction of the Baby-Friendly Hospital Initiative in 1995, most of the mothers claimed they terminated breastfeeding because of disliking or feeling uncomfortable with breastfeeding.

In a study carried out by [23] on factors attributed to the prevalence of early complementary feeding of infants in Eastlands area of Nairobi, insufficient milk was cited as the main reason for early introduction of complementary feeding. In yet another study carried out by [24] on infant feeding practices by mothers in Homabay District, again insufficient breast milk to satisfy the infant was given as the main reason for early introduction of complementary feeding. Mothers usually associate their infant crying after breastfeeding as a sign of not having been satisfied. Other reasons given were the infant being thirsty.

6 Conclusions

In conclusion, this study was successful in presenting a better understanding of the issues associated with the early introduction of solid foods to infants. Taking into account that there is a big gap in the research on this subject and in particular the socio-cultural aspects of complementary feeding so more research is needed. It is hoped that this study will be beneficial by providing a basis for future research, but also as a guide for interventions.

7 Recommendations

Public health programs and policies should address issues concerning infant feeding processes for expectant and new mothers with short, clear and specific guidelines. A multidimensional approach that focuses on social, psychological, economic and personal concerns is an absolute prerequisite to ensure a supportive environment that will permit a mother to carry out the most favorable infant feeding methods.

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