



**ORIGINAL RESEARCH PAPER**

**Paediatrics**

**COMPLEMENTARY FEEDING PRACTICES AMONG CHILDREN AGED 6 MONTHS TO 2 YEARS**

**KEY WORDS:** Complementary Feeds, Breast feeds, Growth and development

**Dr. Madhavi Prathyusha**

M.D. Post Graduate, Department of Paediatrics, Meenakshi Medical College Hospital & Research Institute, Kanchipuram, Tamil Nadu, India.

**Dr. Sathish Narayanan\***

Assistant professor, Department of Paediatrics, Meenakshi Medical College Hospital & Research Institute, Kanchipuram, Tamil Nadu, India. \*Corresponding Author

**ABSTRACT**

**AIM:** The main aim of the study is to correlate feeding practices of mother and

**OBJECTIVES:**

1. To assess feeding practices of mothers .
2. To assess nutritional status of children .
3. To find out correlation between feeding practices of mothers and nutritional status of their children.

**STUDY DESIGN:**

**a) Inclusion criteria:** Mothers of children who were willing to participate. In the study both male and female children.

**b) Exclusion criteria:**

- i) Mothers who have physically and mentally challenge Children.
- ii) Mothers who did not have children along with them at the time data collection.

**METHODOLOGY:**

**Study group:** Paediatric age group( 6 MONTHS TO 2years

**Sample size:** 100 subjects

**Study design:** cross sectional study .

**PLAN FOR STATISTICAL ANALYSIS:** Descriptive statistics using SPSS software

**INTRODUCTION:**

Adequate nutrition during infancy and early childhood is essential to ensure the growth, health, and development of children to their full potential. The first two years of life provide a critical window of opportunity for ensuring children's appropriate growth and development through optimal feeding. Complementary feeding is attracting increased interest because there is convincing evidence that nutrition and growth during infancy have long-term effects on health, especially the risk of developing lifestyle diseases.

Recommendations on complementary feeding vary considerably between countries, mainly due to the limited scientific evidence of the health effects of different foods given during the complementary feeding period<sup>1</sup>. Recognizing that infants consume foods and diets rather than individual nutrients, some European countries have translated nutrient intake recommendations for infants and young children into food-based dietary guidelines to help provide caregivers with an indication of suitable age-appropriate foods to meet dietary needs<sup>2</sup> that infants consume foods and diets rather than individual nutrients, some European countries have translated nutrient intake recommendations for infants and young children into food-based dietary guidelines to help provide caregivers with an indication of suitable age-appropriate foods to meet dietary needs<sup>2</sup>. The present study is done to assess the practice of complementary feeding in children between 6 months to 24 months of age and to assess the knowledge regarding complementary feeding and reasons for inappropriate feeding practices for evidence based programme planning and intervention. The study also provides information about existing knowledge and practices of the mothers so that the appropriate steps could be taken to fulfill the goals of the appropriate complementary feeding practices.

**COMPLEMENTARY BREAST FEEDING:**

Complementary feeding (CF) according to the World Health Organization (WHO) is defined as "the process starting when breast milk alone is no longer sufficient to meet the nutritional requirements of infants" so that "other foods and liquids are needed, along with breast milk"<sup>4</sup>. Infants begin to actively explore their environment at 6 months of age and hence will be exposed to microbial contaminants through soil and objects even if they are not given complementary foods. Hence, 6 months is the recommended appropriate age at which to introduce complementary foods<sup>16</sup>.

The present study is done to assess the practice of complementary feeding in children between 6 months to 24 months of age and to assess the knowledge regarding complementary feeding and reasons for inappropriate feeding practices for evidence based programme planning and intervention. The study also provides information about existing knowledge and practices of the mothers so that the appropriate steps could be taken to fulfill the goals of the appropriate complementary feeding practices.

**OBSERVATION AND RESULTS**

**Table :1**

**Age Group In Children**

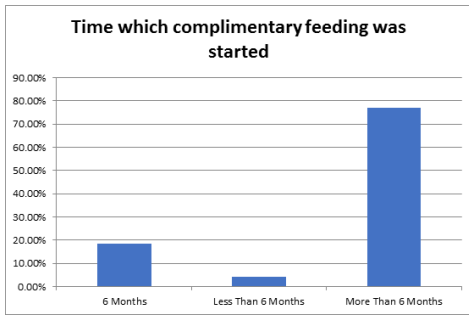
Age group in children	Frequency	Percent
6—9 months	37	18.2%
9—12 months	35	17.2%
12—15 months	26	12.8%
15—18 months	9	4.4%
18—21 months	61	30.0%
21—24 months	35	17.2%
<b>Total</b>	<b>203</b>	<b>100.0%</b>

A total of 204 cases were taken of which the most common age group in the study taken was between 18-21 months 61 children(30%) followed by 6-9 months 37 children (18.2%), followed by 9-12 months 35 (17.2%) and 21-24 months 35 (17.2%) followed by 12-15 months 26 children (12.8%) followed by 15-18 months 9 children (4.4%).

**Table :2 Time at which complimentary feeding was started**

Time at which complimentary feeding was started	Frequency	Percent
6 Months	38	18.6%
Less Than 6 Months	9	4.4%
More Than 6 Months	157	77.0%
<b>Total</b>	<b>204</b>	<b>100.0%</b>

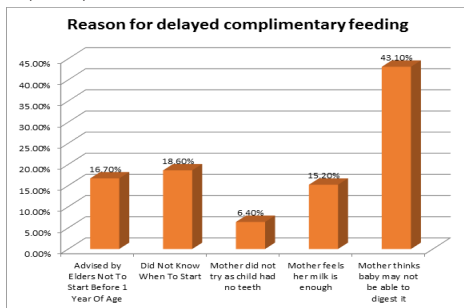
Out of 204 cases complimentary feeding was started after 6 months 157 (77%) followed by at starting complimentary feed by 6 months 38 (18.6%) followed by starting CBF before 6 months 9 (4.4%).



**Table:3**  
**REASONS FOR DELAYED COMPLIMENTARY FEEDING**

Reason for delayed complimentary feeding	Frequency	Percent
Advised by Elders Not To Start Before 1 Year Of Age	34	16.7%
Did Not Know When To Start	38	18.6%
Mother did not try as child had no teeth	13	6.4%
Mother feels her milk is enough	31	15.2%
Mother thinks baby may not be able to digest it	88	43.1%
Total	204	100.0%

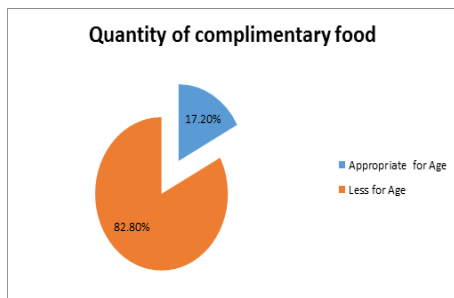
Out of 204 cases reasons for delayed complimentary feeding, the commonest reason was Mother thinks baby may not be able to digest it 88 ( 43.1%) followed by mothers who Did Not Know When To Start 38 (18.6%) followed by Advised by Elders Not To Start Before 1 Year Of Age 34 (16.7%), y Mother feels her milk is enough 31 (15.2%) followed by Mother did not try as child had no teeth 13 (6.4%)



**Table :4**  
**QUANTITY OF COMPLIMENTARY FOOD.**

Quantity of complimentary food	Frequency	Percent
Appropriate for Age	35	17.2%
Less for Age	169	82.8%
Total	204	100.0%

Out of 204 cases Quantity of complimentary food given for appropriate age was less for age 169 (82.8%) followed by appropriate for age 35 (17.2%).

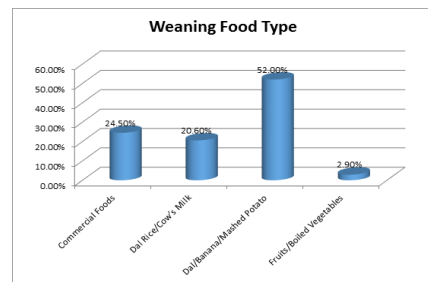


**Table:5**  
**Weaning Food Type**

Weaning Food Type	Frequency	Percent
Commercial Foods	50	24.5%
Dal Rice/Cow's Milk	42	20.6%

Dal/Banana/Mashed Potato	106	52.0%
Fruits/Boiled Vegetables	6	2.9%
Total	204	100.0%

Out of 204 cases the most common weaning food used was Dal/Banana/Mashed Potato with 106 cases(52% )followed by commercial foods 50 (24.5%) followed by Dal Rice/Cow's Milk 42 (20.6%) and Fruits/Boiled Vegetables 6(2.9%).



**DISCUSSION:**

Infant and young child feeding (IYCF) practices include early initiation of breast

feeding within one hour of life, timely introduction of solid/semi solid foods from the age of six months increasing in amount and frequency over time along with breast feeding as demanded by child. This study was carried out to assess the knowledge of mothers regarding complementary feeding, to evaluate the practices of complementary feeding in terms of quantity, quality and timing and to determine the factors influencing the inappropriateness of complementary feeding. The study revealed that most of the mothers knew the time of initiation of complementary feeding but ideal practices being carried out by them were found to be very low.

In the present study out of 204 mothers the most common age group to start motherhood was between 20-24 years of age with 101 mothers (49.5%). Out of 204 cases, the total number of male children were 124 (60.8%) followed by female children 80 (39.2%) with male predominance. According to the study done by somiya et al<sup>43</sup> in sudan the most common age group to become a mother was between 20-29 years of age which is similar to the present study with 121 mothers(48%)<sup>43</sup>. In the present study out of 204 cases the most common age group in the study taken was between 18-21 months 61 children(30%).According to the studies done by According to the study done by Sahisnuta Basnet et al<sup>44</sup>It is seen that out of the 700 mothers, 440 (62.9%) were in the age group of 21-30 years. Only 32 (4.6%) were over the age of 40 years. According to the study done by the most common age for mothers was between 20-29 years of age with 59%. According to the studies done by Islamabad<sup>45</sup>showed that the most common age group to become mothers was between 20-29 years of age which is similar to the present study. According to the studies done by Dessalew Gessese et al<sup>46</sup> A total of 543 mothers with children 6-23 months of age were voluntary to respond giving a response rate of 98 percent. Mothers in the study were between the ages of 15-49 years. The mean age of the mothers and index children were 31.1 years (SD 6.16) and 12.78 months (SD 4.58).

Out of 204 cases mother's education, mothers who only attended middle school was maximum with 57 mothers(27.9%) followed by high school 52 (25.5%) with graduate mothers being very few graduates Out of which working mother were 128 (62.7%) followed by house wife 76 (37.3%). According to the studies done in islamabad<sup>45</sup> 37% belonged to educated mothers and 63% to uneducated mothers<sup>45</sup>.According to the studies done by Rafeeq<sup>48</sup> most of the mothers were educated. According to the studies done by pokhra only 42 (6%) had studied up to Masters, and 128 (18.3%) had attended school between classes 1 to 5. However, the majority of the mothers, 288 (41.1%) had received an education between the classes of 5 to 10. Larger proportion of the mothers interviewed, 548 (78.3%), were home makers, the rest 152 (21.7%), were employed with paid jobs.

According to the study done in Taiwan<sup>49</sup> 44.9% of fathers and 55.4% of mothers had a college or greater level of education which is an increase of 16.8% and 10.3%. According to the studies done in Nigeria<sup>50</sup> most of the mothers attended tertiary school with very few graduates. More than one-quarter of the

parents worked as civil servants, health-care providers, or teachers; others were traders, farmers with very few women being housewives. According to the studies done in Zambia<sup>45</sup> most of the mothers had attended tertiary school. 34.8% of the mothers

According to the studies done in Sudan<sup>43</sup> had primary school education compared to 26% of their husbands. Twenty-two point eight percent of the mothers and 22% of their husbands had secondary school education, 18% of the mothers and 19.2% of the fathers had university degree. Illiteracy was predominant among 16% of the mothers

In the present study the family who had two children were 106 (52%) followed by one child 68 (33.3%) and followed by more than two children 30 (14.7%). According to the studies done in Sudan<sup>43</sup> almost more than 75% of the families have 1-2 children under 5 years old, with 52% having 2 children and 27.2% having 1 child. Families having 3-4 children less than five years are comprising 20.8%, which indicates closely spaced pregnancies. Higher birth spacing is likely to improve child nutrition, since the mother gets enough time for proper childcare and feeding. Studies done in Pokhara<sup>44</sup> showed that two hundred and ninety-seven (42.4%) of the mothers had a single child; this was closely followed by 294 (42%) mothers having two children. Only 19 (2.7%) of those interviewed had four children.

In the present study out of 204 cases complimentary feeding was started after 6 months 157 (77%) followed by at starting complimentary feed by 6 months 38 (18.6%) followed by starting CBF before 6 months 9 (4.4%). The commonest reason was Mother thinks baby may not be able to digest it 88 (43.1%) followed by mothers who Did Not Know When To Start 38 (18.6%) followed by Advised by Elders Not To Start Before 1 Year Of Age 34 (16.7%), Mother feels her milk is enough 31 (15.2%) followed by Mother did not try as child had no teeth 13 (6.4%). Predominantly there was no Bottle Feeding were 142 cases (69.6%) followed by bottle feeding 62 (30.4%). The most commonest method of feeding was sitting on lap with 86 (42.2%) followed by sitting on chair 71 (34.8%) and playing around with 47 (23%). The most common weaning food used was Dal/Banana/Mashed Potato with 106 cases (52%) followed by commercial foods 50 (24.5%) followed by Dal Rice/Cow's Milk 42 (20.6%) and Fruits/Boiled Vegetables 6 (2.9%). Cases the mothers who started complimentary feeding got their source of information from the following Medical Personnel 94 cases (46.1%) followed by Internet and media 88 cases (43.1%), Elders in the family 22 (10.8%). In the present study there was a significance in the mothers education and socioeconomic status with P value being <0.001. Also seen was quantity of complimentary food and weaning food type showed significance in P value with <0.001. Comparing the age group of children and Methods feeding, showed significant P value. According to the studies done in Pokhara<sup>44</sup> Out of the 700 mothers 350 commenced complimentary feedings when their baby was six months of age; we endeavored to determine the reasons in the remaining 350, their reasons for early or delayed introduction to complimentary feeding. Early complimentary food was predominantly seen due to insufficient milk, while the remaining had to resume back to job and the remaining felt complimentary food was necessary. Other reasons given for starting complimentary feeding early were: on advice of other family members or friends (8.3%). This mainly occurred due to discrepancy in the knowledge (77.7%) and actual practice of initiating complimentary feeding (50%)

According to the studies done in Etopia out of the total respondents, 452 (83.2 percent) mothers have information about complimentary feeding practice. More than three quarters of the mothers, 418 (77 percent), obtained the information from Health Extension Workers and 91 (16.8 percent) and did not

obtained any information. More than two-third of the mothers 387 (71.3 percent) started complimentary feeding at six months while only 26 (4.8 percent) started before six months. About three quarters, 410 (75.5 percent), mothers had sufficient knowledge about OCFP. Majority of mothers (72.9 percent) used glass or cup as mashed food feeding materials for their children and 38.9 percent of mothers used bottle nipple.

According to the studies done by Islamabad<sup>46</sup> Out of 500 respondents, 106 had not introduced any complimentary food to their infants and the children were fed only on breast milk, whereas 394 mothers were giving complimentary foods along with the breast feeding their infants. Mothers who started late complimentary feeding, 24% mothers were educated and 28% were uneducated. In addition, 28% mothers started very late complimentary feeding out of which 7% were educated and 64% were uneducated mothers.

Studies done in Zambia<sup>45</sup> showed that majority of the mothers were reported to have started breastfeeding within the first hour after delivery. Most mothers stated that they breastfed their child within an hour after delivery. Most commonly introduced complimentary food at six months was maize meal porridge. What was given in addition to the porridge was dependent on the economic status of the discussants. Addition of groundnuts, pounded small fish (kapenta), oil, sugar, egg (especially the yolk), bean soup, and milk to the maize meal porridge was common. Most of the mothers continued breast feeding along with complimentary feeding. Most of the mothers reported to be breastfeeding during the day and night. Duration of breastfeeding for those who had stopped breastfeeding ranged from one to twenty-two months. The majority stopped breastfeeding because they believed breast milk was not enough or that the child had lost interest in breastfeeding.

According to the studies done in Sudan showed that the mothers started exclusive breastfeeding for six months confers additional protection against gastrointestinal infections, associated with a reduced risk of the sudden infant death syndrome (SIDS) and protected against long-term chronic conditions and diseases like obesity, type I diabetes mellitus, ovarian cancer and osteoporosis. The mothers introduced complimentary foods from zero - five months of age which is too early for weaning as the child's alimentary system is not yet ready for the highly starchy foods. Only 6.8% introduced it at right time and 1.6% after six months. The study also stated that lack of knowledge and misperceptions among elderly women like mothers-in-law, who generally influence and guide child feeding practices in the family are often barriers to initiating complimentary feeding at the correct age. Also the initiation and weaning of breastfeeding is strongly influenced by cultural beliefs. The main items of food that consumed by infants age 0-6 were Aceda (porridge cooked from sorghum) and molahsharmout, rice and potatoes. WHO currently recommends two to three meals a day with complimentary foods for breastfed infants between 6 and 8 months of life and three to four meals a day for those between 9 and 24 months, with additional nutritious snacks (pieces of fruit or bread, homemade cake, cassava) once or twice a day at 12 months.

- Studies regarding complimentary breast feeding by states that
- Gluten may be introduced into the infant's diet when CF is started, anytime between 4 and 12 months of age. Based on observational data consumption of large quantities of gluten should be avoided during the first weeks after gluten introduction and during infancy.
  - A high protein intake during CF may increase the risk of subsequent overweight or obesity, especially in predisposed individuals, and the mean protein:energy should not be >15%. Large volumes of cows' milk are associated with high intakes of energy, protein, and fat and with low iron intake.
  - Iron requirements are high during the CF period and there is a need for iron-rich foods, particularly for breast-fed infants.
  - It is not possible to alter infants' innate preferences for sugar and salty tastes, and dislike of bitter tastes, but parents may be able to modify subsequent preferences by offering

complementary foods without added sugars and salt, and by the timely introduction of a variety of flavours, including bitter green vegetables. Vegan diets with appropriate supplements can support normal growth and development. Regular medical and dietetic supervision should be given and followed to ensure nutritional adequacy of the diet.

- Parents should be encouraged to adopt a responsive style of parenting and understand how to recognize their infant's hunger and satiety cues.

**CONCLUSION:**

Infants feeding encompassing breastfeeding, complementary feeding and weaning are a multifaceted issue that greatly impacts the health. There was a big gap between the knowledge of mothers about duration of exclusive breast-feeding and their practices. There was an association of inappropriate feeding practices with mother's education, type of family, mothers' profession, knowledge of frequency of complementary feeding and feeding advises during immunization. The findings highlight the importance of mother's education, The profession for the infant and young child feeding. Finding of this study will be useful to health planners and health policy makers working in government and nongovernmental organizations working in the field of health and nutrition to improve the practices of mothers about infant and young child feeding. There are other feeding issues that need to be explored and analyzed for developing better feeding practices and reducing the childhood morbidity and mortality in the country.

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