



FEEDING PRACTICES OF MOTHERS OF CHILDREN AGED 6 MONTHS TO 2 YEARS : A CROSS SECTIONAL OBSERVATIONAL STUDY

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ABSTRACT **Background And Objectives:** Infant and young child nutrition is extremely important as it is required for good health throughout the life. The purpose of the study was to assess the current infant feeding practices in children between the age group of 6 months–2 years, to find the reason for inappropriate complementary feeding practices and to assess the knowledge of mothers regarding complementary feeding.

Methods: This cross sectional study was conducted in Adesh Institute of Medical Sciences and Research (AIMSR), Bathinda. Data was collected by interviewing 300 mothers on a pre-designed, semi-structured proforma with specific questionnaire.

Results: Among 300 children studied, 78% of children were exclusively breastfed, 11.3% of children were mixed fed and 10.7% were top fed. In our study, 65.3 % mothers had adequate milk, so they introduced complementary feed at later age; 16.7% mothers were unaware about the weaning schedule; In 13.3% cases, child refused to eat; Poverty in 3.3% cases; traditional belief in 0.7% and inability to digest feed in 0.7% cases were the reason for late introduction of complementary feed.

Conclusion: From data collected in our study, its important that regular counselling of mothers, their family members or friends is done regarding feeding practices, proper hygiene, what to do and what not to do during complementary feeding period. This counselling can be done during antenatal visits, during hospital stay and postnatal visits. This will help in managing knowledge gaps still persisting among society regarding feeding practices.

KEYWORDS : Complementary feeding, exclusive breastfeeding

INTRODUCTION

Nutrition is one of the basic needs of living organisms, be they are born or even while they are in their mothers womb. Breast milk is a complete food in itself and it provides an ideal form of nutrition. It contains all the nutrients required for all round development of the baby during first six months of life, up to half or more during the second half of infancy and up to one third during the second year of life. The World Health Organization (WHO) recommends exclusive breastfeeding in the first six months and continuation of breastfeeding for 2 years and beyond.¹ Further, it is easy to feed, clean, is always at the right temperature, requires no mixing or sterilization. The close contact between the mother and the child during breast feeding breeds an emotional and psychological bond, leading to healthy growth and development of the child.²

Evidence based interventions, which include initiation of breast feeding within one hour of birth, exclusive breastfeeding for the first six months of life and introduction of appropriate and adequate complementary food after 6 months of age, are available to prevent undernutrition in children and to improve child survival.³ In developing countries, complementary feeding practices are often inadequate leading to significant nutritional decline after 6 months of age. Every mother comes across various difficulties and problems while starting complementary feed. This study will look into the feeding practices, knowledge of mothers regarding breastfeeding, complementary feeding and reasons for inappropriate complementary feeding practices.

AIMS AND OBJECTIVES

To assess current feeding practices in children between the age group of 6 months to 2 years. To find reason for inappropriate complementary feeding practices. To assess knowledge of mothers regarding complementary feeding.

METHODOLOGY

Data was collected by interviewing 300 mothers on a pre-designed, semi-structured proforma with specific questionnaire in a period of 1 year. It was conducted in Adesh Institute of Medical Sciences and Research (AIMSR), Bathinda.

Type of study:- cross sectional observational study

RESULTS

Table: 1

Age distribution of children:	
6-12 months	124 (41.3)

13-18 months	98 (32.7)
19-24 months	78 (26)
Sex distribution:	
Male	182 (60.7)
Female	118 (39.3)
Order of birth:	
First	176 (58.7)
Second	102 (34)
Third & Above	22 (7.3)
Place of delivery:	
Home	6 (2)
Health center	20 (6.7)
Hospital	274 (91.3)
Number of children in the family:	
One	158 (52.7)
Two	116 (38.7)
Three & more	26 (8.7)
Term of delivery:	
Full term	278 (92.7)
Post term	22 (7.3)

In the study, almost 74% of children were in the age group of 6 months to 18 months and rest 26% were in the age group of 19 to 24 months. 60.7% of the children were male and 39.3% were female. 58.7% children were first child, 34% were second and 7.3% were third & above children. 91.3% of the deliveries were conducted in the hospital, 6.7% of the deliveries were conducted at health center and 2% of the deliveries were conducted at home. 52.7% had one child in the family, 38.7% had two children & 8.7% had three children in the family. 92.7% of the children were full term & 7.3% were post term.

Table: 2

Feeding in first 6 month:	
Exclusive breastfeeding	234 (78)
Top feeding	32 (10.7)
Mixed feeding	34 (11.3)
Continuing breast feeding with other food:	
Yes	244 (81.3)
No	56 (18.7)
Age at introduction of food in addition to breast milk:	
<6 months	54 (18)
At 6 months	194 (64.7)
7-12 months	40 (13.3)

12 months – 2 years	8 (2.7)
Not introduced yet	4 (1.3)
How long should the baby be breastfed:	
6–12 months	126 (42)
13–18 months	58 (19.3)
19–24 months	110 (36.7)
>24 months	6 (2)

In the present study, 78% of children were exclusively breast fed, 11.3% of children were mixed fed & 10.7% were top fed. 81.3% continued breast feeding with other food. 64.7% of the mothers had introduced complementary feeding at the age of 6 months, 18% had introduced complementary feeds earlier than 6 months, 13.3% introduced complementary feeding between 7-12 months, 2.7% had introduced complementary feeding between 12 month - 2 year and 1.3% of mothers had not introduced complementary feeding who were in the age group of 6-12 month. 42% of the mothers were in the view that child should be given breast feeding for 6-12 months, 36.7% were in view of breast feeding for 19-24 months, 19.3% in view of 13-18 months & 2% in view of breastfeeding for >24 months.

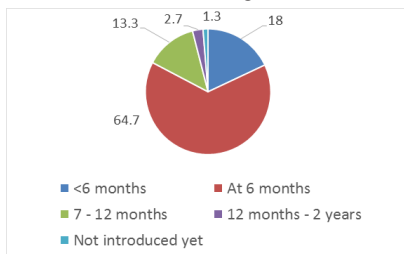


Figure 1:- Age At Introduction Of Food In Addition To Breast Milk

Table: 3

Nature of food which is used as complementary feed:	
Liquid	36 (12)
Semi Liquid	210 (70)
Solid	54 (18)
Guided you about the complementary feed:	
Family member	132 (44)
Health personal	148 (49.3)
Mass media	0 (0)
Friends	2 (0.7)
Self	12 (4)
Other	6 (2)
With which feed started complementary feeding:	
Milk	48 (16)
Curd	34 (11.3)
Mashed potato	32 (10.7)
Pulses	56 (18.7)
Dalia (wheat porridge)	112 (37.3)
Any other	18 (6)
Types of food you are giving to your child at present:	
Homemade preparation	186 (62)
Commercial preparation	54 (18)
Both	60 (20)

In the study 12% of the children were fed with food which was liquid in nature as complementary feed, 70% children with semi liquid & 18% children with solid in nature as complementary feed. 49.3% of mothers got guidance about complementary feeding from health personal, 44% from family member, 4% used their own ideas or experience, 0.7% were guided by their friends and 2% got guidance by others. 37.3% of mothers started complementary feeding with Dalia (wheat porridge), 18.7% with pulses, 16% with milk, 11.3% with curd, 10.7% with mashed potato & 6% started with any other complementary feeding. 62% of mothers are giving homemade preparation to their child as complementary feeding, 18% are giving commercial preparation & 20% are giving both as complementary feeding.

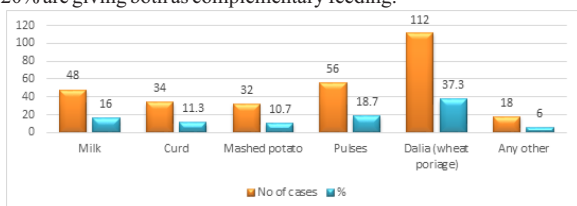


Figure 2:- With Which Feed Started Complementary Feeding

Table: 4

Prepare the child food separately:	
Yes	198 (66)
No	102 (34)
Usually wash your hand before feeding the child:	
Always	232 (77.3)
Sometimes	60 (20)
Never	8 (2.7)
How do you clean the utensils used for feeding the child:	
Washing with water only	18 (6)
Washing with detergent & water	140 (46.7)
Boiling after washing with soap & water	142 (47.3)
When do you prepare the feed:	
Just before feeding	226 (75.3)
Prepare & keep	44 (14.7)
After the child starts crying	20 (6.7)
Any other	10 (3.3)

In the study, 66% of mother prepared child's feed separately. 77.3% of mothers always washed their hands before feeding the child, 20% sometimes washed their hands & 2.7% never washed their hands before feeding the child. 47.3% of the mothers used utensils for feeding the child which were boiled after washing with detergent & water; 46.7% used utensils washed with detergent & water and 6% used utensils washed with water only. 75.3% of the mothers prepare feed just before feeding, 14.7% prepare & keep, 6.7% prepare after the child starts crying & 3.3% has no fixed criteria.

Table: 5

What is the mode of feeding:	
By hand	36 (12)
By katori & spoon	228 (76)
By bottle	36 (12)
Who feeds child:	
My self	280 (93.3)
Husband	10 (3.3)
House maid	0 (0)
Grandmother	2 (0.7)
Other family members	6 (2)
Do you feed other child at the same time (only for those having more than one child):	
Yes	50 (16.7)
No	250 (83.3)
What do you do with left over feed:	
Discard it immediately	212 (70.7)
Refeed after just warming	44 (14.7)
Refeed depending upon the condition of food	44 (14.7)

In the present study, 76% of mothers used katori & spoon for feeding, 12% fed by hand & 12% by bottle. 93.3% of child were fed by mother, 3.3% of child were fed by father, 0.7% were fed by grand mother & 2% of child were fed by any other family member. 83.3% of mothers do not feed other child at the same time where as 16.7% of mother feeds other child at same time. 70.7% of mothers discard the left over feed immediately, 14.7% of mothers refeed after just warming & 14.7% refeeds depending upon the condition of food.

Table: 6

What do you do when your child refuses to eat a particular preparation:	
Forcefully feed the child	24 (8)
Give as much as the child takes	208 (69.3)
Change the preparation & next feed	68 (22.7)
What is the feeding schedule of your child:	
1-2 times	80 (20.7)
3-4 times	186 (62)
>4 times	34 (11.3)
What do you do when your child is ill:	
Stop feeding	28 (9.3)
Continue feeding	154 (61.3)
Continue breastfeeding & stop other feeding	38 (12.7)
Reduce the amount of feeding	36 (12)
Change the type of feeding	14 (4.7)
What problems did you face when you started complementary feeding to your child:	
Refusal to eat by the child	108 (36)
Vomiting while feeding	48 (16)
Diarrhoea	14 (4.7)

Spitted the food	60 (20)
Any other specify	70 (23.3)
Why did not you exclusively breastfeed your child in first 6 month life:	
Inadequate breast milk	58 (19.3)
Working mother	12 (4)
Sickness of mother	2 (0.7)
Sickness of child	10 (3.3)
Traditional belief	32 (10.7)
Advised by the doctor	4 (1.3)
Any other	182 (60.7)
Reasons for late introduction of complementary feed:	
Child refused to eat	40 (13.3)
Unaware about the weaning schedule	50 (16.7)
Poverty	10 (3.3)
Traditional belief	2 (0.7)
Unable to digest	2 (0.7)
Had adequate milk	196 (65.3)

69.3% of the mothers give as much as the child takes when a child refuses to eat particular preparation; 22.7% of mothers change the preparation in next feed while 8% of the mothers forcefully feed the child when a child refuses to particular preparation. , 62% of mothers feed 3-4 times a day, 20.7% feed 1-2 times a day and 11.3% feed more than 4 times a day. 61.3% of mothers continue complementary feeding even if the child is ill, 12.7% continue breastfeeding & stop other feeding when the child is ill, 12% of mothers reduce the amount of feeding, 9.3% of mothers stop feeding & 4.7% of mothers change the type of feeding if the child is ill. 36% of mothers faced refusal to eat by the children when they started complementary feeding, 20% of children spitted the food when started complementary feeding, 16% of child vomited while feeding complementary feed, 4.7% had diarrhoea when started complementary feeding and 23.3% of mothers could not specify the problems. 19.3% of mother had inadequate breast milk so they could not exclusively breast her child; 4% mothers were working so could continue exclusive breast feeding; in 0.7 % cases mother was sick; in 3.3% cases child was sick; 10.7% mother has traditional belief so they do not practiced exclusive breast feeding; in 1.3% cases doctor has advised not to give exclusive breast feeding while 60.7% mothers could not specify any specific reason for not giving exclusive breast feeding in first 6 months. 65.3 % mothers had adequate milk, so they introduced complementary feed at later age; 16.7% mothers were unaware about the weaning schedule; In 13.3% cases, child refused to eat; Poverty in 3.3% cases; traditional belief in 0.7% and inability to digest feed in 0.7% cases were the reason for late introduction of complementary feed.

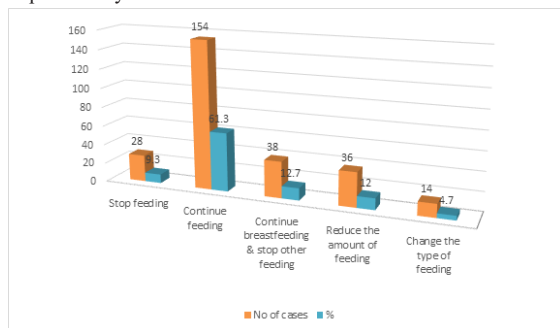


Figure 3:- What Do You Do When Your Child Is Ill

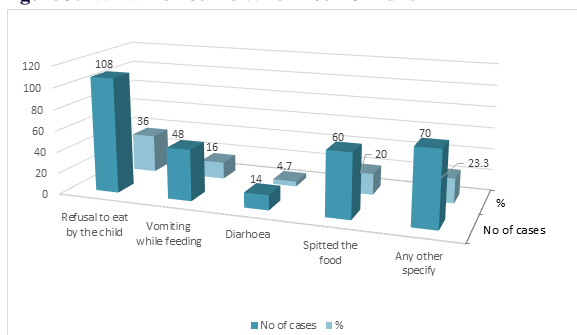


Figure 4 :- What Problems Did You Face When You Started Complementary Feeding To Your Child

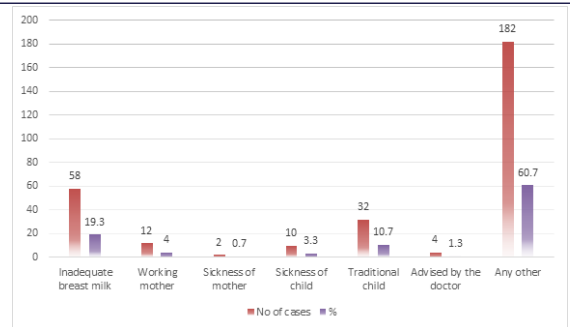


Figure 5:- Why Did Not You Exclusively Breastfeed Your Child In First 6 Month Life

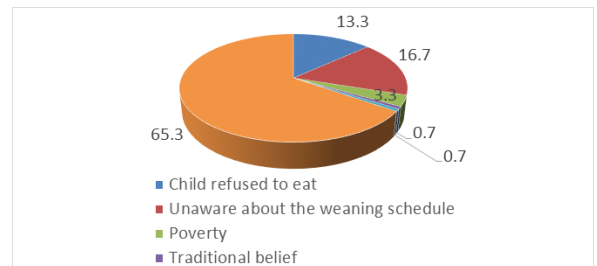


Figure 6:- Reasons For Late Introduction Of Complementary Feed

DISCUSSION

The promotion and support of breast feeding is a global priority. A vast scientific literature demonstrates substantial health, social and economic benefits associated with appropriate breast feeding, including lower infant morbidity and mortality from diarrhea and other infectious diseases. Experts agree that exclusive breast feeding (i.e. breast milk as a sole source of food) is the ideal method of feeding infants upto about 6 months of age, after which breast feeding should be continued but complemented with other sources of nutrition. Nevertheless, exclusive breast feeding remains uncommon even in countries with high rates of breast feeding initiation.⁴

Weaning is very critical period for the growth of the child. This is the time when inadequate feeding leads to growth faltering and nutritional deficiencies in children.⁵ Infant and Young child feeding which includes breastfeeding and complementary feeding practices, is comprised of various dimensions, namely, the type, the quality, the texture, the nutrient density, the frequency of feeding, and the diversity of the diet. Also the safety of food fed and the manner in which it is fed to the child are added dimensions to the whole spectrum of IYCF.⁶

The present study was conducted in Adesh Institute of Medical Sciences & Research, a tertiary care hospital, Bathinda which included 300 mothers of children upto 2 years, to assess the knowledge regarding breastfeeding and complementary feeding practices.

In our study, almost 74% of children were in the age group of 6 months to 18 months and rest 26% were in the age group of 19 to 24 months. In the study done by Manjula MR, 84% of the children were in the age group of 6-18 months and 16% children in the age group of 19-24 months.⁷ A similar proportion of number can be seen in the study done by Aggarwal et al. at Delhi where the age group of children studied between 6-18 months was 86% and that between 19-24 months is 14%.⁸

In our study, 60.7% of the children were male and 39.3% were female. Similar proportion was seen in study conducted by Manjula MR in which 62.7 % of children were male while 37.3 % were female.⁷ In study conducted by Raveendran A et al. 52.1 % children were male and 47.9% female.⁹

In our study, 58.7% children were first child, 34% were second child and 7.3% were third or above child. In study conducted by Manjula MR, 43% were first child, 42.7% were second child and 14.3% were third or above child.⁷

In our study, 91.3% of the deliveries were conducted in the hospital, 6.7% were conducted at health center and 2% were conducted at home.

In study conducted by Raveendran A et al. 40.9% deliveries were conducted at government hospital and 59.1% at private hospital.⁹

In our study, 52.7% mothers had one child in the family, 38.7% had two children & 8.7% had three or more children in the family. In study conducted by Manjula MR, 39.7% mothers had one child, 35.3% had two children and 25% had 3 or more.⁷ In the study done by Aggarwal et al 24.5% mothers had 1 child, 36% had 2 and 39.5% had 3 or more children.⁸

In our study 78% of children were exclusively breastfed, 11.3% of children were mixed fed and 10.7% were top fed. In study conducted by Manjula MR, only 30.66% of the mothers practiced exclusive breastfeeding for the first 6 months.⁷ In the study done by Aggarwal et al. at Delhi 50% of the mothers practiced exclusive breastfeeding till 6 months.⁸

In our study, 64.7% of the mothers had introduced complementary feeding at the age of 6 months, 18% had introduced complementary feeds earlier than 6 months, 13.3% introduced between 7-12 months, 2.7% between 12 months-2 years and 1.3% of mothers had not introduced complementary feeding who were in the age group of 6-12 month. In study conducted by Manjula MR, there was a definite delay in the initiation of complementary feeding, 26.66% mothers had introduced complementary feeds between 7-9 months, 25.33% between 12-24 months and 17.66% were not started on complementary feed at all even upto 18 months.⁷ The study conducted by Aggarwal et al. showed 77% mothers delayed complementary feeding :- 34.5% mothers having introduced complementary feeding between 7 months-1 year, 26.5% between 1-2 years and 16% of the mothers did not start complementary feeding even at 2 years.⁸

In our study, 12% of the children were fed with food which was liquid in nature as complementary feed, 70% children with semi liquid and 18% children with solid in nature. In study done by Manjula MR, 26.72% children were fed with liquid food, 68.01% with semi liquid and 5.26% with solid.⁷

In our study, 49.3% of mothers got guidance about complementary feeding from health personal, 44% from family member, 4% used their own ideas or experience, 0.7% were guided by their friends and 2% got guidance by others. In study done by Manjula MR, 37.24% of mothers got advice for child feeding from family members, 18.62% from health personnel, 33.19% from friends or neighbours, 4.04% used their own knowledge, 6.87% were guided by others.⁷

In our study, 37.3% of mothers started complementary feeding with Dalia (wheat porridge), 18.7% with pulses, 16% with milk, 11.3% with curd, 10.7% with mashed potato & 6% started with any other complementary feeding. In study done by Manjula MR, 56% mothers were giving semi-liquid food in the form of Ragi/Rice porridge to their children and 22% mothers were giving liquid foods in form of top milk.⁷

In our study, 77.3% of mothers always washed their hands before feeding the child, 20% sometimes washed their hands & 2.7% never washed their hands before feeding the child. In study done by Manjula MR, 18.21% mothers always washed their hands, 74.89% sometimes washed their hands and 6.88% never washed their hands before feeding the child.⁷

In our study, 47.3% of the mothers used utensils for feeding the child which were boiled after washing with detergent & water; 46.7% used utensils washed with detergent & water while 6% used utensils washed with water only. In study done by Manjula MR, 18.21% mothers used utensils washed with water only, 74.89% after washing with water & detergent while 6.88% used boiled utensils after washing with soap & water.⁷

In our study, 75.3% of the mothers prepare feed just before feeding, 14.7% prepare & keep, 6.7% prepare after the child starts crying & 3.3% has no fixed criteria. In study done by Manjula MR, 45.34% of mothers prepare feed just before feeding, 41.29% prepare & keep while 13.36% prepare when child starts crying.⁷

In our study, 76% of mothers used katori & spoon for feeding, 12% fed by hand & 12% by bottle. In study done by Manjula MR, 35.62% of mothers used hands for feeding, 35.22% fed by hands+spoon, 13.76%

fed by spoon, 4.45% by bottle, 7.69% by katori and 3.23% by cup.⁷

In our study, 70.7% of mothers discard the left over feed immediately, 14.7% of mothers refeed after just warming & 14.7% refeeds depending upon the condition of food. In study done by Manjula MR, 43.31% of mothers discard the left over feed immediately, 33.60% refeed after warming it, 4.85% smelt it & if not spoilt then feed the child while 18.21% feed it to other children.⁷

In our study, 69.3% of the mothers give as much as the child takes when a child refuses to eat particular preparation; 22.7% of mothers change the preparation in next feed while 8% of the mothers forcefully feed the child when a child refuses to particular preparation.

In study done by Manjula MR, 19.02% of mothers forcefully feed the child, 64.77% give as much as the child takes while 16.19% change the feed in next feeding.⁷

In our study, 62% of mothers feed 3-4 times a day, 20.7% feed 1-2 times a day and 11.3% feed more than 4 times a day. The study conducted by Aggarwal et al. showed 8.3% of mothers feed once a day, 52.4% twice a day, 31.5% thrice a day while 7.8% feed more than 3 times a day.⁸

In our study, 62% of mothers are giving homemade preparation to their child as complementary feeding, 18% are giving commercial preparation & 20% are giving both as complementary feeding. In the study done by Aggarwal et al, 19% of mothers used marketed weaning food while 81% didn't use it.⁸

In our study, 36% of mothers faced refusal to eat by the children when they started complementary feeding; 20% of children spitted the food; 16% of child vomited while feeding complementary feed; 4.7% had diarrhoea and 23.3% of mothers could not specify the problems. In study done by Manjula MR, 18% of the children refused to eat when started complementary feeds, 13% of the children became irritable, 9% of the children spitted the food, 7.3% of the children vomited the food and 5% of children had diarrhea when complementary food was introduced.⁷

In our study, 19.3% of mother had inadequate breast milk so they could not exclusively breast her child; 4% mothers were working so could not continue exclusive breast feeding; in 0.7% cases mother was sick; in 3.3% cases child was sick; 10.7% mother has traditional belief so they do not practice exclusive breast feeding; in 1.3% cases doctor has advised not to give exclusive breast feeding while 60.7% mothers could not specify any specific reason for not giving exclusive breast feeding in first 6 months. In study conducted by Raveendran A et al, the major reasons for non-compliance to exclusive breastfeeding were mother's feeling of insufficient breast milk (45.8%), followed by the misconception of mothers that water can be given during first six months (19.6%) and medical problems (16.1%) while around 10% of mothers did not practice exclusive breastfeeding because they become pregnant within one year.⁹ In the study done by Aggarwal et al, the most common cause of stopping breastfeeds was "not enough milk" followed by next pregnancy.⁸

In our study, 65.3% mothers had adequate milk, so they introduced complementary feed at later age; 16.7% mothers were unaware about the weaning schedule; In 13.3% cases, child refused to eat; Poverty in 3.3% cases; traditional belief in 0.7% and inability to digest feed in 0.7% cases were the reason for late introduction of complementary feed. In study done by Manjula MR, 15.66% of the mothers delayed introduction of complementary feed because of child's refusal to eat, 12.66% of the mothers thought infant cannot digest too much food, 9.33% of the mothers were unaware of the weaning schedule and 4.33% of the mothers thought that they had adequate breast milk.⁷

CONCLUSION

Our study highlights the changing trend of society towards more hospital deliveries, increasing number of mothers giving exclusive breastfeeding till 6 months of age as compared with previous studies conducted. Also its seen that majority of mothers introduced complementary feeding at 6 months of age. From data collected in our study, its important that regular counselling of mothers, their family members or friends is done regarding feeding practices, proper hygiene, what to do and what not to do during complementary feeding period. This counselling can be done during antenatal visits, during hospital stay and postnatal visits. This will help in managing knowledge

gaps still persisting among society regarding feeding practices.

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