

Study of pattern of foods given to the infants during weaning period in an urban field practice area in Vijayapura

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ABSTRACT

Background: The first 2 years of life are a critical period for a child's growth and development. Exclusive breastfeeding for 6 months and continued breastfeeding with safe, appropriate, and adequate feeding are recommended as a global health policy in both developing and developed countries. **Objective:** The objective was to study the pattern of foods given to the infants during the weaning period in an urban field practice area in Vijayapura. **Materials and methods:** The mothers of infants (aged 6–12 months) were interviewed by using predesigned and pretested questionnaires regarding different types of foods given to their infants and also about their immunization status, incidence of diarrhea and acute respiratory infection (ARI). **Results:** A total of 95 mothers with infants aged between 6 and 12 months were enrolled in the study during the period of 1 month. Majority of the infants were fed with milk (animal) as a type of complementary food. **Conclusion:** Poor complementary feeding practices were observed in urban areas, and urgent health education and demonstration of weaning foods in the community play a major role in preventing diseases.

Keywords: Growth and Development, infant, mother, pattern, weaning food

Introduction

The first 2 years of life are critical stages for a child's growth and development. Exclusive breastfeeding for 6 months and continued breastfeeding with safe, appropriate, and adequate feeding are recommended as a global health policy in both developing and developed countries. Infants and preschool children, who make about 17% of the total population, contribute to almost 90% of the total deaths, and hence, they are the most vulnerable segment of the population.^[1]

Although breast milk is adequate to meet the energy and nutrient requirements of an infant up to 4–6 months of age, thereafter

it is insufficient to sustain normal growth and needs to be supplemented with other foods, such as weaning foods. However, the capacity of a weaning diet to meet the protein and energy requirements of infants depends on its nutritional quality as well as its dietary bulk. This review highlights varieties of weaning foods, blend formulations, nutrient requirements, process characteristics, physicochemical parameters, quality evaluation, and other important aspects of developing a weaning food that satisfies all the requirements of the infant during the vulnerable transitional stage.^[2]

Early introduction of complementary feeds before the age of 6 months can lead to the displacement of breast milk and increased risk of infections, besides the babies being physiologically immature. Moreover, inadequate, inappropriate complementary feeding, or unhygienic practices lead to recurrent and persistent infections and malnutrition that ends in growth retardation, immunodeficiency, and eventually fatal outcomes.^[3]

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Infant mortality and malnutrition in child are the most sensitive indicators of a country's growth and development. Infant and young child feeding (IYCF) practice is a highly concerned global public health issue for its extensive role in child development, growth, and survival. With this background, a study was planned to find the pattern of foods given to the infants during weaning period by their mothers in an urban field practice area in Vijayapura city.

Materials and Methods

Study design and study setting

A cross-sectional study was conducted by the community medicine department for a period of 1 month, that is, from January to March 2018, in an urban field practice area Chandabaudi, located in Vijayapura city of North Karnataka, on mothers whose infants, aged between 6 and 12 months, were in the weaning period (inclusion criteria). Those who were not willing to participate and those having children more than 1 year of age were excluded from the study.

Study tool

The mothers of infants were interviewed by using predesigned and pretested questionnaires regarding different types of foods given to their infants after exclusive breast feeding and also about their immunization status, episode of diarrhea, and acute respiratory infections in last 3 months.

Sample size

By considering 50% correct practice of weaning foods by the mothers in the community, the sample size calculated was 100 by using the formula, $n = 4 pq/E^2$, where n = sample size, P = prevalence of correct practice of weaning foods by the mother, q = incorrect practice of weaning foods by the mother, and E = allowable error of 10. Mothers with infants 6–12 months of age who were willing to participate were enrolled in the study.

Statistical analysis

The information collected was entered into an Excel sheet and analyzed for frequency distribution. Tests of significance like Chi-square test were applied to find the association between variables. Institutional Ethics Committee permission and informed verbal consent from mothers were obtained before the start of study.

Results

A total of 115 mothers with infants aged between 6 and 12 months were enrolled in the study during the period of 1 month.

Majority of mothers belonged to the age group of 21–25 (64%). A major proportion of mothers belonged to Muslim religion (67%) and were educated between primary and high

school (73%), whereas 59% of the mothers belonged to class III socioeconomic status [Table 1].

As shown in Table 2, majority of the infants belonged to the age group between 7 months (25%) and 12 months (21%). Around 57% were girls, 59% were weighing more than 2.5 kg, majority of the infants breastfed within 1–4 h, and 79% were given colostrum. About 34% of infants were exclusively breastfed up to 6 months, and 65% of the infants started weaning before completing 6 months.

Majority of the infants (42%) were fed with animal milk (buffalo milk) as a type of weaning food, followed by khichadi (26%) and other formulations, as shown in Figure 1.

Majority of the infants (66%) suffered from acute diarrheal diseases, followed by 34% with acute respiratory infections within last 3 months. Around 89% of the infants were completely

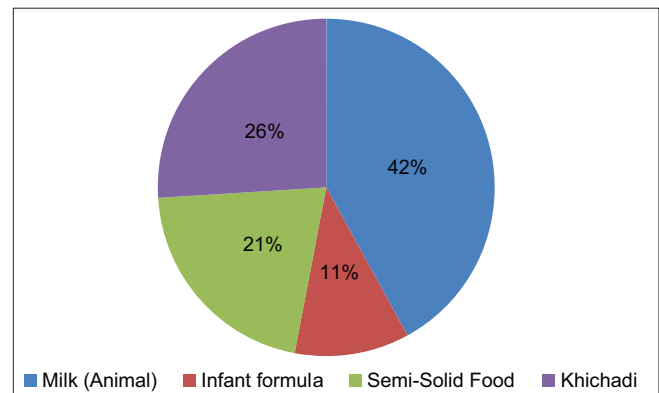


Figure 1: Type of complementary foods

Table 1: Sociodemographic profile of mothers who participated in the study

Variable	No. (n=115)	%
Age (years)		
<20	07	06
21-25	74	64
26-30	34	30
Education		
Primary	30	26
High school	54	47
PUC	25	22
Graduate	06	05
Occupation		
Housewife	40	35
Labor work	60	52
Skilled job	15	13
Religion		
Hindu	38	33
Muslim	77	67
Socioeconomic status		
Class III	56	49
Class IV	39	34
Class V	20	17

immunized till date, followed by 11% who have had partial immunization.

As shown in Table 3, there was a significant relationship between beginning of weaning before 6 months and occurrence of acute diarrheal diseases. No statistical significance was found between acute respiratory infections and weaning time.

Discussion

Adequate nutrition during infancy and early childhood is essential to ensure growth, health, and development of children to their full potential.^[4] Complementary feeding process starts when breast milk alone is no longer sufficient to meet the nutritional requirements of infants, and therefore, other foods and liquids are needed along with breast milk. The age group for complementary feeding is 6–24 months, even though breastfeeding may continue beyond 2 years.^[5]

Table 2: Distribution of profile of newborn children

Variables	No. (n=115)	%
Age (completed)		
6 months	18	16
7 months	29	25
8 months	13	11
9 months	19	17
10 months	12	10
11 months	24	21
Gender		
Boy	49	43
Girl	66	57
Birth weight		
≤2.5 kg	47	41
>2.5 kg	68	59
Breastfeed		
Within 1 h	17	15
1-4 h	62	54
>4 h	02	<1
Colostrum given		
Yes	91	79
No	24	21
Exclusively breast feeding		
Up to 6 months	39	34
<6 months	76	66
Weaning started at age		
Before the sixth month	75	65
After the sixth month	40	35

Table 3: Association between morbidity and weaning period

Variables	ADD	No ADD	ARI	No ARI	Total
Before 6 months	55	20	29	46	75
After 6 months	21	19	09	31	40
Total	76	39	38	77	115
Fisher's exact test	RR=1.4 (P=0.02)		RR=0.171 (P=0.09)		(P)

ADD: Acute diarrheal disease, RR: Relative risk

The present study showed that majority of the mothers belonged to the age group of 21–25 years (67.3%), with a mean age of 23 ± 1.8 years. Majority of them belonged to Muslim religion (66.3%) and were educated between primary and high school. Around 54.7% of the mothers belonged to class III socioeconomic status.

Javalkar *et al.*^[6] found that the mean age in his study population was 25.95 ± 3.67 years. As many as 202 (49.5%) mothers were Hindus, 177 (43.4%) were Muslims, and 29 (7.1%) belonged to Christianity and other religions. Also, 143 (35.1%) women had been educated till secondary school, with only 21 (5.1%) being illiterates. Majority, that is, 342 (83.8%), of them belonged to socioeconomic class II and III.

In the present study, majority of the infants (69.4%) started weaning before 6 months. Majority of the infants were fed with milk (animal) (42%) as a type of complementary food. Shaikh *et al.*^[7] described that, about 37 infants received supplementary feed below 6 months of age, 128 infants between 6 and 9 months, 22 infants between 9 and 12 months, and only six infants received supplementary feed after 12 months of age. Regarding the type of complementary feed, out of 193 subjects, 105 infants received semisolid food, 73 were given milk, 58 had dhal-khichadi or ghee khichadi, and only 15 infants received infant formula.

Arvind *et al.*^[8] found that majority of the infants under the age of 6–12 months (65%) were fed with annaganji as the major weaning food. The present study showed that, majority of the infants (84%) were fully immunized, followed by 11% with partial immunization. Singh *et al.*^[9] showed that 90.85% children were fully immunized, followed by 8.8% with partial immunization.

A study conducted by Kamble *et al.*^[3] among mothers on IYCF showed that working mothers are unable to follow IYCF practices completely. There was a paucity of knowledge regarding complimentary food and feeding frequency among mothers. Health workers, accredited social health activist (ASHAs), and anganwadi workers are playing an important role in spreading IYCF practices in rural areas.

The study found that 92.3% (12/13) of the working women and 88.5% (77/87) of the non-working women were weaning. The commonly used feeding materials were cereals, banana, rice, and bread. No side effects of weaning were observed. Weaning was associated with late age, parity, non-working status, educational status of father, and nuclear families.^[10]

Conclusion and recommendations

Majority of the infants were exclusively breastfed up to 6 months, and 65% of the infants started weaning before 6 months. Majority of the infants (42%) were fed with animal milk as a type of complementary food. A significantly greater number of infants with early initiation of weaning also suffered from acute

diarrheal diseases. Educational campaigns related to exclusive breast feeding and initiation of weaning and feeding practices should be encouraged at the community level for mothers and also for the family members.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published, and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Ethical clearance

Taken

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Nil.

Conflicts of interest

There are no conflicts of interest.

References

1. Radwan H. Patterns and determinants of breastfeeding and complementary feeding practices of Emirati Mothers in the United Arab Emirates. *BMC Public Health* 2013;13:171. doi: 10.1186/1471-2458-13-171.
2. Sajilata G, Singhal RS, Kulkarni PR. Weaning foods: A review of the Indian experience. *Food Nutr Bull* 2002;23:208-26.
3. Kamble BD, Kaur R, Acharya BP, Gupta M, 2015 Batch B. Infant and young child feeding practices among mothers of children aged 6 months -2 years in a rural area of Haryana: A qualitative study. *J Family Med Prim Care* 2020;9:3392-8.
4. World Health Organization. *Infant and Young Child Feeding Model Chapter for Textbooks for Medical Students and Allied Health Professionals*. Geneva: World Health Organization; 2009. Available from: https://apps.who.int/iris/bitstream/handle/10665/44117/9789241597494_eng.pdf.
5. Dewey K. *Guiding principles for complementary feeding of the breastfed child*. Pan American Health Organization, Division of Health Promotion and Protection Food and Nutrition Program, Washington, DC 2003. Available from: <https://iris.paho.org/handle/10665.2/752>. [Last accessed on 2022 Jun 18].
6. Javalkar SR, Aras RY. A study on complementary feeding practices among mothers in urban and rural areas. *Int J Community Med Public Health* 2018;5:1162-6.
7. Shaikh MR, Nagaonkar AS. A community based study of breast feeding and weaning practices among mothers in urban field practice area of SRTR, GMC, Ambajogai. *Int J Community Med Public Health* 2018;5:191-7.
8. Arvind Y, Sravan Kumar, Usha Pranam, Pranam GM, Manjunath GA. Study of weaning practices in children between 6 months to 2 years attending OPD. *Paediatric Educ Res* 2017;5:17-22.
9. Singh CM, Mishra A, Agarwal N, Mishra S, Lohani P, Ayub A. Immunization coverage among children aged 12-23 months: A cross sectional study in low performing blocks of Bihar, India. *J Family Med Prim Care* 2019;8:3949-55.
10. Ahmed K, Talha M, Khalid Z, Khurshid M, Ishtiaq R. Breastfeeding and weaning: Practices in urban slums of Southern Punjab, Pakistan. *Cureus* 2018;10:e2189. doi: 10.7759/cureus.2189.