

Study of Complementary Feeding Practices among Children in the Age Group of 6–24 Months: A Cross-sectional Study

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ABSTRACT

Background: The World Health Organization (WHO) recommends complementary feeds at the age of 6 months and continued breastfeeding until the age of 2 years. Continuous vigilance over breastfeeding as well as complementary feeding practices in the community is necessary for timely interventions, to ensure optimal growth and development of children. **Objectives:** (1) To study the complementary feeding practices among children in the age group of 6 months to 24 months. (2) To find out the percentage of malnutrition among the children. **Material and methods:** A cross-sectional study was conducted in a rural field practice area of a tertiary care center. A total of 130 children aged between 6 and 24 months were included in the study. The mothers of children were interviewed using a questionnaire for the breastfeeding and complementary feeding practices among their children. The data was entered in Microsoft Excel and presented using frequencies and percentages. The Chi-square test was used to find the association between the variables. **Results:** Among 130 participants, there were 52% girls and 48% boys included in the study. It was observed that 52.3% of mothers had started complementary feeding at 6 months and 94.6% continued breastfeeding till 2 years of age. Only 11.3% of mothers had given complementary feeds with four different food groups and 1.6% of mothers used feeds with five food groups for their children. **Conclusion:** An understanding of the prevalent practices will be helpful in the identification of areas that need to be focused upon during counseling the caregivers of young children to improve their nutritional status.

Keywords: Children of 6–24 months, complementary feeding, cross-sectional study

INTRODUCTION

The World Health Organization (WHO) recommends exclusive breastfeeding for the first 6 months of life, with the addition of complementary feeds at the age of

6 months, and continued breastfeeding until the age of 2 years.^[1,2]

The beneficial effects of breastfeeding depend on the initiation of breastfeeding, its duration, and the age at which the breastfed child is complementary fed. Simultaneously, the period of complementary feeding is very crucial as the abdomen is slowly going to acquire top food items, so chances of diarrheal disorders are high which is considered to be one of the leading causes of death among infants and children. It was also observed that initiation of complementary feeds too early or too late can lead to malnutrition.^[2,3]

The dietary practices recommended for complementary feeds in children aged 6–24 months

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include a timely introduction at the age of 6 months, sufficient meal frequency and portion sizes, diversity of diet, safe food preparation, storage, and hygiene, etc.^[4] According to Infant and Young Child Feeding guidelines, age-appropriate complementary feeding for children 6-23 months, while continuing breastfeeding. Children should receive food from 4 or more food groups {(1) Grains, roots and tubers, legumes and nuts; (2) dairy products; (3) flesh foods (meat fish and poultry); (4) eggs, (5) Vitamin A rich fruits and vegetables; (6) other fruits and vegetables} and fed for a minimum number of times – 2 times for breastfed infants 6–8 months; 3 times for breastfed children 9–23 months; 4 times for non-breastfed children 6–23 months.^[5]

Continuous vigilance over breastfeeding as well as complementary feeding practices in the community is necessary for timely interventions, to ensure optimal growth and development of children.^[6] This information will be useful to policymakers for the formulation of interventional programs in the future. So, the present study was carried out to find breastfeeding and complementary feeding practices among children aged 6–24 months in rural field practice areas of Medical College in Maharashtra.

Objectives

1. To study the complementary feeding practices among children in the age group of 6 months to 24 months
2. To find out the percentage of malnutrition among the children.

MATERIAL AND METHODS

- Study design: A cross-sectional study
- Sampling method: Consecutive sampling
- Study area: Rural field Practice area of a Medical College in Maharashtra
- Study population: Children aged between 6 months and 24 months attending the immunization outpatient department (OPD) at the Rural Health Training Center
- Sample size: As per the National Family Health Survey 4 survey, exclusive breastfeeding practices are 54.9% in India. With a 97% confidence interval and 10% allowable error, a total of 130 children aged between 6 and 24 months were included in the study.^[7] The mothers of children were interviewed about the breastfeeding and complementary feeding

practices among their children. All the mothers who attended Immunization OPD and were willing to participate in the study were included in the study. Mothers of children aged between 6 and 24 months who were born as pre-term babies, with congenital diseases were excluded from the study. Institutional Ethics Committee permission was taken before the study. The weight and height of each child was measured. The malnutrition was assessed using WHO charts with z scores.^[8]

The data collection was done using a semi-structured questionnaire by interview method after obtaining informed consent from the mother of a child aged between 6 and 24 months. The questionnaire included a sociodemographic profile, breastfeeding practices and complementary feeding practices, and 24-h recall method of feeding practices to observe complementary feeding patterns among children. The data were entered in Microsoft Excel and presented using frequencies and percentages. Chi-square test was used to find the association between the variables.

RESULTS

A total of 130 children were included in the study. Among these participants, the majority of children were in the age group between 12 and 24 months, i.e., 70 (53.8%) followed by 44 (33.8%) in the age group between 9 and 11 months and 16 (12.4%) children between 6 and 8 months. There were 68 (52%) girls and 62(48%) boys included in the study [Figure 1].

It was observed that 68 (52.3%) mothers had started complementary feeding at 6 months whereas 38 (29.2%) mothers had started after 6 months and 24 (18.5%) mothers started complementary feeding before 6 months of age [Table 1]. It was found that among the children who had completed 2 years of age, 94.6% of mothers had continued breastfeeding till 2 years of age.

It was found in this study that only 14 (11.3%) of mothers had given complementary feeds with four food groups, 2 (1.6%) mothers used feeds with five food groups whereas 64 (51.6%) mothers used 3 food groups and 44 (35.5%) mothers had given complementary feeds with only two food groups [Table 2].

Among 130 participants, undernutrition was found in 26 (20%) children. The undernutrition was more among boys, i.e., 18 (23%) out of 62 boys as compared to girls, i.e., 8 (11.8%) out of 68 girls and it was found statistically significant [Table 3].

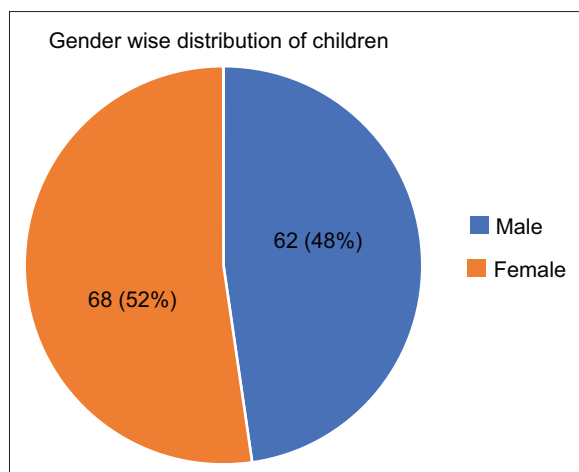


Figure 1: Gender wise distribution of participants

Table 1: Initiation of complementary feeding among participants

Complementary Feeding	Frequency	Percentage
6 months	68	52.3
>6 months	38	29.2
<6 months	24	18.5
Total	130	100

Table 2: Diversity in food groups for complementary feeding

Number of food groups	Number	Percentage
2	44	35.5
3	64	51.6
4	14	11.3
5	2	1.6

Table 3: Undernutrition among children

Sex of child	Normal (%)	Undernutrition (%)	Total
Male	44 (71)	18 (23)	62
Female	60 (88.2)	8 (11.8)	68
Total	104 (80)	26 (20)	130

$\chi^2=6.04, P<0.01$

DISCUSSION

In our study, it was observed that 52.3% of mothers timely initiated complementary feeding at 6 months. A similar study by Jeyakumar *et al.* in urban slums of Maharashtra found that <50% of children received complementary feeding on time, indicating a low prevalence of timely initiation in those areas^[9] whereas a study by Mekonen *et al.* revealed that the prevalence of appropriate complementary feeding practices among mothers of children aged 6–23 months was 13.02%.^[10]

In contrast, a 2012 study at an Urban Health Centre in Delhi showed that 72.7% of children aged 6 to 9 months received complementary feeding.^[11]

Regarding breastfeeding, WHO reports that 89% of children in India are breastfed at 1 year, with a drop to 73% at 2 years.^[12] However, in our study, 94.6% of mothers continued breastfeeding until 2 years of age, suggesting higher breastfeeding rates than the national average.

When it comes to the diversity of complementary feeding, only 11.3% of mothers in our study provided foods from four food groups, and just 1.6% included five food groups. The Infant and Young Child Feeding guidelines recommend that children receive food from at least four food groups. These findings align with another study by Jeyakumar *et al.*, where 84% of children did not meet the target of a diet diversity score of 4 for complementary feeding practices.^[9] Improper weaning practice or delayed weaning is a major cause of malnutrition and thus mothers need to carry out proper weaning practices. The present study found that 20% of children were undernourished whereas in another study it was found that more than half of the infants under study were underweight for their age and a significant association was found between weaning age and underweight infants.^[13]

CONCLUSION

Timely initiation of complementary feeding at 6 months was done in only 52.3% of children which is recommended by Infant and Young Child Feeding guidelines. An understanding of the prevalent practices will be helpful in the identification of areas that need to be focused upon during counseling the caregivers of the young children to improve their nutritional status. There is a need for health education activities for postnatal mothers focussing on the diversity of foods in complementary feeding.

REFERENCES

1. World Health Organization. Global Strategy for Infant and Young Child Feeding. Geneva: WHO; 2003. Available from: https://www.who.int/nutrition/publications/infantfeeding/infant_feeding [Last accessed on 2023 Apr 18].
2. World Health Organization. Complementary Feeding-Report of the global Consultation Summary of Guiding Principles Geneva; 2001. Available from: www.who.int/entity/nutrition/publications/infantfeeding/

- complementary_feeding.pdf [Last accessed on 2023 Apr 20].
3. Infant and Young Child Feeding: Model Chapter for Textbooks for Medical Students and Allied Health Professionals. Geneva: World Health Organization; 2009. Session 3, Complementary Feeding. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK148957> [Last accessed on 2024 Mar 13].
 4. Pan American Health Organization. Guiding Principles for Complementary Feeding of the Breast-fed Child. Washington, DC: PAHO; 2001. Available from: <https://paho.org/hq/dmdocuments/2012/guidingprinciples.pdf> [Last accessed on 2024 Mar 13].
 5. Available from: <https://nhm.gov.in/images/pdf/programmes/child-health/guidelines/enhancing-optimal-iycf-practices.pdf> [Last accessed on 2024 Mar 13].
 6. Mahmood SE, Srivastava A, Shrotriya VP, Mishra P. Infant feeding practices in the rural population of north India. *J Family Community Med* 2012;19:130-5.
 7. Available from: <https://dhsprogram.com/publications/publication-fr339-dhs-final-reports.cfm> [Last accessed on 2019 Nov 07].
 8. Available from: <https://www.who.int/tools/child-growth-standards/standards> [Last accessed on 2024 Nov 15].
 9. Jeyakumar A, Babar P, Menon P, Jungari S, Medhekar A, Prakshale B, *et al.* Determinants of complementary feeding practices among children aged 6-24 months in urban slums of Pune, Maharashtra, in India. *J Health Popul Nutr* 2023;42:4.
 10. Mekonen EG, Zegeye AF, Workneh BS. Complementary feeding practices and associated factors among mothers of children aged 6 to 23 months in Sub-saharan African countries: A multilevel analysis of the recent demographic and health survey. *BMC Public Health* 2024;24:115.
 11. Chauhan M, Bala R, Nandan D, Misra SK. Complementary feeding practices in rural area of district Agra. *Indian J Public Health* 2007;51:66-7.
 12. WHO/UNICEF/IFPRI/UCDavis/FANTA/AED/USAID. Indicators for Assessing Infant and Young Child Feeding Practices. Part 3: Country Profiles. Geneva: World Health Organization; 2020.
 13. Ajmal S, Ajmal L, Ajmal M, Nawaz G. Association of Malnutrition with weaning practices among infants in Pakistan. *Cureus* 2022;14:e31018.

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