

Study of Infant Feeding Practices in Rural Area in Goa

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Abstract

Background: Suboptimal feeding practices during the infancy increase the risk of death, illness, and malnutrition. Despite overwhelming evidence of the benefits of exclusive breastfeeding, only about 40% babies under 6 months are exclusively breastfed, due to the lack of understanding of optimal feeding practices and lack of support from health service providers, community members, and families; babies who are not exclusively breastfed in the early months have a higher risk of death, especially from infection. The Lancet's 2003 child survival series identified that exclusive breastfeeding could save up to 1.3 million children worldwide. This essential intervention involves the early initiation of breastfeeding and ensuring that the mother gives only breastmilk and no other food or fluids during the first 6 months of life. Undernutrition of children is an important contributor to the deaths of 10.5 million children globally each year.

Aims and Objectives: The present study seeks to estimate the proportion of mothers carrying out age-appropriate infant feeding practices. Besides, the present study was conducted to study factors associated with infant feeding practices and reasons preventing exclusive breastfeeding in infants.

Materials and Methods: A cross-sectional community-based study was conducted in the field practice area of Rural Health and Training Centre, Mandur, Goa, from February 2019 to August 2019. Recruitment of study population was done by a systematic random sampling method and study population comprised of mothers with infants between 9 months and 1 year. A structured questionnaire was used to collect data in a face to face interview with the mother.

Results: In the present study, 150 infants aged 9 months to 1 year were recruited. It was observed that exclusive breastfeeding up to 6 months was carried out in 94 infants (62.66%). Early initiation of breastfeeding was carried out in 37 infants (24.7%). Weaning of infants by 6 months was started in 72 infants (48.18%). Exclusive breastfeeding of infants was found to be statistically significantly associated with mother's occupation ($\chi^2 = 27.152$; $P = 0.00019$), religion ($\chi^2 = 12.19$; $P = 0.015$), and age ($\chi^2 = 25.4$; $P = 0.0002$).

Conclusions: Suboptimal feeding practices during the infancy increase the risk of death, illness, and malnutrition. It is imperative to educate mothers on infant and young child feeding practices and create awareness within communities to achieve optimal growth and development of infants.

Key words: Breastfeeding, Infant and young child feeding practices, Weaning

INTRODUCTION

Suboptimal feeding practices during the infancy increase the risk of death, illness, and malnutrition. Despite overwhelming evidence of the benefits of exclusive

breastfeeding, only about 40% infants under 6 months are exclusively breastfed due to the lack of understanding of optimal feeding practices and lack of support from health service providers, community members, and families.^[1] Infants who are not exclusively breastfed in the early months have a higher risk of death, especially from infection.^[2] Undernutrition of infants is an important contributor to the deaths of 10.5 million children globally each year.

The Lancet's 2003 child survival series identified a package of proven nutrition interventions with the potential to avert up to 25% of child deaths if implemented. One of these

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interventions, exclusive breastfeeding, could save up to 1.3 million children worldwide. This essential intervention involves the early initiation of breastfeeding and ensuring that the mother gives only breast milk, and no other food or fluids, during the first 6 months of life.

The global strategy on infants and young child feeding^[1-5] recommended that infants should be exclusively breastfed for the first 6 months of life to achieve optimal growth development and health.

Breastfeeding and other nutrition actions contribute to better health throughout the lifecycle. Routine health services offer opportunities to provide support for optimal feeding practices for infants. Throughout the postnatal/neonatal period, contact with new mothers provides an opportunity to counsel on-demand exclusive breastfeeding, observes the neonate for correct positioning and attachment, resolves problems, and discusses actions related to maternal nutrition during lactation. One of the strategies for addressing infant feeding practices at the health facility level is the Baby-Friendly Hospital Initiative. Besides, strengthening community-based activities to increase skilled and timely support for maternal nutrition and breastfeeding are essential. Community-based activities include education and support from skilled birth attendants and existing community groups, community mobilization, traditional and mass media, and home visits.

However, there are several challenges to optimal feeding practices for infants. Some studies have identified cultural and social factors which impact the feeding practices of newborns. There is a need to identify and address impediments to improve breastfeeding rates in particular. However, these factors vary among different communities.

Research is required to identify why suboptimal nutrition and infant feeding practices occur in various communities. Hence, there is a need to find factors which impede the establishment and maintenance of optimal breastfeeding practices.^[6,7]

Infants and young children are at an increased risk of malnutrition from 6 months of age onward when breast milk alone is no longer sufficient to meet all their nutritional requirements. Complementary feeding should be started by the age of 6 months in infants. Introducing complementary feeds too late in the infancy period can lead to malnutrition.^[2]

The present study was conducted with the following objectives: (1) To estimate the proportion of mothers carrying out feeding practices in infants from birth until 6 months of age, (2) to study factors associated with infant

feeding practices, and (3) to study reasons hindering exclusive breastfeeding in infants.

MATERIALS AND METHODS

The present cross-sectional study was conducted in rural areas of Mandur, Goa, which is served by Rural Health and Training Centre Mandur under Goa Medical College, Goa, and has a population of 30,000 people. After taking necessary permissions and obtaining ethical clearance from the Institutional Ethics Committee, the study was conducted from February to August 2019. Using formula $4pq/d^2$, considering prevalence $P = 60\%$ ^[3] and error $d = 8\%$, a minimum sample size of 150 participants were calculated. A systematic random sampling method was used to recruit 150 study participants from infants aged 9 months to 1 year of age in the study area. Informed consent of the mother was obtained before commencing the interview and questions were asked to the mother in the local language. A predesigned pretested questionnaire was used to collect data by face to face interview with the mother. Data were collected on the feeding practices of infants from birth to 6 months of age. Optimal feeding practices^[6] as per the WHO and UNICEF recommendations include:

- Early initiation of breastfeeding within 1 h of birth
- Exclusive breastfeeding for the first 6 months of life defined as no other food or drink, not even water, except breast milk (including milk expressed or from a wet nurse) for 6 months of life, but allows the infant to receive ORS, drops, and syrups (vitamins, minerals, and medicines)
- Weaning of infant: Introduction of nutritionally-adequate and safe complementary (solid) foods at 6 months together with continued breastfeeding up to 2 years of age or beyond.

Statistical Analysis

The data were analyzed using SPSS software version 22. Data were expressed as frequencies and percentages in tabular form and Chi-square test was used in the analysis. A $P < 0.05$ was considered statistically significant.

RESULTS

In the present study, 150 infants aged 9 months to 1 year of age were recruited. It was observed that all infants in the study were breastfed, with exclusive breastfeeding carried out in 94 infants (62.66%), while the rest of the infants were partially breastfed. The proportion of male infants that were exclusively breastfed (72.7%) was higher than that of female infants (54.8%). Early initiation of breastfeeding was carried out in 37 infants (24.7%). It

was observed that 72 infants (48.18%) were weaned by 6 months of age while continuing breastfeeding, whereas weaning with complementary feeds was not started in 78 infants (51.82%) by 6 months. When asked about the type of weaning foods, 39 infants (54.2%) were given a liquid to semi-solid home-made foods, whereas 33 infants (48.8%) were given readymade weaning mixes.

In the present study, it was observed that the highest proportion of mothers (53.3%) was in the age group of 26–29 and the lowest proportion (2.7%) mothers were in the age group of 18–21. A higher proportion of the mothers (60%) was employed and 40% mothers were housewives. The highest proportion of mothers (66.7%) was Hindu by religion and only the lowest proportion of mothers (2.7%) was Muslims. The highest proportion of mothers (66.7%) had completed higher secondary education and only 1.3% of mothers were illiterate. The highest proportions of mothers (45.3%) belonged to Class 1 socioeconomic class and the lowest proportion of mothers (1.3%) belonged to Class 5 [Table 1].

It is observed in the present study that higher proportions of infants, 51.33% were males and only 48.67% were females. The highest proportion of infants (50.67%) were of birth order 1 and the lowest proportion of infants (18%)

were of birth order of 3 or more. About 84% of infants were born with a birth weight of 2.5 kg and above, and 16% were low birth weight babies [Table 2].

Exclusive breastfeeding was found to be significantly associated with age, occupation, and religion [Table 3].

In the present study, mothers reported reasons for not exclusive breastfeeding as inadequate milk production (60.7%), maternal illness (7.3%), constraints faced by mother at work (24.7%), and due to poor sucking reflex of infant (7.3%).

Table 2: Profile of infants

Variable	n (%)
Gender of child	
Male	77 (51.33)
Female	73 (48.67)
Total	150 (100)
Birth order	
First	76 (50.67)
Second	47 (31.33)
Third or higher	27 (18)
Total	150 (100)
Birth weight	
<2.5 kg	24 (16)
≥2.5 kg	126 (84)
Total	150 (100)

Table 1: Sociodemographic profile of mothers

Variable	n (%)
Age	
18–21	04 (2.7)
22–25	20 (13.3)
26–29	80 (53.3)
30 and above	46 (30.7)
Total	150 (100)
Employment status	
Housewife	60 (40)
Service	90 (60)
Total	150 (100)
Religion	U
Hindu	100 (66.7)
Christian	46 (30.7)
Muslim	04 (2.7)
Total	150 (100)
Education	
Illiterate	02 (1.3)
Primary	06 (4.0)
Secondary	20 (13.3)
Higher secondary	100 (66.7)
≥Graduate	22 (14.7)
Total	150 (100)
Socioeconomic status	
Class 1	45.3
Class 2	37.3
Class 3	13.3
Class 4	2.7
Class 5	1.3
Total	150 (100)

Table 3: Sociodemographic factors of mothers and exclusive breastfeeding

Variable	Exclusive breastfeeding		Test of significance
	Yes n=94	No n=56	
Age			
18–21	2	2	$\chi^2=11.1776$
22–25	10	10	Df=3
26–29	60	20	P=0.0108
30 and above	22	24	
Occupation			
Housewife	30	30	$\chi^2=7.655$
Service	62	24	Df=2
Others	2	2	P=0.0217
Religion			
Hindu	70	30	$\chi^2=6.9033$
Christian	22	24	Df=2
Muslim	2	2	P=0.0316
Education			
Illiterate	1	1	$\chi^2=7.0047$
Primary	3	3	Df=4
Secondary	10	10	P=0.13564
Higher secondary	70	30	
Graduate and above	10	12	
Socioeconomic status			
Class 1	46	22	$\chi^2=1.7261$
Class 2	34	22	Df=4
Class 3	11	9	1=0.7859
Class 4	2	2	
Class 5	1	1	

DISCUSSION

In the present study, 94 infants of 150 (62.67%) were found to have exclusively breastfed until 6 months of age. Whereas, it was observed to be 57.7% in a study by Benjamin and Zachariah (1993)^[8] and 63.50% in a study conducted by Aggarwal *et al.*^[9] However, it was observed that only 8.6% mothers practiced exclusive breastfeeding in a study conducted in Orissa.^[5]

In the present study, 24.7%, i.e., 37 infants, were breastfed within 1 h after birth. Similar findings of early initiation of breastfeeding within 1 h (27.2%) were reported by Khan *et al.*,^[10] Shwetal *et al.* (32.6%),^[11] and Raval *et al.*^[12] However, in a study conducted by Madhu *et al.*,^[13] it was observed that 92% of infants had early initiation of breastfeeding, and Ekambaram *et al.*^[14] reported that in their study, 97% of infants had early initiation of breastfeeding. This difference may be due to local cultural beliefs and practices which were more favorable in those particular regions.

In the present study, 48.18% of mothers started weaning at 6 months. In an interventional study of 35 parents in Delhi,^[15] only 16.5% of mothers had started weaning at the recommended time, which is less than that observed in the present study.^[15] A prospective interview study of 200 parents by Aggarwal *et al.*^[16] showed that 17.5% of mothers had started complementary feeding at 6 months of age. A National Family Health Survey 3 for Karnataka State, India, reported that 72.5% of children aged 6–9 months were receiving complementary feeds and breast milk.^[17]

In the present study, it was found that the most common reason for not exclusively breastfeeding was the inadequacy of breast milk secretion (60.7%). Similar findings of inadequate milk secretion in mothers (54.67%) were observed in a study conducted by Sriram *et al.*^[18]

CONCLUSION

Suboptimal feeding practices during the infancy increase the risk of death, illness, and malnutrition. It is imperative to educate mothers on infant and young child feeding practices and create awareness within communities to achieve optimal growth and development of infants.

There is a need for community health education programs aimed at educating mothers on (1) initiation of breastfeeding within the first 1 h after birth, (2) exclusive

breastfeeding until 6 months of age, and (3) continue breastfeeding until 2 years.

Furthermore, it would be effective to use mass media for educating people and encourage community support groups to promote breastfeeding and thereby prevent undernutrition in children. Breastfeeding has been repeatedly proven in various studies as a healthy and cost-effective method of feeding infants until 6 months of age.^[19]

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Ethical Approval

Institutional Ethics Committee.

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