



A study on feeding practice and its effect on growth and morbidity of infants in the first 6 months of life in slums of Bankura Municipality

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ABSTRACT

Background: Infant feeding practice in first 6 months of life is a major determinant of growth, nutritional status, and morbidity. **Aims and Objectives:** This study conducted to assess the infant feeding practice in first 6 months of life and to determine its effect on growth, nutritional status, and morbidity of study participants. **Materials and Methods:** A population-based longitudinal study was conducted among 49 infants in slums of Bankura Municipality within 1 week of their birth and they were followed up to the age of 6 months. **Results:** Proportions of male and female infants were almost equal. Proportions of exclusively breastfed infants at 0, 3, and 6 months were 87.8%, 79.6%, and 46.9%, respectively. Mean weight and length gain at 6 months were significantly higher in infants with increased duration of exclusive breastfeeding ($P=0.008$ and 0.042 , respectively). Mean cumulative infant feeding score (at 6 months) was higher among normal babies ($115.6 \pm 0.7.3$) than the underweight babies (110.0 ± 3.7). Mean cumulative morbidity score at 6 months was lower in infants who were exclusively breastfed for 6 months (7.2 ± 2.5) than those who were exclusively breastfed for <6 months (7.8 ± 2.6). Mean weight gain (at 6 months) was significantly increased with higher maternal education ($P=0.030$). Linear regression showed that weight gain and length gain had significantly positive linear relation with cumulative infant feeding score at 6 months, whereas cumulative morbidity score had negative but not significant correlation with weight gain and significantly negative linear relation with length gain. **Conclusion:** This study identified that various components of infant feeding practice in study participants were suboptimal. It was also observed from this study that feeding practice was important determinant for growth, nutritional status, and morbidity.

Key words: Infant feeding practice; Growth; Morbidity; First 6 months

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INTRODUCTION

In the developing countries like India, infant feeding practice is very crucial factor for child health and nutrition. A global strategy for infant and young child feeding (IYCF) was articulated by the World Health Organization (WHO) and United Nations International Children's Emergency Fund (UNICEF) and several indicators are used to assess

the IYCF practices.¹ Feeding recommendations by the WHO and UNICEF in the form of guiding principles for breastfeeding and complementary feeding focus attention on the effect of feeding practices on health and growth of infants and young children.² The WHO's recommendation is to start with exclusive breastfeeding for first 6 months and early initiation and continuation for 2 years or more together with nutritionally adequate, safe, and age appropriate

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complementary feeding starting at 6 months.³ Proper feeding practices during infancy are essential for attaining and maintaining proper nutrition, health, and development of the children.^{4,5} Exclusive breastfeeding means that an infant receives only breast milk and no other liquid or solid foods, with the exception of drops or syrups containing vitamins, mineral supplements, or medicine.¹ The best and safest way to feed a baby is by exclusive breastfeeding. Exclusive breastfeeding has several advantages like protection against exposure to harmful pathogen, provision of superior nutrition, transfer of antibodies, reduction of morbidity and mortality, and birth spacing.⁶ Breastfeeding also creates a strong bond between the mother and the child, stimulating development of all five senses of the child, providing emotional security and affection, with a lifelong impact on psychosocial development. Breastfeeding is a unique biological and emotional influence on health of the both mother and infant. It is furthermore an important determinant of infant health in prevention of malnutrition and infection. Breastfeeding confers both short-term and long-term benefits to the child.⁷ The importance of exclusive breastfeeding (EBF) for optimal growth and development, irrespective of country of residence, is also reflected in the recent WHO growth standard for children. It reduces infection and mortality among infants, improves motor development and protects against obesity and metabolic diseases later in the life courses.⁸⁻¹⁰ However, several inappropriate feeding practices were reported in developing countries like India in several previous studies like late initiation of breastfeeding, discarding colostrums, use of pre-lacteals, low rate of exclusive breastfeeding, early introduction of top feeds in the form of diluted animal milk or giving water to breastfed babies, and late introduction of semisolid foods.^{11,12} Despite increasing medical research showing the benefits of breastfeeding both for mother and babies,¹³⁻¹⁵ many mother opt to bottle feed their babies occasionally or routinely, which is associated with many complications such as cow milk allergy or intolerance, increased risk of respiratory and gastrointestinal diseases,^{16,17} otitis media,¹⁸ oral malocclusion and dental caries.^{19,20} There are several socioeconomic and cultural determinants of breastfeeding.^{7,21-23} Although the feeding recommendations were based on evidences in the published literature, the effect of following these recommended infant feeding practices during infancy and early childhood has not been evaluated. In this background, the present study was conducted to assess the infant feeding practice in first 6 months of life and to determine its effect on their growth, nutritional status, and morbidity.

Aims and objectives

The objectives of this study were as follows:

1. To assess the feeding practice of Infants in the first 6 months of life in slums of Bankura Municipality.

2. To find out the effect of infant feeding practice on growth and nutritional status of study population.
3. To determine the relation between infant feeding practice and morbidity of study population.

MATERIALS AND METHODS

Study type, design, and settings

This community-based, observational, and descriptive longitudinal study was conducted in the slums of Bankura Municipality one of the three municipalities of Bankura district named Bankura, Bishnupur, and Sonamukhi from July 2021 to June 2022.

Study population

The babies born in the selected slums in the first 3 months of study period were recruited within 1 week of their birth and were followed up to the age of 6 months.

Exclusion criteria

Mothers or newborns were excluded if were found seriously ill during recruitment.

Sample size and sample design

Out of 23 wards of Bankura Municipality, 20% i.e. 5 wards were selected through probability proportionate to size sampling. The wards selected in such a way were 13, 15, 16, 17, and 22. All the babies born in the slums of the selected wards within the first 3 months of study period were approached for participating in the study.

Study tools and techniques

Study tools

1. Predesigned, pretested, and semi-structured questionnaire in Bengali version was used to collect information on socio-demographic characteristics, feeding practices based on all components of optimum IYCF practices in first 6 months of life, and morbidity of the study participants.
2. Infantometer was used to measure the length of the child using standardized procedure.
3. Digital weighing machine was used to measure the weight of the child using standardized procedure.
4. Available records:
 - i. Hospital discharge certificate of mother (To see date of Birth, Birth weight of the Infants),
 - ii. Hospital OPD ticket (To see the morbidity),
 - iii. Private practitioner's prescriptions (To see the morbidity),
 - iv. Any other available records.

Study technique

1. Interview of the mother of the study participants.
2. Anthropometric measurement of length and weight of the study subjects.

3. Review of the records related to age of the infant, health, and morbidity status of the infants.

Study variables

1. Age of the individual in completed months in different visits, gender, birth order, religions, caste, socioeconomic status (SES) of the family, mother's education, birth weight, etc., were various socio-demographic as well as exposure variables.
2. Infant feeding practice, nutritional status, and morbidity were the outcome variables.

Infant feeding practice

To determine this, following parameters were assessed:

1. Initiation of breastfeeding,
2. Pre-lacteal feeding,
3. Continuation of breastfeeding,
4. Status of exclusive breastfeeding,
5. Feeding other than breastfeeding,
6. Frequency of breastfeeding,
7. Night feeding,
8. Bottle feeding etc.

Nutritional status

Length of the child was measured by infantometer in centimeter and weight was measured by digital weighing machine in kilogram. According to these measurements, nutritional status was categorized using the WHO growth standards.

Morbidity

Numbers of episodes of common infectious diseases, namely, diarrhea, acute respiratory infection (ARI), and measles were determined by questionnaire using 2 weeks recall period. For the purpose of analysis, morbidity score was calculated, where occurrence of each episode of any above-mentioned morbidity received a score 1.

Ethical consideration and data collection

After the approval of the Institutional Ethics Committee, B.S. Medical College, the data collection was started. A pre-designed, pre-tested, and semi-structured questionnaire was used to collect the data regarding socio-demographic, economic, and cultural characteristics of family. During recruitment of infants, the purpose of study, advantages, and disadvantages of the study participants, its confidentiality and voluntary participation were explained to the mother and other family members. Assent (written) from mother/legal guardian was taken.

Data analysis

All the data were coded and entered into Microsoft Excel Spread sheet– 2007 and checked twice to detect any erroneous entry. Data were analyzed by test of significance,

for example– Fisher's exact test, Student's t-test, Pearson Chi-square test, and multiple linear regressions which were done wherever applicable using the software package SPSS version 20.0.

RESULTS

Total number of study subjects in this study was initially 50. Among them, one infant was lost to follow-up. Hence, the ultimate sample size was 49.

Table 1 showed that proportions of male and female infants were almost equal. About 97.8% of study subjects were Hindu (97.8%). Mothers of 20.4% of the infants were illiterate. Majority of the children belonged to upper-lower socioeconomic class family (77.6%).

Table 2 showed that no mother practiced pre-lacteal feeding. Table also shows that majority of the mother initiated breastfeeding (79.6%) after 1 h of birth of the child. Less than half (46.9%) of the study subjects were exclusively breastfed for 6 months. More than one-fourth (26.5%) study subjects were ever bottle fed throughout the study period.

Table 3 showed that proportion of exclusive breastfeeding was reduced gradually with the increase of the age of the

Table 1: Distribution of study population according to Socio-demographic factors of study population (n=49)

Variable	Category	No. (%)
Sex	Male	25 (51.0)
	Female	24 (49.0)
Mother's literacy level	Illiterate	10 (20.4)
	Up to primary (1–4 years)	7 (14.3)
	Primary (5–7 years)	20 (40.8)
	Middle school (8–9 years)	7 (14.3)
	Secondary/above (10 years or above)	5 (10.2)
Religion	Hindu	48 (97.8)
	Muslim	1 (2.2)
Socio-economic status of the family	Lower middle (III)	11 (22.4)
	Upper lower (IV)	38 (77.6)

Table 2: Distribution of study population according to different feeding practices (n=49)

Variable	Category	No. (%)
Pre-lacteal feeding	No	49 (100)
	Yes	0 (0)
Initiation of breastfeeding	<1h	10 (20.4)
	> 1 h	39 (79.6)
Duration of exclusive Breastfeeding	For 6 months	23 (46.9)
	<6 months	26 (53.1)
Bottle feeding	Ever	13 (26.5)
	Never	36 (73.5)

infants. Proportion of EBF at 0 month, 3 months, and 6 months was 87.8%, 79.6%, and 46.9%, respectively. Table also shows that the proportion of frequency of breastfeeding >8 times was maximum at the age of 2 months (77.6%) and lowest at the age of 6 months (55.1%). Table also shows that proportion of bottle feeding was highest at 4 months (12.2%) and no child received bottle feeding at the age of 1 month. All mother practiced night feeding except at first visit.

Table 4 showed that mean (\pm SD) weight gain at 6 months was significantly higher in infants, those who were exclusively breastfed for 6 months (4.6 ± 0.7 kg) than the infants, those who were exclusively breastfed for <6 months (4.1 ± 0.7 kg), ($P=0.008$).

Mean (\pm SD) weight gain at 6 months was also higher in the infants, those who had never bottle-fed (4.4 ± 0.8 kg) than those who were ever bottle-fed (4.2 ± 0.6 kg), but there was no significant differences ($P=0.490$). Table also shows that timing of initiation of breastfeeding produced no significant difference on weight gain.

Table 5 showed that mean (\pm SD) length gain at 6 months was significantly higher in children, those who were exclusively breastfed for 6 months (16.9 ± 1.0 cm) than the children, those who were exclusively breastfed for less than 6 months (16.4 ± 1.3 cm) ($P=0.042$). Mean (\pm SD) length

gain at 6 months was also slightly lower in the group, those who were ever bottle fed (16.5 ± 0.9 cm) than those who had never practiced bottle feeding (16.7 ± 0.9 cm), but there was no significant differences ($P=0.489$).

Mean (\pm SD) length gain was equal among those babies who were initiated breastfeeding within 1 h and those who initiated breastfeeding after 1 h.

Table 6 showed that mean (\pm SD) cumulative infant feeding score(at 6 months) was higher among normal babies (115.6 ± 7.3) than the underweight babies (110.0 ± 3.7), but no significant difference was seen among both the groups ($P=0.483$). Table also shows that mean \pm SD infant feeding score was slightly higher among normal babies (115.1 ± 7.6) than the stunted babies (114.4 ± 8.2), but no significant difference is seen among both the groups ($P=0.925$).

Table 7 showed that mean (\pm SD) cumulative morbidity score at 6 months was lower in infants, those who were exclusively breastfed for 6 months (7.2 ± 2.5) than the infants, those who were exclusively breastfed for less than 6 months (7.8 ± 2.6), but there was no significant difference was seen among both the groups ($P=0.396$).

Table also showed that mean (\pm SD) cumulative morbidity score at 6 months was also higher in the group, those who were never bottle fed (7.7 ± 2.6) than those who were ever

Table 3: Distribution of study population according to feeding practices (n=49)

Variable	Category	Months						
		0 No.(%)	1 No. (%)	2 No. (%)	3 No. (%)	4 No. (%)	5 No. (%)	6 No. (%)
Exclusive breastfeeding	Yes	43 (87.8)	43 (87.8)	42 (85.7)	39 (79.6)	31 (63.3)	27 (55.1)	23 (46.9)
	No	6 (12.2)	6 (12.2)	7 (14.3)	10 (20.4)	18 (36.7)	22 (44.9)	26 (53.1)
Frequency of breastfeeding	>8	34 (69.4)	34 (69.4)	38 (77.6)	33 (67.4)	33 (67.4)	30 (61.2)	27 (55.1)
	<8	15 (30.6)	15 (30.6)	11 (22.4)	16 (32.6)	16 (32.6)	19 (38.8)	22 (44.9)
Bottle feeding	Yes	3 (6.1)	0 (0.0)	3 (6.1)	4 (8.2)	6 (12.2)	4 (8.2)	5 (10.2)
	No	46 (93.9)	49 (100.0)	46 (93.9)	45 (91.8)	43 (87.8)	45 (91.8)	44 (89.8)
Night feeding	Yes	47 (95.9)	49 (100.0)	49 (100.0)	49 (100.0)	49 (100.0)	49 (100.0)	49 (100.0)
	No	2 (4.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

Table 4: Distribution of study population according to weight gain and different feeding practices (n=49)

Variable	Category	Number	Weight gain (in kg) Mean(\pm SD)	t-test and P value
Exclusive breastfeeding	6 months	23	4.6 (0.7)	t=2.8
	<6months	26	4.1 (0.7)	P=0.008
Initiation of breastfeeding	Within 1h	10	4.2 (0.8)	t=-0.178
	After 1h	39	4.3 (0.7)	P=0.860
Bottle feeding	Ever	13	4.2 (0.6)	t=-0.190
	Never	36	4.4 (0.8)	P=0.490

Table 5: Distribution of study population according to length gain and different feeding practices (n=49)

Variable	Category	Number	Length gain (in cm) Mean(±SD)	t-test and P value
Exclusive breastfeeding	6 months	23	16.9 (1.0)	t=2.09
	<6months	26	16.4 (1.3)	P=0.042
Initiationof breastfeeding	Early	10	16.6 (0.6)	t=-0.055
	Late	39	16.6 (0.6)	P=0.669
Bottle feeding	Ever	13	16.5 (0.9)	t=-0.696
	Never	36	16.7 (0.9)	P=0.489

Table 6: Distribution of study population according to infant feeding score and nutritional status (at 6 months) (n=49)

Variable	Category	Number	Cumulative infant feeding score (at 6 months) Mean (±SD)	t-test and P value
Nutritional status (weight for age)	Normal	44	115.6 (7.3)	t=0.707
	Underweight	5	110.0 (3.7)	P=0.483
Nutritional status (length for age)	Normal	42	115.1 (7.6)	t=0.094
	Stunted	7	114.4 (8.2)	P=0.925

Table 7: Distribution study population according to morbidity and different feeding practices (n=49)

Variable	Category	Number	Cumulative morbidity score at 6 months Mean (±SD)	t-test and P value
Duration of exclusive breastfeeding	For 6 months	23	7.2 (2.5)	t=-0.856
	<6 months	26	7.8 (2.6)	P=0.396
Bottle feeding	Ever	13	7.2 (2.4)	t=-0.649
	Never	36	7.7 (2.6)	P=0.519

bottle fed (7.2±2.4), but there was no significant differences among both the groups (P=0.519).

From this linear regression, the equation obtained was:-

$$\text{Weight gain}=2.242+0.018 (\text{CIFS})-\text{Model 1.}$$

$$\text{Weight gain}=2.935+0.018 (\text{CIFS})-0.020 (\text{CMS})-\text{Model 2.}$$

Table 8 showed that weight gain had significantly positive linear relation with cumulative infant feeding score at 6 months, whereas cumulative morbidity score had negative but not significant correlation with weight gain.

From this linear regression, the equation obtained was:-

$$\text{Length gain}=14.671+0.018 (\text{CIFS})-\text{Model 1.}$$

$$\text{Length gain}=15.548+0.017 (\text{CIFS}) - 0.114 (\text{CMS})-\text{Model 2.}$$

Table 9 showed that length gain had significantly positive linear relation with cumulative infant feeding score at 6 months and had significantly negative linear relation with cumulative morbidity score at 6 months.

DISCUSSION

Early initiation of breastfeeding, exclusive breastfeeding under 6 months, introduction of solid, semisolid, and soft

Table 8: Regression coefficient and their significance in multiple regressions for weight gain among the study subjects (n=49)

R	R ²	F	Significant
0.378 ^a	0.143	7.838	0.007
0.384 ^b	0.147	3.967	0.026

^aPredictor: Constant, cumulative infant feeding score (CIFS) at 6 months. ^bPredictor, constant, cumulative infant feeding score (CIFS) at 6 months, cumulative morbidity score (CMS) at 6 months

food are important WHO indicators for IYCF practices, but these indicators are poor in developing countries.¹ Mother's literacy level health and nutritional education, source of knowledge, socioeconomic status of family, and cultural beliefs are important factors underlying Infant feeding practices.^{7,21} It was estimated that if 90% of infants are covered with a package of interventions, to protect, promote, and support optimal IYCF practices, almost one-fifth of the overall mortality can be averted.²⁴ Even in developed countries, recent studies underscored the role of IYCF practices in reducing child mortality.^{25,26} The poor complementary feeding practices or early introduction of complementary feeding mean that many children contribute to be vulnerable to irreversible outcome of stunting, poor cognitive development, and significantly increased risk of infectious diseases.^{7,27} Due to improper feeding practices, malnutrition creates a problem upon

Model	Unstandardized coefficients Beta	Standard error	Standardized coefficients Beta	T	Significant
1					
Constant	2.242	0.744		3.012	0.004
CIFS	0.018	0.006	0.378	2.800	0.007
2					
Constant	2.935	0.816		2.993	0.005
CIFS	0.018	0.006	0.378	2.773	0.008
CMS	-0.020	0.042	-0.065	-0.475	0.637

Table 9: Regression coefficient and their significance in multiple regressions for length gain among the study subjects (n=49)

R	R ²	F	Sig.
0.305 ^a	0.093	4.807	0.033
0.440 ^b	0.194	5.537	0.007

^aPredictor: Constant, cumulative infant feeding score (CIFS) at 6 months. ^bPredictor: Constant, cumulative infant feeding score (CIFS) at 6 months, cumulative morbidity score (CMS) at 6 months

them.⁸ Several studies indicate there is need for educating mothers for promotion of proper infant feeding practices and other aspects of child care.²⁸⁻³⁰ Proper feeding practices during infancy are essential for attaining and maintaining proper nutrition, health and developments of infants and young children.^{16,31,32} This study tried to assess the feeding practices in the first 6 months of life and its effect on growth and morbidity of infants in slums of Bankura municipality as well as influence of various sociodemographic factors on feeding practice, growth and morbidity.

Background characteristics of study population

Participation of male and female children in the present study was almost equal. Majority of study subjects were Hindu (97.8%) (Table 1). Around one-fifth (20.4%) of the children's mother were illiterate, but near about two-third (65.7%) mothers had formal education for 5 years or more (Table 1). Roy et al., found in their study that 18.4% of the mothers were illiterate.⁸

Infant feeding practices: Pre-lacteal feeding

In the present study, no mother practiced pre-lacteal feeding (Table 2). Kumar et al., reported that around 40% mothers offered pre-lacteal feeding.²⁵ However, Saha et al., in Bangladesh, observed that only 8% of the mother gave pre-lacteal food or drink.¹⁰

Initiation of breastfeeding

In this study, around one-fifth of the mother initiated breastfeeding within 1h of childbirth, (Table 2), which was slightly lower than WHO country profile in India assessed by the WHO.¹ Almost similar findings were observed by Roy et al., in slum area of Kolkata.⁸ Low awareness on the benefit of early initiation and lack of promotion by health

professional at the institutions might the reason of lower value in the present study.

Exclusive breastfeeding

Many longitudinal studies show that proportion of exclusive breastfeeding was reduced gradually with the increase of the age of the infants even during their first 6 months.^{10,21,26} Galler et al., observed in their study that proportion of exclusive breastfeeding reduced from 69% at 7 weeks to 44% at 3 months and 17% at 6 months of age.²⁶ Similar finding was noted in this study, where proportion of EBF at 0 month, 3 months, and 6 months were 87.8%, 79.6%, and 46.9%, respectively (Table 3). Early introduction of the complementary feeding – Early initiation of liquid, semisolid, or solid food was harmful to the infants in terms of growth and morbidity, but this improper practice was found in many longitudinal and cross-sectional studies in different parts of world.^{9,10,15,21,26} In this study, more than half of the mother practiced early initiation of complementary feeding of their child.

Bottle feeding

In this study, bottle feeding was observed among more than one-fourth study subjects throughout the study period (26.5%) (Table 2). Galler et al., found in their study that 31% child were bottle fed at 6 months of age.²⁶

Night feeding

Night feeding is always advised to meet the requirement of child and to reduce the interval between two breastfeeding. In this study, except at the first visit, all the mother practiced night feeding (Table 3).

Infant feeding score

In this study, different feeding practices were measured qualitatively as well as quantitatively and a feeding score was calculated according to different parameters of infant feeding practices.

Feeding practices and growth

Several studies were conducted to find out the association between feeding practices and growth.^{6,28} In this study, it was found that mean (\pm SD) weight gain and length gain were significantly higher with increasing duration of exclusive breastfeeding ($P=0.008$ and 0.042 , respectively)

Model	Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig
1					
Constant	14.671	0.895		16.391	0.000
CIFS	0.017	0.008	0.305	2.192	0.033
2					
Constant	15.548	0.928		16.763	0.000
CIFS	0.017	0.007	0.302	2.283	0.027
CMS	-0.114	0.047	-0.378	-2.404	0.020

(Tables 4 and 5). Similar finding was observed by Eckhardt et al., found in their study.⁴

Feeding practices and nutritional status

Breastfeeding is an important determinant of health for prevention of under nutrition.^{15,25} An important finding in this study that mean cumulative infant feeding score (at 6 months) was higher among normal children, (115.6±7.3 and 115.1±7.6, respectively) than the underweight and stunted children (110.0±3.7 and 114.4±8.2, respectively) (Table 6). Similar finding was observed by Saha et al.,¹⁰ where the children who were in the 75th percentile of the infant feeding scale had lower proportion of underweight compared with the children who were in the 25th percentile of these scales.

Feeding practices and morbidity

Various studies were conducted to find out the association between feeding practices and morbidity.^{11,13,14,27} In this study, it was seen that mean cumulative morbidity score at 6 months was lower in children, those who were exclusively breastfed for 6 months (7.2±2.5) than the children, those who were exclusively breastfed for <6 months (7.8±2.6), (Table 7). Similar type of findings were observed by Kalanda et al.²⁷

Feeding practices, growth, and morbidity

A prediction model with multiple linear regression was prepared based on infant feeding score and morbidity score. It was observed from this study that weight gain had significantly positive linear relation with cumulative infant feeding score at 6 month, whereas cumulative morbidity score had negative, but not significant correlation with weight gain (Table 8). It was also observed from this study that length gain had significantly positive linear relation with cumulative infant feeding score at 6 month and had significantly negative linear relation with cumulative morbidity score at 6 months (Table 9).

Limitations of the study

Feeding practice of the infants are being considered only for the first 6 months of life. The effect of complementary feeding thus could not be assessed here which would have a great impact on the growth and morbidity of the infants.

CONCLUSION

Infant feeding practice in first 6 months of life and its effect on growth and morbidity is very crucial particularly in developing countries. The findings in this study indicated that profile of study population was poor regarding socioeconomic status, mother's education. Infant feeding practices in first 6 months of life were assessed in this study using the indicators proposed by the WHO and UNICEF. No infant in this study received pre-lacteal feeding and majority of the mother practiced night feeding throughout their study period. However, late initiation of breastfeeding, bottle feeding, frequency of breastfeeding <8 times/day, and early introduction of complementary feeding were found among a proportion of children in the present study. This study provided evidences for the positive effects of the current infant feeding recommendations on growth of infants. More appropriate infant feeding practices such as duration of exclusive breastfeeding and never bottle feeding were associated with greater gain in weight and length during first 6 months of life and attainment of better nutritional status. Similarly, normal children in this study achieved better cumulative infant feeding score at 6 months than undernourished children. Study subjects with appropriate feeding practices were attained lesser mean cumulative morbidity scores at 6 months, which highlighted the importance of exclusive breastfeeding to protect against ARI and diarrhea specific morbidity and mortality. Better feeding practices, better attainment of growth, and nutritional status and lesser number of morbidities such as diarrhea, ARI, and measles were associated with better socioeconomic status.

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AG and THM- Concept and design of the study, prepared first draft of manuscript; **AG and GB-** Reviewed the literature, and manuscript preparation; **THM and SC-** Concept, coordination, statistical analysis and interpretation, Interpreted the results; **GB and SC-** Revision of the manuscript.

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