

## Infants Feeding Practices among Garo and non Garo Mothers From Netrakona District Bangladesh

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**Abstract:** Child health in developing countries including Bangladesh is a matter of serious concern as the prevalence of malnutrition among children under five in Bangladesh being under weight. Since infant feeding practices adopted by mothers play a major role in influencing health of these children, there is a need to study the infant feeding practices prevalent in different areas in order to have pragmatic approaches to solve this problem. A cross sectional study was conducted among Gro and Non Gro mothers of different villages of four Unions of Kalmakanada Upazila under Netrokona Distict Bangladesh. They were interviewed with a semi structured questionnaire on various aspects of infant feeding. A Total 270 families, 90 from tribal (Garo) and 180 from non tribal (Non Gro) mothers were interviewed. Prevalence of breastfeeding that was 95.6% of Garo mothers and 97.2% of Non Garo mothers' breast fed their babies and only 4.4% of Garo and 2.8% of Non Garo mothers never breast fed their babies and 80% of Garo mothers and 89.4% of Non Garo mother gave colostrums to their babies. Almost 87% of Garo and 84% Non Garo mothers started complementary feeding before the recommended age of 6 months and 13% of Garo. 16% of Non Garo mothers delayed introduction of complementary feeding beyond the recommended age. 34.8% of Garo and 25% of Non Garo children received cow's milk as complementary food other foods such as suzi (26.1% for Garo and 43% for Non Garo), rice (23.9% for Garo and 10% for Non Garo) were used as complementary foods. Only few families used baby formula, goat milk, banana and green vegetables, khichuri and fruit juice. Most of the families gave only one food as complementary food (56.5% of Garo and 53% of Non Garo). It was found that 30.4% of Garo and 38% of Non Garo mothers served two times and while 26.1% of Garo and 37% of Non Garo mothers served three times and 43.5% of Garo and 25% of Non Garo mothers served four times weaning food during 24 hours to their children.. 67.6% of Garo and 66.2% Non Garo mothers got the knowledge about weaning food from the doctors. There is a need to educate the mothers regarding proper infant feeding practices.

**Key words:** Infant • Breastfeeding • Weaning • Complementary Feeding

### INTRODUCTION

Breastfeeding is a key public health issue. The professional accounts of medicine, nursing, midwifery, public health and public policy continually emphasize that "breast is best" for infants, the environment and the global economy. Some also claim that breastfeeding is essential for bonding or securing the relationship between mother and child and that it promotes the health, development and psychological well-being of the infant [1]. Human milk is the ideal source of nutrition for infants and has numerous health benefits for the infant and the mother. Both the World Health Organization [2] and the

American Academy of Pediatrics [3] recommend exclusive breast-feeding for the first 6 months of life and continued breast-feeding, with the addition of appropriate complementary foods, until 12 months and thereafter for as long as mother and baby desire. A high rate of breast-feeding is beneficial for the developing countries with regard to both economy and health. It is well known that colostrums improve the infant's chances of survival by providing both nutrition and immunization, specific and nonspecific, during the neonatal period [4]. Breast-feeding is the unique source of nutrition than plays an important role in the growth, development and survival of infants. The benefits of breath-feeding, especially exclusive

breast-feeding, are well established. Particularly in poor environments where early introduction of other milk is of particular concern because of the risk of pathogens contamination and over dilution of milk leading to increased risks of morbidity and under nutrition [5]. Breast-feeding is promoted internationally as the preferred method of feeding infants up to 4-6 months and continued up to two years with the addition of home cooked food [6]. In Bangladesh, only 14 per cent of infants were exclusively breastfed up to 3 months [7]. Complementary feeding is another very important component of infant feeding. After 6 months, mother's milk is not sufficient for the growing child and complementary feeding should be started, timely and in adequate amounts. Frequency and amount of top feeds given during the weaning period to children are important variables in the pathogenesis of malnutrition. Inappropriate feeding practices during this period, is the major cause of malnutrition [8]. Complementary feeding has been defined as the provision of nutrient containing foods or liquids other than breast milk that includes both solid foods and infant formula. This refers to the period during which an infant becomes accustomed to complementary foods or infant formula in addition to the routine breast milk. The amount, type and consistency of food depend on the age of the child. This is also called "intermediately period". In developing countries, it covers a period between four months to two years, when the incidence of malnutrition and deficiency disease is at its highest [9]. Early introduction of supplementary feeding usually has a negative effect on the return to exclusive breastfeeding [10]. Supplements may not be given daily but they are unlikely to be withdrawn once they are introduced [11]. Supplemental feeding exposes infants to foreign contaminants and infection at a very vulnerable stage of life [12]. The objective of this research work was to study breastfeeding and complementary feeding practices among Gro and Non Gro mothers of different villages of four Unions of Kalmakanada Upazila under Netrokona District Bangladesh.

## MATERIALS AND METHODS

**Areas of Study:** The areas selected for this study are different villages of four Unions of Kalmakanada Upazila under Netrokona District Bangladesh. The tribal (Garo) and non tribal are predominantly living in this area. Some are involved with agricultural practices, such as crop farming (especially cassava, yam and plantain), vegetables, poultry and livestock, mostly small ruminant animals.

**Sampling Procedure:** The population targeted for the study comprised the family tribal (Garo) and non tribal. To be eligible for inclusion in the survey, each prospective respondent was required to have attained the must have resided in the study area for at least five years continuously. Netrokona District (one of the District of the Bangladesh where the tribal people were concentrated) was randomly selected as the study area. A multistage sampling procedure was adopted.

**Selection of Household:** In each of the purposively selected communities, total 270 households were selected using systematic random sampling to represent four Unions from tribal (Garo) and non tribal families. Households were randomly selected from the four Unions.

**Selection of Respondents from Households:** At least one respondent was selected which must have attained the children. This sampling option was considered expedient in the absence of valid and comprehensive sampling frame in each zone. This approach was found to be culturally expedient and ensured maximum cooperation of members [13].

### Instrument for Data Collection

**Questionnaire Method:** The structured baseline questionnaire used in this study was adapted from the first Perth Infant Feeding Study (PIFS) [14] and was designed to identify feeding practices while in hospital and to collect information on variables known or suspected to be associated with breastfeeding initiation, including socio-demographic, biomedical and psychosocial factors and hospital practices. The PIFS questionnaire has been shown to have good content validity and has been used in other Australian studies [15] and translated from English into a variety of languages for use in similar studies of infant feeding practices in China and Kenya [16]. The PIFS questionnaire was modified slightly for use in this study to suit the various cultural differences of women living in targeted area.

**Statistical Analysis:** Data entry and analysis was done using Statistical Package for Social Sciences (SPSS, version 16.0) for Windows. Frequency of variables was taken and Chi Square test was applied to find out the statistical significance of the data, independent relationship and validity of the variables. Data was later compiled, tabulated and classified.

**RESULTS**

It was appeared from survey that 95.6% of Garo mothers and 97.2% of Non Garo mothers' breast fed their babies. Only 4.4% of Garo and 2.8% of Non Garo mothers never breast fed their babies (Table 1) and 80% of Garo mothers and 89.4% of Non Garo mother gave colostrums to their babies. Only 20% of Garo and 10.6% of Non Garo mothers never fed colostrums to their babies (Figure 1).

It has been found that 46.7% of Garo and 45% of Non Garo children got sufficient amount of breast milk (Table 2). The shows major portion of the children got others foods besides breast milk. About 68.9% of Garo and 72.8% of Non Garo children got other foods besides mother's milk (Table 3). 94.4% of the Garo children and 76.8% of Non Garo children received cow's milk and only 5.6% of Garo and 23.2% Non Garo children received powder milk (Figure 2).

Table 1: Distribution of the infants by their ever breast feeding practice

Breast feeding practice	Garo		Non Garo	
	Frequency	Percent	Frequency	Percent
Yes	86	95.6	175	97.2
No	4	4.4	5	2.8
Total	90	100.0	180	100.0

Table 2: Distribution of infants their getting sufficient amount of breast milk

Response	Garo		Non Garo	
	Frequency	Percent	Frequency	Percent
Yes	42	46.7	81	45.0
No	48	53.3	99	55.0
Total	90	100.0	180	100.0

Table 3: Distribution of the infants receiving other foods beside the mother's milk

Response	Garo		Non Garo	
	Frequency	Percent	Frequency	Percent
Yes	62	68.9	131	72.8
No	28	31.1	49	27.2
Total	90	100.0	180	100.0

Table 4: Distribution of households by their present weaning food practices to their children

Present weaning food practices	Garo		Non Garo	
	Frequency	Percent	Frequency	Percent
Yes	46	51.1	100	55.6
No	44	48.9	80	44.4
Total	90	100.0	180	100.0

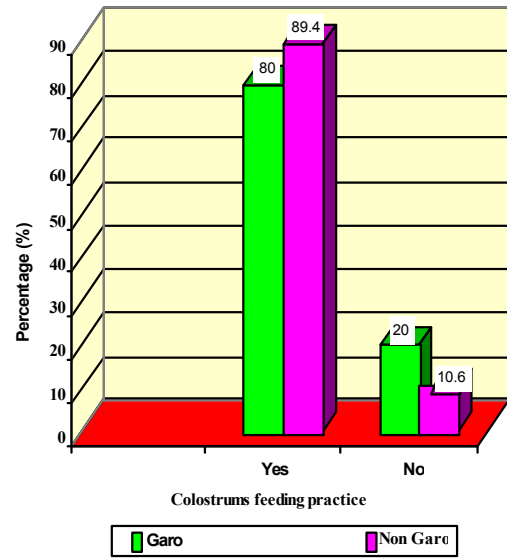


Fig. 1: Distribution of the mothers by their colostrums feeding Practice immediately after birth

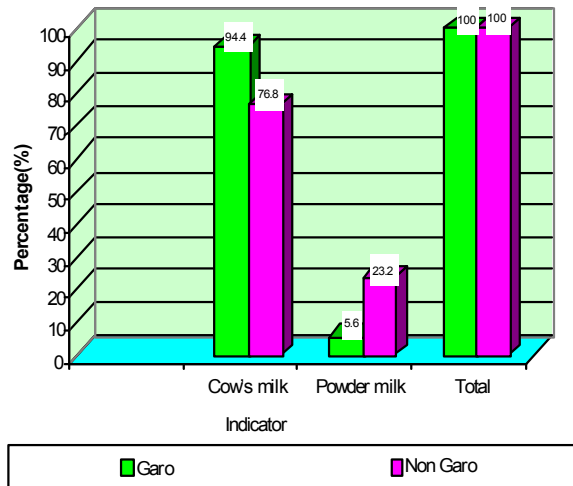


Fig. 2: Distribution of infants receiving any other kinds of milk (except breast milk)

The finding shows that 51.1% of Garo and 55.6% of Non Garo mothers presently giving weaning food to their infants (Table 4). The observation regarding complementary feeding was 87% of Garo and 84% Non Garo mothers started complementary feeding before 6 months of age and only 13% of Garo and 16% of Non Garo mothers started complementary feeding after completion of 6 months of age (Table 5). The types of complementary foods that the children receive from their mothers among the Garo and Non Garo families. It was found that 34.8% of Garo and 25% of Non Garo children received cow's milk as complementary food. Other foods such as suzi (26.1% for Garo and 43% for Non Garo), rice

Table 5: Distribution of infants by the time of introduce of complementary feeding

Age (months)	Garo		Non Garo	
	Frequency	Percent	Frequency	Percent
4 months	8	17.4	20	20.0
5 months	12	26.1	35	35.0
6 months	20	43.5	29	29.0
7 months	5	10.9	16	16.0
8 months	0	0.0	0	0.0
Others	1	2.2	0	0.0
Total	46	100.0	100	100.0

Table 6: Distribution of infants by the types of complementary food within last 24 hours

Food items	Garo		Non Garo	
	Frequency	Percent	Frequency	Percent
Baby formula	1	2.2	2	2.0
Cow milk	16	34.8	25	25.0
Goat milk	1	2.2	0	0.0s
Banana	3	6.5	3	3.0
Green vegetables	1	2.2	5	5.0
Rice	11	23.9	10	10.0
Suzi	12	26.1	43	43.0
Khichuri	1	2.2	9	9.0
Fruit juice	0	0.0	3	3.0
Total	46	100.0	100	100.0

(23.9% for Garo and 10% for Non Garo) were used as complementary foods. Only few families used baby formula, goat milk, banana and green vegetables, khichuri and fruit juice. Most of the families gave only one food as complementary food (56.5% of Garo and 53% of Non Garo). Again 32.6% of Garo and 36% of Non Garo family used two foods as complementary food. Only 10.9% of Garo and 11% of Non Garo families gave three foods as complementary food to their children (Table 6). The weaning food giving pattern of mothers of both societies it was found that 30.4% of Garo and 38% of Non Garo mothers served two times of one time prepared weaning food. While 26.1% of Garo and 37% of Non Garo mothers served three times and 43.5% of Garo and 25% of Non Garo mothers served four times of one time prepared weaning food to their children (Figure 3).

That only 32.6% of Garo mothers and 42% of the Non Garo mothers used spices to prepare foods for their babies (Figure 4).

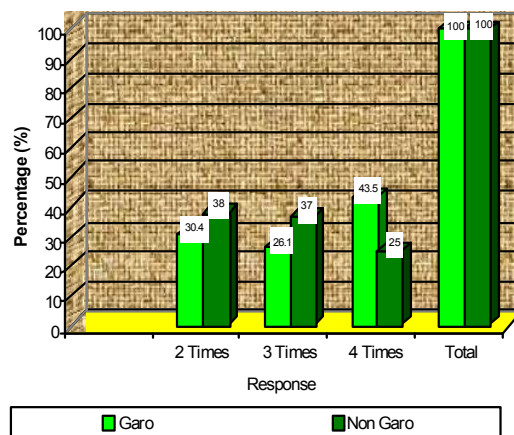


Fig. 3: Distribution of respondents by number of times serving of one time prepared weaning food

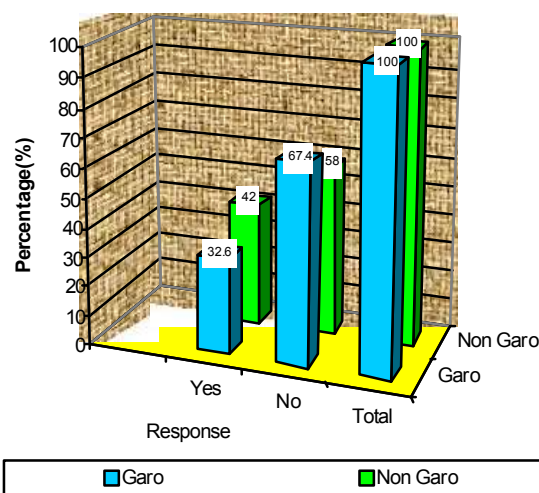


Fig. 4: Distribution of the respondents by their use of spices to prepare baby food

It appeared from the above that 67.6% of Garo and 66.2% Non Garo mothers got the knowledge about weaning food from the doctors. The second idea of weaning food provider was mother-in-law (19.1% for Garo and 24.5% for Non Garo). Only 9 Garo and 13 Non Garo mothers got knowledge from other media such as neighbors, nutritionist and Radio/ TV (Table 7). The finding showed that doctor was mainly encouraged the mothers for practicing weaning food for their babies. It was found that 61.8% Garo and 61.9% Non Garo mothers were encouraged by the doctors to practice weaning food for children, while 19.1% of Garo and 33.8% Non Garo mothers-in-law encouraged their daughters-in-law, only 19.1% of Garo and 2.2% of Non Garo husbands encouraged their wives (respondents) for practicing weaning food to their children (Table 8).

Table 7: Distribution of the information got about the use of weaning food

Response	Garo		Non Garo	
	Frequency	Percent	Frequency	Percent
Doctor	46	67.6	92	66.2
Neighbors	4	5.9	11	7.9
Mother-in-law	13	19.1	34	24.5
Nutritionist	1	1.5	0	0
Radio/TV	3	4.4	1	.7
Others	1	1.5	1	.7
Total	68	100.0	139	100.0

Table 8: Distribution of the persons who encourage mothers for use of weaning food

Response	Garo		Non Garo	
	Frequency	Percent	Frequency	Percent
Doctor	42	61.8	86	61.9
Husband	13	19.1	3	2.2
Mother-in-law	13	19.1	47	33.8
Others	0	0.0	3	2.2
Total	68	100.0	139	100.0

## DISCUSSION

**Breast Feeding:** Our findings shows that 95.6% of Garo mothers and 97.2% of Non Garo mothers' breast fed their babies. Duration of breast-feeding is declining in Bangladesh [17] obtained average duration of breast-feeding as 28.2 months in Bangladesh for surviving children which was close to our study. As compared to South Asian countries (India, Pakistan and Sri Lanka where average durations of breast-feeding were 18.4, 21.8 and 23.2 months respectively) [18] breast-feeding duration is relatively higher in Bangladesh. Highest conditional risk of introduction of food supplements other than breast milk was found at 1, 2 and 3 months of child age. A study [19] found that early introduction of supplementary food was a factor having the greatest impact on early cessation of breast-feeding. The reason of this early supplementation might be the production of lower volume of milk due to mother's illness or low birth weight infants could not such properly. In developing countries, higher education was found to be associated with shorter duration of breast-feeding [20]. On the other hand, in the industrialized countries duration of breast-feeding was shown to increase with maternal educational level [21]. The shorter duration was associated with health care, result similar to that found among the women in Thailand [22]. The proportion of Gro and Non Gro mothers who

gave colostrums to the newborns was high and the rest of the mothers expressed their colostrums and discarded them. Mothers positively stated that colostrums were good for their babies. The most common reason quoted was protection from infections.

**Complementary Feeding:** Almost 87% of Garo and 84% of Non Garo mothers started complementary feeds at a much earlier age than recommended by the WHO. Only 13% of Garo and 16% of Non Garo mothers in our study started complementary feeding at 6 months which is the ideal age of starting. At 6 months, 77.4% of our study group had started complementary feeding for their babies which is less than 100% found in the previous study [23] By 7 months 22.6% of the mothers had still not started complementary feeding. This is a disturbing trend compared with the previous study [23] as delay in complementary feeding has a considerable bearing on the nutritional status of the child at that age and may rapidly precipitate malnourishment, especially if associated with infection. This late introduction of weaning food by Indian mothers is a well-documented fact [24] and is considered to be a major cause of infant malnutrition [25]. High continued breastfeeding rates at 1 year and 2 years noted by us and also reported [26] and among non-graduates [27] tend to show that this phenomenon has not yet become universal.

**Types of Complementary Feeding:** Most of the mothers gave cow milk to the babies during complementary feeding. This is an undesirable trend specially considering the fact that majority of them reported not boiling the bottle regularly or boiling only sometimes. Regarding the type of food given, it is discouraging to note that more than one fifth of the mothers reported giving formula feeds to the babies because formula feeds have known to be diluted resulting in inadequate energy intake as well as increased risk of infection. This is higher than that reported by only 16% of the mothers giving formula feeds to their children [27]. One fifth of the mothers also gave tea to their children, which would decrease their appetite and further hamper their nutritional status. Previous studies have quoted bottle feeding prevalence ranging from 14.8% to 35.2 % [28, 29] have noted in a hospital based study that the use of commercial milk formula has declined from 31% in 1980 to 12% in 1990.

**Frequency of Complementary Feeding:** Frequency of complementary feeding was found that 30.4% of Garo and 38% of Non Garo mothers served two times of one time prepared weaning food. While 26.1% of Garo and 37% of

Non Garo mothers served three times and 43.5% of Garo and 25% of Non Garo mothers served four times of one time prepared weaning food to their children is inadequate according to WHO recommendations, which states that children between 6 to 8 months should be given complementary food 2 to 3 times a day in addition to breastfeeding, by 9 to 11 months they should be fed 3-4 times a day and by 12 to 24 months they should be fed in addition nutritious snacks twice [30].

**Awareness about Complementary Feeding:** It appears from the above findings that Garo and Non Garo mothers got the knowledge about weaning food from the doctors. The second idea of weaning food provider was mother-in-laws and media such as neighbors, nutritionist and Radio TV and print media. Our findings show that doctor mainly encouraged the mothers for practicing weaning food for their babies. It was found that Garo and Non Garo mothers were encouraged by the doctors to practice weaning food for children, while in-law encouraged their daughters-in-law and husbands.

### CONCLUSION

This comparative study of infant feeding practices among Garo and Non Garo Mothers from Netrakona District Bangladesh reveals that there are improvements in certain areas like giving colostrums and exclusive breastfeeding but they are still far from ideal. There are also lacunae like too early or too late starting of complementary feeds to the children besides inadequate frequency of such feeds. The present study shows increased use of formula feeds in Netrakona District Bangladesh. These factors ought to be regarded when formulating national policies and guidelines. Proper awareness regarding infant feeding practices should be given to health care workers and mothers and further research is needed in this field.

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