

Original Article

Comparison of Perceived Knowledge on Infant & Young Child Feeding (IYCF) Between Young Bangalee & Tribal Women Living in Rangamati, Bangladesh.

Mysha Fyruz¹, Sabista A Banu², Sania NK Prachy³, Kotha B Zannat⁴, Anika Jahin⁵, Anwar⁶, K Selim⁷, Liza Hasem⁸

Date of received: 05 march 2026

Date of acceptance: 20 March 2026

Background:

Infant and young children feeding (IYCF) practice remains closely connected with the first 1,000 day critical window (spanning pregnancy, infancy &/or early childhood) that reportedly lower down IMR (infant mortality rates). We, thus, conducted this cross-sectionally designed of community-based KAP (Knowledge, Attitude & Practice) study/survey to compare young pregnant / breast-feed-mother's perceived knowledge, attitudinal trend & practice level on 3 IYCF-components of early initiation of breast-feeding: EIB (BF: Early Initiation of Breastfeeding, EBF: Exclusive Breastfeeding' and 'CF: Complementary Feeding') between two groups of young pregnant women/mothers from 'Bangalee' vs. 'Tribal' communities, living in underdeveloped Hill Tracts of geographically remote Rangamati district.

Aim / Objectives:

To compare level of KAP (perceived-knowledge, attitudinal-trend & practice-level) of 3 IYCF-component of EIB practices between Bangalee and Tribal young pregnant women/mothers living permanently in Rangamati hill tracts.

Author Information:

1. IYCF Counselor Nutritionist, Society for Health Extension & Development (SHED), Nutrition Centre Camp 9, Cox's Bazar, Bangladesh.
2. Dept. of Food and Nutrition, Govt. College of Applied Human Sciences (GCAHS), Azimpur, Dhaka 1205
3. 2MSc, Pub Hlth, Exercise & Nutrition, Univ of Potsdam, Brandenburg, NE Germany.
4. Research Asst., BTSH, Green Rd, Dhaka,
5. 2Anika Jahin, Nutritionist Max Aid Diagnostic Center, Bosila Beribadh, Mohamdpur, Dhaka,
6. Ex. Head, Medical Research Unit, AWMC, Maghbazar, Ex. Sr. Consultant, Public Health Nutrition, HDRC Md.pur, and BD Thal Samity Hosp, Green Rd., Dhaka 1205.
7. Currently: Vision Eye Inst Hosp., Editor-in-Chief, MediVision J Med Sc, 229, Green Rd, Dhaka 1205, info@visioneyebd.org

Methods:

This cross-sectionally designed study was conducted among 143 young mothers living in Rangamati district (Master colony, Tobolchori, Mohila Odhidaptar, Maa-Shishu Kolyan Kendro, Shurjer-Hashi). Information was collected employing a face-to-face interview administering a pre-tested hybrid-designed questionnaire (open & close-ended

questions). All information collected/ filled in questionnaire were stored in IBM-PC and analyzed using required statistical methods using SPSS/Win-30.

Results:

Of total 143 young mother respondents, 68 were Bangalee & 75 were Tribal mothers (differed a bit in their age groups: tribal being younger, $p < 0.05$). While no difference existed in respondents' socio-economic status and ethnicity in terms of IYCF/ BF status, the tribal mothers had better education: $>SSC/HSC (p < 0.04)$. Mothers of both communities lack knowledge of BF positioning and breastmilk storing. While asking them on a wider range of IYCF issues, the tribal mothers yielded better knowledge on IYCF, in terms of times of BF/day ($p < 0.05$), proper-CF ($p < 0.04$), if growth & development depends on poor feeding ($p < 0.02$), Forceful feeding ($p < 0.01$), proper position of BF ($p < 0.01$). However, no statistical difference in knowledge was found between Bangalee and tribal mothers, induration of BF, colostrum feeding, EBF and BMI Vs child Nutrition.

Conclusion:

Tribal mothers had better knowledge on IYCF and BF than Bengalees. Encouraging findings came out on correct BF-techniques in both mothers on the potential in enhancing child nutrition that boosts their immune systems. However, further well-organized periodic training on IYCF & BF practices remain mandatory to improve child nutrition to boost immune system. This will not only help in raising healthy children but also prevent/protect them from several infections/diseases. Further periodic training on IYCF among both the Tribal and Bangalee mothers deem essential to keep their knowledge boosted, updated and upgraded.

Introduction:

Adequate nutrition through a healthy diet during infancy and childhood promotes a child's maximum potential, growth and development. On the other hand, poor nutrition raises the risk of several ailments. Nutrition is crucial for a child's health, IYCF practices also have a significant impact on it.¹

When a child starts getting introduced to the family foods from exclusive breastfeeding (EBF) is considered as complementary feeding (CF) which commonly starts from the age of 6-23 months along with continued breastfeeding.² Despite the widespread prevalence of breastfeeding in Bangladesh, the rate of exclusive breastfeeding (EBF) among infants of under 6 months of age remains low. This could be attributed to cultural barriers and harmful feeding practices, such as giving pre-lacteal foods like honey, sugar water, or mustard oil right after birth.³

From birth to two years of age is considered as "Critical Window" as the optimal health of this period indicates the development of both physical and mental status of a child.⁴ As the child grows up, both the macro and micro-nutrients remain essential to catch up optimal health, but breast milk alone cannot satisfy the demands of developing needs in young children.

According to the World Health Organization (WHO), introducing semi-solid or soft foods to infants at 6 months of age, alongside breastfeeding, is known as complementary feeding (CF).⁵ This practice ensures that infants receive adequate nutrients, promoting optimal growth and development during this crucial stage of their lives. CF is a crucial stage in a child's development, where they are introduced to a diverse range of nutrient-dense foods from at least four food groups. It is essential to ensure proper hygiene while preparing these meals, and frequent feeding must be practiced in combination with continued breastfeeding. This approach is vital for ensuring the child's optimum growth and overall improvement.⁶ Alternatively, low quality and inadequate amount of CF or improper feeding practice may lead to severe stunting which frequently becomes irreversible after 23 months of age of a child.⁷⁻⁸

Based on the BDHS 2017-18 data, positive trends were observed in breastfeeding practices, with 60% of infants experiencing early initiation of breastfeeding within 1 hour of birth and 65% exclusively breastfed. Continued breastfeeding remained high at 88% over the past decade. Notably, the prevalence of underweight has declined to 22% in 2017, after persistently high rates of around 15% in previous years. The prevalence of wasting also decreased to 8% in 2017. However, there's room for improvement in complementary feeding, as only 34% of children aged 18-23 months received the minimum acceptable diet.¹ The infant mortality rate remained stable at 38 deaths per 1000 live births during 2017-18 according to the BDHS 2017 data.¹

Background:

1.1 The study's primary focus and purpose:

Promoting a child's maximum potential, growth, and development relies on a healthy diet during infancy and childhood. Proper nutrition plays a pivotal role in ensuring the well-being of a child, while inadequate nutrition can lead to various health issues. However, it's not just about providing the right nutrients; appropriate Infant and Young Child Feeding (IYCF) practices also play a crucial role in shaping a child's health.¹

1.2 Global Features of IYCF practices:

Globally there is a lack of adequate complementary feeding practices, with even affluent households showing poor practices.⁹ There is substantial room for improvement in the global feeding of children aged 6 months to 2 years. For instance, it is recommended that infants begin consuming solid foods at 6 months, but approximately 31% of infants aged 6-8 months worldwide have not yet started solid food intake. This delay poses a threat to their growth and development, particularly in South Asia where almost half (48%) of infants are introduced to solids too late. Additionally, only about 69% of 6-8-month-olds receive any solid food at all.¹⁰

1.3. Infant and Young Child Feeding (IYCF) Practices: Bangladesh Aspect:

Being one of the underdeveloped countries with a population over 165 million and densely populated countries of the world (881/sq km),²⁰ a significant portion of the population of Bangladesh lacks sufficient education or awareness to properly care for infants and newborn children. Effective feeding practices during infancy and early childhood are crucial for optimal growth and development in the early stages of life.²¹ On the other hand, limited knowledge about IYCF (Infant and Young Child Feeding) can lead to malnutrition among underprivileged people in countries like Bangladesh.

1.4 Indicators of IYCF for appropriate CF practices:³⁰

The nutritional improvements and survival of children under 2 years old are significantly influenced by Infant and Young Child Feeding (IYCF) practices. The central guiding principle of IYCF states, "Practice exclusive breastfeeding from birth to 6 months of age and introduce complementary foods at 6 months of age while continuing to breastfeed." Nonetheless, achieving the best results with complementary feeding relies not only on introducing it at

the right time but also on considering aspects such as appropriate feeding frequency, nutritional adequacy, food consistency, food safety, and the feeding behavior of the young pregnant women or caregivers. These factors play a crucial role in promoting the health and growth of young children.

1.5 Importance of complementary feeding practice:

Complementary feeding practice for children under the age of two is important because this age group experiences rapid growth and development, making them susceptible to nutrient deficiencies and illnesses.³¹ The process of complementary feeding, spanning from 6 to 24 months (about 2 years), is a critical period when infants are at high risk of nutritional inadequacies and health issues.³² A study by Dewey & Seth assessed the impact of educational interventions on complementary feeding, including six efficacy trials and five effectiveness studies. Results showed that educational interventions had a moderate effect on weight and linear growth, indicating the positive role of education in improving children's nutritional status.³³

2. Aims & Objectives

2.1 : Aim(s)

To assess the perceived knowledge on IYCF practices of differences between Bangalee and tribal young pregnant women and mothers in Rangamati.

2.2 : Objectives:

To determine perceived knowledge in young pregnant women and lactating mothers on IYCF between Bangalee and Tribal women.

2.2.1: Specific Objectives:

To find out the perceived knowledge on Complementary feeding, Early initiation of breastfeeding, Exclusive Breastfeeding among Bangalee, tribals and between Bangalee and tribals.

2.3. Rationale:

Since IYCF remains an essential strategy for mothers for bringing up children healthy and nutritious and, rural mothers, particularly living in remote areas including the tribal mothers being vulnerable should be brought under IYCF program much more. We, therefore, selected Rangamati, for conducting this study. Findings of this study will assist our public-health policymakers to grow the mass awareness in IYCF among both community of Bangalee and Tribals in Rangamati.

3. Methodology

3.1. Research Question: Is the knowledge on IYCF of tribal women different from Bangalee women in Rangamati?

3.1.1 Research Type: Cross-sectional study.

3.1.2 Hypothesis: The knowledge of tribal community mothers on IYCF is not greater than the Bangalee mothers in Rangamati.

3.2 Study Location/ Area: Master colony, Tobolchori, Rangamati Sadar. Mohila odhidaptar (Department of Women Affairs), Rangamati. Maa O shishu Kolyan Kendro, Rangamati. Shurjer Hashi Clinic, Rangamati Sadar.

3.3 Study Population: Young Bangalee and Tribal women of Rangamati Sadar.

3.4 Duration of Study: 6 months (July – December)

3.5 Sampling Frame: The sample was selected randomly following the inclusion and exclusion criteria. We collected the data from different areas of Rangamati sadar upazilla. Participants were asked relevant questions from the selected questionnaire through face-to-face conversation.

Total Sample Size

Total 143 women from both Bangalee (n=68) and Tribal (n=75) communities of Rangamati sadar upazilla participated in this survey.

4. Data Management

4.1 Data collection (for quantitative analysis)

Data was collected using a hybrid-designed questionnaire (structured: some close-ended and some open-ended) was used to collect data/information from Bangalee and tribal young pregnant women and mothers in Rangamati.

4.2 Data Coding and Re-coding (following anonymity) Anonymity of names and addresses were re/coded for all respondents.

4.3 Data Entry: SPSS Win V.23.0 was used for entering and recording all collected data.

Ethical Permission: We applied for ethical clearance from the IRB of Ad-Din Women's Medical College Hospital on 20th July 2023.

Chapter 6: Results and findings

Table 1: Socio-demographic status of all respondents (N=143)

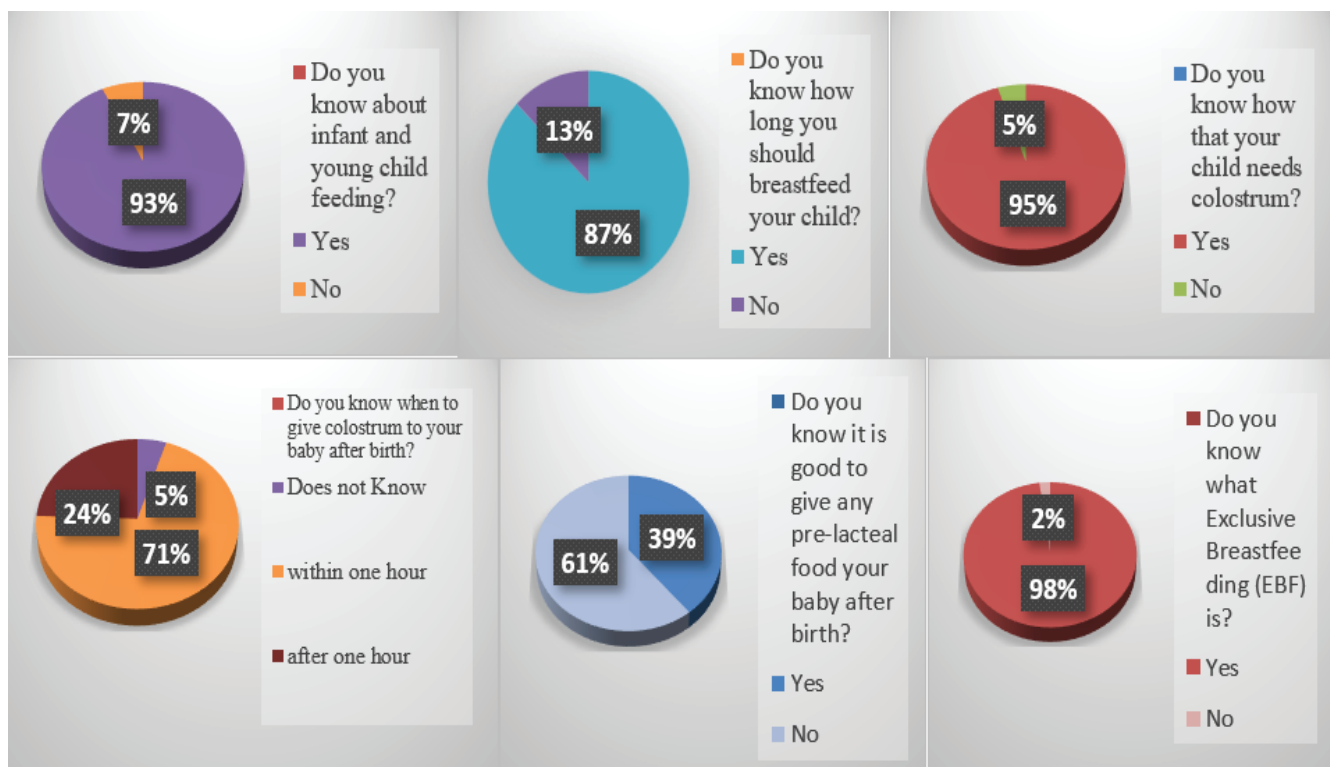
Variables	Frequency	Percentage
Age 18-21 years	74	51.7
22-25 years	21	14.7
26-30 years	48	33.6
Ethnicity Bangalee	68	47.6
Tribal	75	52.4
Religion Islam	56	39.2
Buddhist	72	50.3
Hindu	15	10.5
Educational level No schooling/Up to V	15	10.5
VI-X	31	21.7
S.S.C./ Equivalent education	41	28.7
H.S.C./Equivalent education	39	27.3
Graduation/ Above	17	11.9
Husband's education No schooling/Up to V	21	14.7
VI-X	40	28.0
S.S.C./ Equivalent education	39	27.3
H.S.C./Equivalent education	27	18.9
Graduation/ Above	16	11.2
Respondents Occupation Housewife	71	49.7
Service	13	9.1
Business	26	18.2
Unemployed/ Student	32	22.4
Labor	1	.7
Husband's Occupation Service	26	18.2
Business	51	35.7
Unemployed	7	4.9
Agriculture/Farmer	39	27.3
Labor	20	14.0
Monthly household income (BDT: WB Data Help Desk 2016) <=Tk.6946 (low income)	30	21.0
Tk.6947–27336 (Lower-Mid)	90	62.9
Tk.27337–84564(Upper-Mid)	22	15.4
=>Tk.84565 (High income)	1	.7
Housing status On own land	52	36.4
On rent	87	60.8
shared	4	2.8
Type of houses Kancha	28	19.6
Brick built	53	37.1
Tinned roof	50	35.0
Village hut (straw)	8	5.6
others	4	2.8
Family members Less than 4 members	45	31.5
4-5 members	63	44.1
>6	35	24.5

Table 1 provides a snapshot of the demographic characteristics of the respondents. The majority of respondents are young adults, primarily Bangalee ethnicity, Buddhist or Islamic. Overall, the data highlights the diverse socioeconomic background of the surveyed population.

Table 2: Marital and pregnancy status of all respondents (N=143)

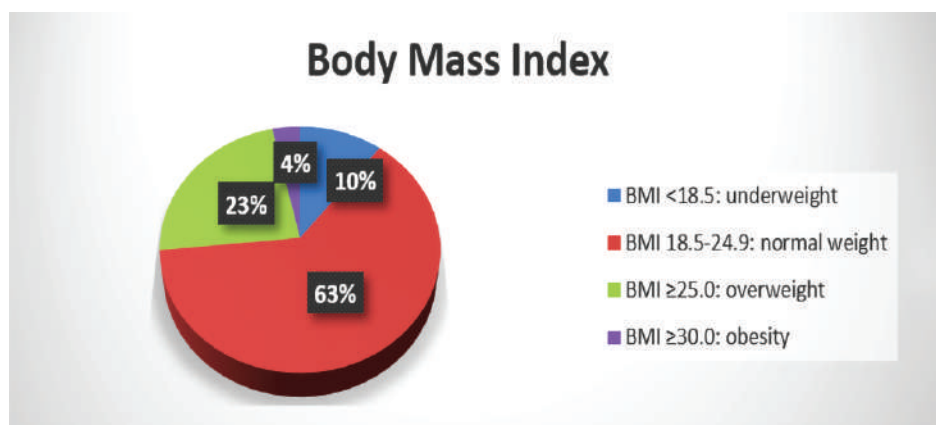
Pregnancy status		
Not pregnant	4	2.8
Pregnant	11	7.7
Lactating	128	89.5
If lactating, child's age		
N/A	15	10.5
0-6 months	27	18.9
7 months -1 yr	58	40.6
1-2 yrs	31	21.7
>2 yr	12	8.4

Table 2 shows pregnancy status: Majority are lactating (89.5%), followed by pregnant (7.7%), and a small percentage are not pregnant (2.8%).- If Lactating, Child's Age: Distribution varies, with the majority falling into the 7 months - 1 years category (40.6%), followed by 1-2 years (21.7%).



The table provides insights into the knowledge and practices of infant and young child feeding (IYCF) among Tribal and Bangalee mothers. Overall, there's a strong understanding among these mothers regarding key aspects of IYCF, including the importance of breastfeeding duration, colostrum feeding, and Exclusive Breastfeeding (EBF).

Table 4: Nutritional Status



The table provides the distribution of participants' BMI categories and their corresponding nutritional status. It shows the number of individuals and the percentage within each BMI category, indicating the prevalence of different nutritional statuses among the surveyed population.

Table 5: Association between ethnicity and knowledge on IYCF (N=143)

Ethnicity	Do you know about infant and young child feeding?		Total	Statistical Association
	Yes	No		
Bangalee	63	5	68	P=0.87
Tribal	70	5	75	
Total	133	10	143	

The table illustrates the relationship between ethnicity and knowledge regarding IYCF among 143 individuals. It delineates the number of individuals within each ethnic group who are aware of IYCF and those who are not. Among Bangalee individuals, 63 out of 68 are knowledgeable about IYCF, while among Tribal individuals, 70 out of 75 possess this awareness. Overall, the majority of individuals, totaling 133 out of 143, demonstrate understanding of IYCF, irrespective of their ethnic background. The statistical analysis, with a p-value of 0.87, suggests that there is no significant association between ethnicity and knowledge about IYCF within the studied population, implying that knowledge of IYCF is uniformly distributed across both ethnic groups.

Table 6: Association between ethnicity and knowledge on breastfeeding time (N=143)

Ethnicity	Do you know how long you should breastfeed your child?		Total	Statistical Association
	Yes	No		
Bangalee	57	11	68	P=.21
Tribal	68	7	75	
Total	125	18	143	

The table shows knowledge about breastfeeding duration among 143 individuals. Most are aware (125), with 57 Bangalee and 68 Tribal individuals informed. Statistical analysis finds no significant association between ethnicity and this knowledge (p=0.21).

Table 7: Association between ethnicity and knowledge on colostrum (N=143)

Ethnicity	Do you know how that your child needs colostrum?		Total	Statistical Association
	Yes	No		
Bangalee	63	5	68	P=.19
Tribal	73	2	75	
Total	136	7	143	

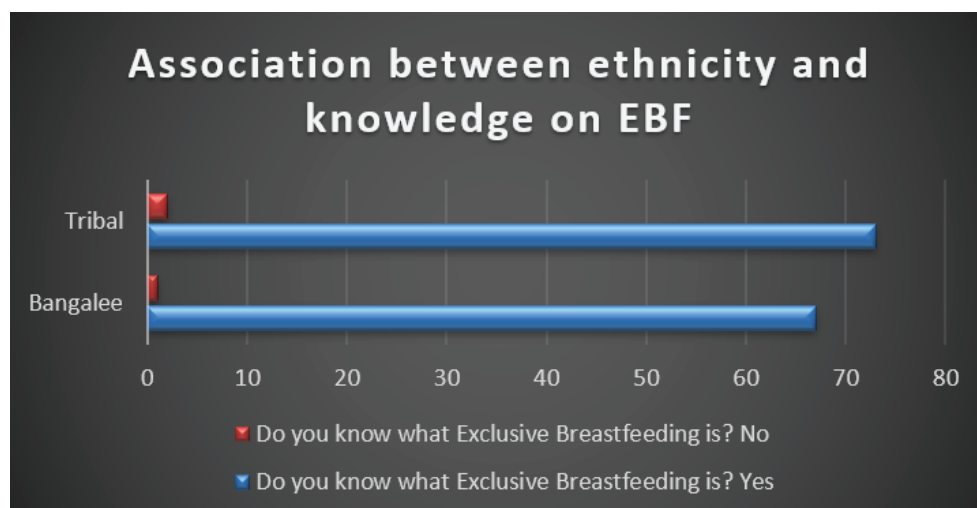
This table shows the association between ethnicity and knowledge about colostrum among 143 individuals. Among Bangalee ethnicity, 63 knew about colostrum, while 5 did not. Among Tribal ethnicity, 73 knew about colostrum, and 2 did not. Overall, there were 136 individuals who knew about colostrum, and 7 who did not. The statistical association (P-value) between ethnicity and knowledge about colostrum is indicated as P=.19, suggesting a non-significant association.

Table 8: Association between ethnicity and knowledge on colostrum time (N=143)

Ethnicity	When did you give colostrum your baby after birth?			Total	Statistical Association
	Does not know	within one hour	after one hour		
Bangalee	5	42	21	68	P=.07
Tribal	2	59	14	75	
Total	7	101	35	143	

This table shows the association between ethnicity and the timing of giving colostrum after birth among 143 individuals. It indicates the number of individuals from each ethnicity who gave colostrum within one hour, after one hour, or did not know. The statistical association (P-value) between ethnicity and colostrum timing is P=.07, suggesting a non-significant association.

Table 9: Association between ethnicity and knowledge on EBF (N=143)



This table illustrates the association between ethnicity and knowledge about Exclusive Breastfeeding (EBF) among 143 individuals. The statistical association (P-value) between ethnicity and knowledge about EBF is indicated as P=.61, suggesting a non-significant association.

Table 10: Association between ethnicity and knowledge on breastfeeding(N=143)

Ethnicity	How many times a day to breastfeed your baby?					Total	Statistical Association
	10-15 times	15-20 times	6-9 times	20-25 times	2-5 times		
Bangalee	29	10	22	1	6	68	P=.05
Tribal	32	8	23	10	2	75	
Total	61	18	45	11	8	143	

Table 10 illustrates the relationship between ethnicity and knowledge regarding the frequency of breastfeeding on a daily basis among a total of 143 participants. The table is structured with rows representing two ethnic groups, Bangalee and Tribal, and columns indicating different ranges of daily breastfeeding frequencies (10-15 times, 15-20 times, 6-9 times, 20-25 times, and 2-5 times). In this case, the p-value is 0.05, suggesting a statistically significant association.

Table 11: Association between ethnicity and knowledge on CF (N=143)

Ethnicity	Do you think you need any support / guidance on EBF from healthcare professional/others?		Total	Statistical Association
	Yes	No		
Bangalee	60	8	68	P=.83
Tribal	67	8	75	
Total	127	16	143	

Table 11 shows the association between ethnicity and the perception of needing support or guidance on EBF from healthcare professionals or others among 143 participants.

Table 12: Association between ethnicity and knowledge on frequency of CF (N=143)

Ethnicity	When do you think you should give complementary food to your child?		Total	Statistical Association
	2-3 times	more than 3 times		
Bengalee	17	51	68	P=.04
Tribal	9	66	75	
Total	26	117	143	

The data suggests that there is a significant association between ethnicity and knowledge on the frequency of CF. Bengalee and Tribal ethnicities differ in their beliefs about how often complementary food should be given to their children, with a P-value of .04 indicating a statistically significant difference between the two groups.

Table 13: Association between ethnicity and knowledge on potential consequence of poor child feeding on growth/ development (N=143)

Ethnicity	Do you know potential consequence of poor child feeding on growth/ development?		Total	Statistical Association
	Yes	No		
Bengalee	42	26	68	P=.02
Tribal	59	16	75	
Total	101	42	143	

The data indicates a significant association between ethnicity and knowledge on the potential consequences of poor child feeding on growth/development. There is a difference in knowledge between Bangalee and Tribal ethnicities, with Bangalee individuals showing less awareness compared to Tribal individuals.

Table 14: Association between ethnicity and knowledge on children to eat by forcing (N=143)

Ethnicity	Do you think if it is good to force your children to eat?		Total	Statistical Association
	Yes	No		
Bangalee	48	20	68	P=.01
Tribal	66	9	75	
Total	114	29	143	

Table 14 suggests a significant association between ethnicity and knowledge on whether it is good to force children to eat. There is a difference in opinions between Bangalee and Tribal ethnicities, with Bangalee individuals being more inclined to think it is acceptable to force children to eat compared to Tribal individuals. The P-value of .01 indicates a statistically significant difference between the two groups.

Table 15: Association between ethnicity and knowledge on breastfeeding position (N=143)

Ethnicity	Do you know about breastfeeding position?		Total	Statistical Association
	Yes	No		
Bangalee	8	60	68	P=.01
Tribal	22	53	75	
Total	30	113	143	

Table 15 indicates a significant association between ethnicity and knowledge on breastfeeding position. Bangalee individuals show less awareness about breastfeeding positions compared to Tribal individuals, with a P-value of .01 indicating a statistically significant difference between the two groups.

7.1: Discussion:

Ensuring proper nutrition through a balanced diet during infancy and childhood is essential for supporting a child's optimal growth and development. Conversely, inadequate nutrition increases the likelihood of various health issues. The practice of Infant and Young Child Feeding (IYCF) also plays a significant role in influencing a child's health outcomes.¹ When a child transitions from exclusive breastfeeding to consuming family foods, this marks the beginning of complementary feeding. We observed that the tribal people of Rangamati were somewhat concerned about feeding their child as they got some basic training regarding this. In spite of this, we found several things which they lack in knowledge, such as storing milk or following a breastfeeding position.

In case of breastfeeding position, we found that Bangalee individuals show less awareness about breastfeeding positions compared to Tribal individuals, with a P-value of .01 indicating a statistically significant difference between

the two groups. While in Nigeria, mothers of a semi-urban community, 71.3% followed the breastfeeding posture which they learned.³⁹

The benefits of early initiation of colostrum within 1 hour after birth was known by 26 individuals among Bangalee, while 41 did not. Among Tribal ethnicity, 36 knew, while 39 did not. Overall, 62 individuals knew the benefits, and 80 did not. Association between ethnicity and knowledge about the importance of colostrum was indicated as $P=0.31$, suggesting a non-significant association. On the other hand, in Uttarkhand, Dehradun, India, it was found that 92% children were left without giving colostrum.³⁸

Among 143 respondents, we found that 67 Bangalee individual knew about EBF, while 1 did not. While in Tribal ethnicity, 73 knew about EBF, and 2 did not. Overall, 140 respondents knew about EBF, and 3 did not. Despite the widespread prevalence of breastfeeding in Bangladesh, the rate of exclusive breastfeeding (EBF) among infants of under 6 months of age remains low. This could be attributed to cultural barriers and harmful feeding practices, such as giving pre-lacteal foods like honey, sugar water, or mustard oil right after birth.³ From birth to two years of age is considered as a vulnerable period as the optimal health of this period indicates the development of both physical and mental status of a child.⁴

Insufficient complementary feeding or improper feeding practice can result in PEM which frequently becomes irreversible after 23 months of age of a child.⁷⁻⁸ Our study suggested that there was a significant association ($p=0.04$) between ethnicity and knowledge on the frequency of CF. Bangalee and Tribal ethnicities differ in their beliefs about how often complementary food should be given to their children, with a P-value of .04 indicating a statistically significant difference between the two groups. Only 7 percent of children between 6-23 months of age consumed diets that met the minimum dietary diversity requirement of four or more food groups consumed per day compared to 37 % in Zambia.³⁴

However, areas for potential improvement include awareness of breastfeeding positions and milk storing practices. The most conservative storage recommendations for fresh breast milk were up to 4h at room temperature and 72h in the refrigerator. The least conservative recommendations allowed fresh breast milk to be stored at room temperature for up to 10h and in the refrigerator for up to 8 days, albeit strictly dependent on the temperature of the room and cleanliness of the expression. The majority of recommendations of Australia cited the same primary source. All resources stated that thawed milk should never be refrozen.³⁶

When it comes to the fact of the knowledge about IYCF in both groups, among Bangalee individuals, 63 out of 68 are knowledgeable about IYCF, while among Tribal individuals, 70 out of 75 possess this awareness. Overall, the majority of individuals, totaling 133 out of 143, demonstrate understanding of IYCF, irrespective of their ethnic background.

The statistical analysis, with a p-value of 0.87, suggests that there is no significant association between ethnicity and knowledge about IYCF within the studied population, implying that knowledge of IYCF is uniformly distributed across both ethnic groups. In addition, the knowledge about breastfeeding is known by both groups, which is, most are aware (125), with 57 Bangalee and 68 Tribal individuals informed. Statistical analysis finds no significant association between ethnicity and this knowledge ($p=0.21$). According to our study, among the Bangalee individuals, 63 knew about colostrum, while 5 did not. On the other hand, among Tribal ethnicity, 73 knew about colostrum, and 2 did not. Overall, there were 136 individuals who knew about colostrum, and 7 who did not.

The statistical association (P-value) between ethnicity and knowledge about colostrum is indicated as $P=.19$, suggesting a non-significant association. In case of the timing of giving colostrum indicates the number of individuals from each ethnicity who gave colostrum within one hour, after one hour, or did not know. The statistical association (P-value) between ethnicity and colostrum

timing is $P=.07$, suggesting a non-significant association. In Western Ethiopia, Out of 486 study participants, 456 (93.8 %) of mothers had good knowledge, 432 (88.9 %) had a positive attitude, and 380 (78.2 %) mothers had good practice of IYCF practice recommendations.³⁸

Our study suggests that there was no significant association between ethnicity and knowledge on the initiation time of Complementary Feeding (CF). Both Bangalee and Tribal ethnicities have similar distributions regarding when they believe complementary food should be given to their children, with $P=.87$ indicating no statistically significant difference between the two groups. It suggests that there was a significant association between ethnicity and knowledge on the frequency of CF. Bangalee and Tribal ethnicities differ in their beliefs about how often complementary food should be given to their children, with a P-value of .04 indicating a statistically significant difference between the two groups. The data of our study indicates a significant association between ethnicity and knowledge on the potential consequences of poor child feeding on growth/development.

There was a difference in knowledge between Bangalee and Tribal ethnicities, with Bangalee individuals showing less awareness compared to Tribal individuals. The P-value of .02 suggests a statistically significant difference between the two groups. In Abu Dhabi, UAE, three quarters of the children (72.2%) were introduced to CF in a timely manner between the ages of 6 and 9 months.³⁹

We found a significant association between ethnicity and knowledge on whether it is good to force children to eat. There is a difference in opinions between Bangalee and Tribal ethnicities, with Bangalee individuals being more inclined to think it is acceptable to force children to eat compared to Tribal individuals. The P-value of .01 indicates a statistically significant difference between the two groups.

Our study shows that there is no significant association between ethnicity and nutritional status based on BMI categories. Both Bangalee and Tribal individuals exhibit similar distributions across BMI categories, with $P=.11$ indicating a non-significant difference between the two groups. In Ghana, majority of children miss out on optimal nutrition and only few (13%) of children receive a Min. Acceptable Diet (MAD).

7.2: Limitations:

This study had some limitations were:

Firstly: The research was conducted on a limited number of participants due to time constraints. **Secondly:** Obtaining permission for interviewing mothers from Rangamati was challenging as the tribal people did not understand the purpose properly and felt uncomfortable to

discuss IYCF and breastfeeding practices with strangers.

Thirdly: We (res team) faced difficulties due to lack in manpower in collecting all necessary data.

Finally, this self-funded study with limited resources resulted in minimizing /altering questionnaire. Plus, funding constraints and less/untrained manpower hampered our study a bit.

7.2: Conclusion:

Findings of our study yielded comparatively better knowledge on BF among the Tribal than Bangalee mothers, it needs further development through series of well-organized periodic trainings on IYCF, specially on breastfeeding practices among young Tribal and Bangalee mothers which is mandatory for improving child nutrition & boosting their immune system. Improvement of IYCF practices will not only help in growing a healthy child but also preventing them from several diseases in the future.

Chapter: 8 References

1. Bangladesh and Rockville, Maryland, USA: NIPOORT and ICF. National Institute of Population Research and Training (NIPOORT), Bangladesh Demographic and Health Survey 2017-18.
2. WHO complementary feeding. Family foods for breastfed children. Geneva: WHO; 2000.
3. Determinants of infant and young child feeding practices in Bangladesh: Secondary data analysis of Demographic and Health Survey 2004
4. Black, R. E., Allen, L. H., Bhutta, Z. A., Caulfield, L. E., de Onis, M., Ezzati, M., ... Child Undernutrition Study, G. (2008). Maternal and child undernutrition: Global and regional exposures and health consequences. *Lancet*, 371(9608), 243–260.
5. UNICEF. Improving breastfeeding, complementary foods and feeding practice, 2018 edition. Retrieved from https://www.unicef.org/nutrition/index_breastfeeding.html
6. Onyango, A.W., et al., Complementary feeding and attained linear growth among 6-23 months old children. *Public Health Nutr*, 2014. 17(9): p.1975-83
7. Bhutta Z. A., Das J. K., Rizvi A., Gaffey M. F., Walker, N., Horton S., Black R.E. (2013). Evidence-based interventions for improvement of maternal and child nutrition: What can be done and at what cost? *Lancet*, 382(9890), 452–477.
8. Mortorell R, Khan LK, Schroeder DG. Reversibility of stunting epidemiological findings in children from developing countries. *European J Clinical Nutrition*. 1994 Feb; 48: S45-57.
9. White Jessica M, Bègin France, Kumapley Richard, Murray Colleen, Krasevec Julia. Complementary feeding practices: Current global and regional estimates. *Maternal & child nutrition*. 2017 Oct 15; 13.
10. UNICEF global database, 2019, based on MICS, DHS other nationally representative sources.
11. B.O. Ogunba, (2006), Maternal Behavioural Feeding Practices and Under-five Nutrition: Implication for Child Development and Care, *Journal of applied Sciences Research*, 2(12): 1132- 1136, INSInet Publication
12. AI-Gashanin MA, Ghazwani EY. Knowledge, Attitude, and practice of weaning among Mothers in Najran Region, Saudi Arabia, 2021. *Journal of Nutrition and Metabolism*. 2022 Mar 2:2022.
13. Deepa D, Kumari N, Choudhary P, Saini P, Yadav R, Sharma MC, Mohanasundari SK. Knowledge and Expressed Practice regarding Weaning among Mothers of Children aged between 6 months to 2 years. *Asian Journal of Nursing Education and Research*. 2019 Oct;9(4):4.
14. Akteruzzaman M, Parveen S, Ahmed S, Afroza S, Jinnat MA, Monira S. Complementary Feeding Practices Among Mothers of Rural Bangladesh; A Knowledge, Attitude, and Practice Study. *KYAMC Journal*. 2020 May 17;11(1):26-31.
15. Rahman E. Weaning and the rendering of substances nourishing: food shamanism amongst the Warekena of northwestern Brazil. In *Women's Studies International Forum* 2017 Jan 1 (Vol. 60, pp. 144-152).
16. Pergamon Manikam L, Prasad A, Dharmaratnam A, Moen C, Robinson A, Light A, Ahmed S, Lingam R, Lakhanpaul M. Systematic review of infant and young child complementary feeding practices in South Asian families: the India perspective. *Public health nutrition*. 2018 Mar;21(4):637-54.
17. Reddy BV, Ashok Kumar A, Sharma HC, Srinivasa Rao P, Blummel M, Ravinder Reddy C, Sharma R, Deshpande SP, Mazumdar SD, Dinakaran E. Sorghum improvement (1980–2010): Status and way forward. *Journal of SAT Agricultural Research*. 2012;10:1-4
18. Jadhavar RS, Jaiswal SG, Bornare DT. A review formulation and development of weaning food for infant.
19. Walker DM, Cunningham AM, Gregory JK, Nestler EJ. Long-term behavioral effects of post- weaning social isolation in males and females. *Frontiers in behavioral neuroscience*. 2019 Apr 11;13:66
20. Saunders J, Smith T. Malnutrition: causes and consequences. *Clinical medicine*. 2010;10(6):624.
21. Saizuddin M, Hasan MS. Infant and young child feeding (IYCF) practices by rural mothers of Bangladesh. *Journal of National Institute of Neurosciences Bangladesh*. 2016;2(1):19-25. FAO
22. Roy SK, Fuchs GJ, Mahmud Z, Ara G, Islam S, Shafique S, Akter SS, Chakraborty B. Intensive nutrition education with or without supplementary feeding improves the

nutritional status of moderately-malnourished children in Bangladesh. *Journal of Health, Population and Nutrition*. 2005; 23(4): 320-330.

23. Roy SK, Jolly SP, Shafique S, Fuchs GJ, Mahmud Z, Chakraborty B, Roy S. Prevention of malnutrition among young children in rural Bangladesh by a food-health-care educational intervention: a randomized, controlled trial. *Food and nutrition bulletin*. 2007; 28(4):375-8

24. Atikur Rahman (2012). "Rangamati District". In Sirajul Islam and Ahmed A. Jamal (ed.). *Banglapedia: National Encyclopedia of Bangladesh* (2nd ed.). Asiatic Society of Bangladesh.

25. "Sub-national HDI - Area Database - Global Data Lab" hdi.globaldatalab.org. Retrieved 18 March 2020. *Population and Housing Census 2022: Preliminary Report*

26. WHO, UNICEF, IFPRI, UC Davis, FANTA, AED et al. (2008). *Indicators for Assessing Infant and Young Child Feeding Practices Part I: Definitions*. World Health Organization: Geneva UNICEF. Available from: https://www.unicef.org/nutrition/index_24826.html

27. World Health Organization, 2011. *Promoting proper feeding for infants & young children*[online]. <http://www.who.int/nutrition/topics/infantfeeding/en/index.html>

28. Roy SK, Fuchs GJ, Mahmud Z, Ara G, Islam S, Shafique S, Akhter SS, Chakraborty B (2005, Dec); Intensive nutrition education with or without supplementary feeding improves the nutritional status of moderately-malnourished children in Bangladesh; *J Health Popul Nutr* 23(4):320-30

29. Dewey KG, She AA, (2008, Feb); Systematic review of the efficacy and effectiveness of complementary feeding interventions in developing countries; *Maternal & Child Nutrition*, Volume 4

30. Paul SK, Islam QR, Roy SK, Rudra PK. Complementary feeding practices in under-2 children. *Chattogram Maa-o-Shishu Hospital Medical College Journal* 2014; 13(3): 35-41.

31. Afghanistan Demographic and Health Survey (DHS) 2015; Bangladesh DHS 2017-18; Bhutan National Nutrition Survey 2015; India National Family Health Survey 2015-16; Maldives DHS 2009; Nepal DHS 2016; Pakistan DHS 2012-13; Sri Lanka DHS 2016.

32. UNICEF. 2013. *Improving Child Nutrition. The Achievable Imperative for Global Progress*. New York: UNICEF. 2016. *From the First Hour of Life: Making the Case for Improved Infant and Young Child Feeding Everywhere*. UNICEF: New York. 26. 2018a. *Global UNICEF Databases: Infant and Young Child Feeding*. New York: UNICEF. —. 2018b. *Every Child Alive. The Urgent Need to End Newborn Deaths*. New York: UNICEF. —. 2018c. *Child Stunting, Hidden Hunger and Human Capital in South Asia: Implications for Sustainable Development Post 2015*.

Kathmandu, Nepal: UNICEF

33. Mukherjee, K., & Venugopal, P. N. (2018). Colostrum Avoidance and Breastfeeding Practices Among Mothers of Khos Tribal Community of Uttarakhand: A Community-Based Cross- Sectional Study. *Journal of the Anthropological Survey of India*, 67(1), 45-55. <https://doi.org/10.1177/2277436 X20180105>

34. Mbada CE, Olowookere AE, Faronbi JO, Oyinlola-Aromolaran FC, Faremi FA, Ogundele AO, Awotidebe TO, Ojo AA, Augustine OA. Knowledge, attitude and techniques of breastfeeding among Nigerian mothers from a semi-urban community. *BMC Res Notes*. 2013 Dec 21;6:552. doi: 10.1186/1756-0500-6-552. PMID: 24359943; PMCID: PMC3878086.

35. Olasinde YT, Idowu A, Olasinde A, Aremu AO, Ogunlaja OA. Infant and Young Child Feeding Practices among Mothers of Children 6-23 Months Old Attending the Immunisation Clinic of a Private Tertiary Health Institution in Nigeria. *West Afr J Med*. 2021 May 29;38:445-453. PMID: 34051716.

36. Scott H, Sweet L, Strauch L, Muller A. Expressed breastmilk handling and storage guidelines available to mothers in the community: A scoping review. *Women Birth*. 2020 Sep;33(5):426- 432. doi: 10.1016/j.wombi.2019.09.009. Epub 2019 Oct 20. PMID: 31645302.

37. Nsiah-Asamoah, C., Adjei, G., Agblorti, S. et al. Association of maternal characteristics with child feeding indicators and nutritional status of children under-two years in Rural Ghana. *BMC Pediatr* 22, 581 (2022). <https://doi.org/10.1186/s12887-022-03651-1>

38. Assefa DG, Woldesenbet TT, Molla W, Zeleke ED, Simie TG. Assessment of knowledge, attitude and practice of mothers/caregivers on infant and young child feeding in Assosa Woreda, Assosa Zone, Benshangul Gumuz Region, Western Ethiopia: a cross-sectional study. *Arch Public Health*. 2021 Sep 26;79(1):170. doi: 10.1186/s13690-021-00690-5. PMID: 34563264; PMCID: PMC8466390.

39. Taha, Z., Garemo, M. & Nanda, J. Complementary feeding practices among infants and young children in Abu Dhabi, United Arab Emirates. *BMC Public Health* 20, 1308 (2020). <https://doi.org/10.1186/s12889-020-09393-y>