***Original Research Article***

**Determinants of Infant and Young Child Feeding (IYCF) Practices among Rohingya Refugees: A Mixed-Methods Survey in Cox’s Bazar Camps, Bangladesh**

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| **ABSTRACT****Aim:** The objective of the exercise was to determine the factors influencing infant and young child feeding practices among Rohingya communities and come up with ways to address them in areas where the nutrition-sensitive program is implemented. The findings would be used by the consortium implementing partners to develop more effective, longer-term strategies for improvement and scale-up of IYCF–E program in the camps.**Study design:** This study adopted a mixed-methods design to assess Infant and Young Child Feeding (IYCF) practices among Rohingya refugee communities. The study incorporated both quantitative data from cross-sectional household surveys (541 children surveyed from 531 households)to generate measurable indicator data and qualitative data from focus group discussions (FGDs) and Key Informants Interview (KII) to gain contextual insights into socio-cultural factors influencing feeding practices.**Place and Duration of Study:** The assessment was conducted in ten Rohingya camps (Camps 4, 5, 6, 8W, 10, 13, 14, 15, 16, and 22) within the Ukhiya and Teknaf sub-districts of Cox’s Bazar, where ongoing nutrition-specific and nutrition-sensitive programs are being implemented from July 26, 2023, to August 16, 2023**Methodology:** A detailed monitoring exercise involved quantitative and qualitative methods of data collection. A formative questionnaire was developed targeting children aged 0-23 months, and as with all the questions on IYCF, the questionnaire was administered to primary caregivers, mainly the mothers of the children aged 0-23 months. Children aged 0 – 23 months were targeted specifically to find-out the proportion of children ever breastfed and timely initiation of breastfeeding in 0 – 23 months, exclusive breastfeeding (EBF) in 0 – 5 months, continuation of breastfeeding at one year and introduction of semi-solid, solid or soft food in 6 – 8 months. Other indicators were minimum dietary diversity (MDD), minimum meal frequency (MMF), and minimum acceptable diet (MAD) in 6 – 23 months. **Result and Discussion:** The findings from the assessment of breastfeeding and complementary feeding practices among the Rohingya communities in the refugee camps provide valuable insights and highlight both positive aspects and areas of concern. Quantitative results showed that children aged 0-23 months, 97.23% from Rohingya camps, were ever breastfed, which was a good indication of breastfeeding practices. It was also found that 84.1% of infants were introduced to breastmilk immediately after their birth (within 1 hour). Though the exclusive breastfeeding rate was 66.1% in the survey, it has improved from last year’s UNICEF-ACF IYCF survey (62.3%), and the continuation of breastfeeding up to 23 months was also high at 81.5%According to the survey findings, 78.05% of the camps surveyed children aged 6-8 months were timely introduced to complementary feeding in addition to breastmilk. 55.3% of the children from Rohingya camps aged 6-23 months were reported to have eaten at least five or more of the eight food groups, 24 hours, and 68.5% of caregivers of children maintained a minimum meal frequency. Finally, we found that 30.3 % of children 6-23 months fed with age-appropriate complementary feeding with minimum diversity and frequency of meals.However, caregivers during the focus group discussions reported that mothers who get pregnant while still breastfeeding usually stop breastfeeding the current child, even if this child is still at a recommended breastfeeding age. This practice is related to religious beliefs where breastfeeding while being pregnant is considered a sin among the religious communities, hence directly affecting the continued breastfeeding practices in communities where child spacing is not fully practiced. The qualitative results from the focus group discussions also indicate that caregivers have good knowledge of the timely introduction of complementary feeding. Nevertheless, the practices on the timely introduction of solid/semi-solid foods continue to be negatively affected by some social influence from family members like in-laws, grandmothers, and neighbors, hence resulting in either too early or too late introduction of solid/semi-solids before the 6th month after birth. The qualitative results from the conducted focus group discussions reveal that mothers have good knowledge of how often a child above 6 months should eat, but the actual practices do not always reflect this knowledge. **Conclusion & Recommendation:** This survey revealed strong cultural and religious influences on IYCF practices. Introducing pre-lacteal feeds was a common practice due to a strong cultural belief that giving honey, mustard seeds, and sugar/glucose water enhances the child’s lip movement and improves suckling. This has negatively affected exclusive breastfeeding for infants under six months. Mothers who reported giving birth at home due to cultural barriers were also deprived of the initial assistance and guidance provided by medical personnel regarding appropriate breastfeeding practices immediately after delivery at the health facility, or later during the 1000-day window of opportunity. Consequently, this negatively impacted the child's breastfeeding practices during the first two years of life. From both the quantitative and qualitative surveys, some short-term, medium-term term and long-term recommendations came out for nutrition-sensitive programming:* Strengthening the community awareness interventions through training and engaging peer counsellors, mother-to-mother support groups, and community support groups to provide counselling and guidance to mothers in their communities on Infant and Young Child Feeding, including hygiene practices
* Scale up outreach activities through quality home visits, group meetings, growth monitoring sessions, and cooking sessions (i.e., Mukhe vat) for nutrition education and interpersonal communication to facilitate knowledge into optimal practices
* Ensure that monitoring, evaluation, and research are conducted regularly and are used to revise strategies and interventions for improving infant and young child feeding
* Pay special focus on nutrition-sensitive activities for minimizing economic barriers and ensuring the availability of a nutritious diet year-round, like income-generating activities, homestead gardening/ kitchen gardening, livestock rearing, etc., to meet the nutritional needs
* Promote gender equality and empower women in multi multi-sectoral approach to fight against malnutrition and improve IYCF-related decision-making
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1. **INTRODUCTION AND BACKGROUND**

The optimal infant and young child feeding practices during the first 2 years of life are of paramount importance as this period is the “critical window” for the promotion of health, good growth, behavioral and cognitive development. Optimal infant and young child feeding practices include initiation of breast-feeding within 1 hour of birth, exclusive breast-feeding for the first 6 months, and continuation of breast-feeding for 2 years or more, along with nutritionally adequate, safe, age-appropriate, responsive complementary feeding starting at 6 months. [1]. It was estimated that about one-fifth of overall under-five mortality can be averted if 90% of infants are covered with an inclusive package of interventions to promote, protect, and support the optimal infant and young child feeding (IYCF) practices. [2]. A large proportion of children become vulnerable to stunting, poor cognitive development, and significantly increased risk of infectious diseases, such as diarrhea and acute respiratory infection, due to poor complementary feeding practices. [3]. Epidemiological evidence of a causal association between early initiation of breast-feeding and reduced infection-specific neonatal mortality has also been documented. [4]

Malnutrition is a persistent health problem among children in Rohingya camps, especially children under 2 years, due to the lack of proper weaning foods, both diverse and balanced [5, 6, 7]. According to the recent IYCF survey by UNICEF and ACF in the Rohingya camps showed that the exclusive breastfeeding rate was 62.3%, the minimum Acceptable Diet (MAD) was 22.7%, and the minimum Dietary Diversity (MDD) was 28.2% [8].

The IYCF practices are strongly influenced by what people know, think, and believe, and are affected by social circumstances and economic factors. Effective communication for behavioral change is necessary for ensuring optimal infant and young child feeding. Awareness regarding IYCF practices and their benefits in Maternal and Child Health (MCH) is poor, leading to poor compliance. [9, 10]. In addition, public nutrition education that promotes infant and young child feeding as defined by WHO, considering social-cultural factors, is needed and recommended. [7, 9, 10]. Integrate skilled breastfeeding counselling in interventions that target pregnant and breastfeeding women and children 0-23 months. [11].

Since migration began in 2017, international humanitarian organizations have been working with the Rohingya camps to respond to the Rohingya refugee crisis. The main concern is to promote nutrition and livelihood interventions utilizing IYCF approaches, with a concentration on both nutrition-specific and nutrition-sensitive initiatives. One of the key goals is to promote adequate maternal, baby, and early child nutrition, with a focus on breastfeeding and complementary feeding, especially for children aged 0 to 23 months, who are considered the most vulnerable to malnutrition. To keep track of how these actions are progressing, national and international organizations would like to conduct an IYCF assessment to determine current breastfeeding (early initiation of breastfeeding and exclusive breastfeeding) and complementary feeding (meal frequency, dietary diversity, and minimum acceptable diet) practices at their intervention areas of the Rohingya camps.

* 1. **Survey justification in the Rohingya camps in Cox’s Bazar**

According to the Standardized Expanded Nutrition Survey (SENS) done in November 2022 in the Rohingya camps, the Global Acute Malnutrition (GAM) rates among children remain in the second-highest category (‘High ', 12.3%), with an upper confidence level of over 15%, representing ‘Emergency thresholds. The chronic malnutrition among children was found to be above the ‘Very high/Critical’ WHO/UNICEF threshold of equal to or greater than 30%. [13]

Since 2020, national and international organizations, with the financial support from donors, have been implementing nutrition-sensitive activities focusing on Infants and Young Child Feeding (IYCF) and food security programs to improve the dietary diversity for children 6-23 months and household diversity. As part of the program monitoring and effectiveness of nutrition-sensitive and food security activities, WHO indicators for assessing infant and child feeding practices were used. A pretested questionnaire, mainly based on the standard questionnaire on IYCF practices given by WHO, was used for data collection. [14,15]

The sample size calculated based on the anthropometric indicator was used as a proxy for Infant Young Child Feeding (IYCF) indicators. However, it is noted that IYCF indicators require a larger sample size, and therefore, the results of the IYCF indicators assessed within the framework of SMART are only an indication and NOT representative of the whole population.

The assessment findings and recommendations would inform timely and effective interventions, as well as support stakeholders for necessary changes in their program policies or interventions.

1. **SURVEY OBJECTIVES**
	1. **General Objective**

The main objectives of the survey were to assess infant and young child feeding practices among children 0-23 months in the Rohingya camps where both nutrition-specific and nutrition-sensitive programs are running, such as mother to mother support groups, father support groups, IYCF counselling, and to suggest key recommendations for IYCF programming based on the results.

* 1. **Specific Objectives**
	+ Children aged 0-23 months who were reported to have ever been breastfed
	+ Early initiation of breastfeeding within an hour of birth
	+ Exclusively breastfed within six months
	+ Continued breastfeeding at 12-23 months
	+ Introduction of solid, semi-solid, or soft foods in children aged 6–8 months
	+ Minimum dietary diversity in children aged 6–23 months.
	+ Minimum meal frequency in children aged 6–23 months
	+ Minimum acceptable diet in children 6–23 months
* To determine IYCF knowledge and attitude on IYCF among mothers and caretakers of children aged 0 – 23 months through focus group discussion as a common approach.
* Recommend a summary of interventions that comprehensively address the identified breastfeeding and complementary feeding challenges.
1. **SURVEY METHODOLOGY**
	1. **Study Design**

This study adopted a cross-sectional, mixed-methods design to assess Infant and Young Child Feeding (IYCF) practices among Rohingya refugee communities in Cox’s Bazar, Bangladesh. The study incorporated quantitative household surveys to generate measurable indicator data and qualitative focus group discussions (FGDs) to gain contextual insights into socio-cultural factors influencing feeding practices.

* 1. **Study Area and Target Population**

The assessment was conducted in ten Rohingya camps (Camps 4, 5, 6, 8W, 10, 13, 14, 15, 16, and 22) within the Ukhiya and Teknaf sub-districts of Cox’s Bazar, where ongoing nutrition-specific and nutrition-sensitive programs are being implemented. These include interventions such as mother-to-mother support groups, father support groups, growth monitoring and promotion (GMP), and IYCF counselling. The target population included:

* Children aged 0–23 months and their primary caregivers (mainly mothers) for the quantitative component.
* Mothers, fathers, and grandmothers of children under two years for the qualitative component.
	1. **Quantitative Component**
		1. **Sampling**

Determining the sample size is a crucial factor for any quantitative survey. To ensure a feasible yet meaningful sample, a systematic random sampling method was followed, which also reflected the population in the targeted camps. Samples were selected randomly from all Camps 4, 5, 6, 8W, 10, 13, 14, 15 & 22. A sample size of 468 (LW or caregiver) has been determined to represent the population of 26,009 from the camp. The sampling calculation was done using Raosoft[[1]](#footnote-1). (Note: 379 for camp, but we consider more than 89 (for rounded) samples to exclude bias, data error. The formula used for sampling is;



Where;

* n is the sample size,
* N is the population size, Camp-26009,
* z is the confidence level (in percent, such as 95% = 0.95),
* p is the sample proportion (in percent, such as 50% = 0.5),
* e is the margin of error (in percent, such as 5% = 0.05).

The calculated minimum sample size was 379. An additional buffer was added to enhance reliability and account for non-response or data errors, resulting in a final sample size of 468. In practice, data were collected from 531 households, exceeding the target from the total of 26009 (LW or caregiver)

* + 1. **Sampling Procedure**

A systematic random sampling technique was used to select households with eligible children (aged 0–23 months) from updated beneficiary lists within each of the ten camps. The sampling ensured proportional representation across the camps based on population size.

* + 1. **Data Collection Tools and Process**

Quantitative data were collected using a structured questionnaire adapted from the World Health Organization’s standardized tool on IYCF practices. The tool captured information on:

* Ever breastfeeding
* Early initiation of breastfeeding
* Exclusive breastfeeding (0–5 months)
* Continued breastfeeding (12–23 months)
* Timely introduction of complementary foods (6–8 months)
* Minimum dietary diversity (MDD)
* Minimum meal frequency (MMF)
* Minimum acceptable diet (MAD)

The survey was conducted by 14 trained enumerators using digital data collection tools (DDG platform) over 12 days. Enumerators received two days of intensive training on the questionnaire, ethical conduct, and digital tools. Seven supervisors oversaw the teams, conducted spot checks, and reviewed data submissions daily to ensure accuracy and completeness.

* 1. **Qualitative data**

To get full information about socio-cultural norms, factors influencing behaviours, as well as knowledge level, attitudes, beliefs, and practices on infant and young children feeding, focus group discussions would be used as the common approach for collecting the qualitative data. Each focus group comprised 10 to 12 participants. To avoid one sex dominating the other during discussions, the FGD groups were organized according to the following categories.

* Fathers of children under 2 years
* Mothers of children under 2 years
* Grandmothers of children under 2 years.

4 randomly selected camps from the list of implementing camps were selected to conduct the focus group discussions in. There were three FGDs in each of the 4 selected camps, so a total of 12 FGDs were conducted. The FGDs mainly focused on the following areas,

* Early initiation of breastfeeding- This mainly focused on respondents’ knowledge of breastfeeding immediately after birth and other perceptions that might affect the timely introduction of breast milk to children within the first hour of birth.
* Exclusive Breastfeeding- this section is intended to understand the knowledge on the importance of exclusive breastfeeding and ascertain other harmful cultural practices that affect a child from being exclusively breastfed.
* Complementary feeding- The sections mainly focused on understanding the knowledge of healthy and nutritious foods recommended for the timely introduction of Solid/semi-solid foods, and considering what locally/culturally acceptable foods are for complementary feeding.
	1. **Data Collection and Analysis**

14 trained for collecting data to ensure high-quality data. In this regard, a 2-day-long orientation was provided on the survey tools, the interview questions, a demonstration interview, and other ethical issues.

Supervisors and Enumerators were divided into 7 groups led by one 01 supervisor. The supervisor’s main responsibility was to play the role of a data quality controller. Data quality was controlled through a systematic Data Quality Control (DQC) process, like demonstration and cross-check at the household level during the interview. In some cases, the supervisor also talked with the beneficiary who was interviewed already and verified the actual status of information captured by the Enumerator. In addition, day-to-day data quality checks were done on the DDG platform, and feedback was provided to enumerators in case of inconsistency. The data was thereafter downloaded and exported to Excel. The analysis of data was done using **Epi Info**, referring to the new 2021 WHO IYCF guide. For qualitative data analysis was done in two stages:

1. After each discussion and at the end of each day of data collection, the qualitative team reviewed the responses from the FGDs to identify the key themes emerging from the responders.

2. Once all the selected sub-blocks were visited by the quantitative team, the team came together to provide feedback and triangulate the themes that emerged from the discussions. Analysis was done using flipcharts and triangulation techniques to identify key factors (e.g.: knowledge, barriers, and boosters, religious or cultural belief, decision makers, etc.) influencing IYCF practices among children aged 0 – 23 months.

* 1. **Ethical Considerations**

Before the start of quantitative and qualitative data collection, the survey teams had some time for the introduction. The purpose of the survey and how long the survey would take were explained to the respondents. The team also guaranteed the respondents or the FGD members' confidence and privacy of the information that would be collected during the survey. No personal and family information shall be revealed during reporting, and the rights and privacy of the respondents shall be respected. If the respondent wishes not to respond to a question or wishes to drop the survey, their decision should be respected and applied. Therefore, the survey only proceeded after getting informed consent from the respondents and the FGD participants.

* 1. **Survey Limitations**

Information gathered during the FGDs may have some degree of exaggeration due to participants’ expectations. It was anticipated that during the sessions, some participants may have heightened the magnitude of the problem with expectations from humanitarian actors to intervene as quickly as possible, a phenomenon common in areas where populations are used to receiving humanitarian assistance. However, this was minimized through a proper explanation about the "benefit" of participating in the FGD during the introduction and consent.

1. **RESULTS**
	1. **Survey Demographic Information in the Camps**
		1. **Sample survey information**

A total of 531 (113% of the target) households were visited during the data collection, and 541 (102%) children aged 0-23 months were considered for data analysis. Below is the figure showing the numbers of planned against visited clusters, households, and children.

**Table 1: Sample survey information**

|  |  |  |  |
| --- | --- | --- | --- |
| Total sample | Expected  | Surveyed  | Proportion/Mean |
| Total surveyed households  | 468 | 531 | 111.3% |
| Mean family size |  | 5.2 | 5.2 |
| Age sub-groups and gender distribution | Expected  | Surveyed  | Proportion/Mean |
| Children 0-23 months | 531 | 541 | 102% |
| % of children 6 to 23 months  | 531 | 432 | 80% |
| % of children 0 to 5 months | 531 | 109 | 20% |
| % of children 6 to 8 months | 531 | 82 | 15% |
| % of children 9 to 11 months | 531 | 88 | 16% |
| % of children 12 to 23 months  | 531 | 262 | 49% |
| Segregation by Sex  |
| Male | 541 | 279 | 52% |
| Female | 541 | 262 | 48% |
| Children with fully verified birth dates  | 541 | 523 | 97% |

A total of 541 children aged 0-23 months were achieved as opposed to the 531 children planned. This gives a significant sample size in terms of children for meaningful results. Looking at the representation by sex, 51.6% of the children population were male children, while the female children represented 48.4% of the children aged 0-23 months among the sampled population in the Rohingya camps.

* + 1. **Sample demographic information**

**Table 2 : Sample demographic information**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Serial No** | **Indicators** | **Response**  | **Frequency** | **Percent** | **95% CI value** |
| 01 | Sex of caregivers | Female Caregivers  | 489 | 92.01% | 88.99%, 95.03% |
| Male caregivers  | 42 | 7.91%  | 4.97%, 10.84% |
| 02 | Marital status of female caregivers  | Married | 487 | 99.8% | 96.2%, 100.0% |
| Widowed | 2 | 0.41% | -0.1%, 0.84% |
| 03 | Education level of caregivers  | No education  | 365 | 68.74% | 64.46%, 73.02% |
| Primary Education | 53 | 9.98%  | 7.43%, 12.54% |
| Secondary Education | 4 | 0.75% | -0.15%, 1.65% |
| Higher Secondary | 109 | 20.52% | 16.92%, 24.12% |
| 04 | The caregiver’s relationship with the child  | Biological mother | 499 | 92.04% | 89.12%,94.96% |
| Caregiver | 42 | 7.76% | 5.04%, 10.48% |

* 1. **Breastfeeding Practices for children 0-23 months in the camps**

**Children ever breastfed:** Breastfeeding is recommended for all infants worldwide. The survey findings from the Rohingya community show that 97.23% of the children aged 0-23 months in the Rohingya community were ever breastfed.

**Table 3: Breastfeeding Practices for Children**

|  |  |  |  |
| --- | --- | --- | --- |
| Children 0-23mths ever breastfed (N=541) | Frequency | Percentage | 95% CI value |
| Yes | 526 | 97.23% | 95.29%, 99.17% |
| No | 15 | 2.77% | 0.83%, 4.71% |

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### **Children put to the breast within one hour of birth:** The prevalence of early initiation of breastfeeding among children aged 0-23 months within the Rohingya community is 84.1% (immediately after birth, 51.01%, and less than 1 hour, though not immediately after birth, 33.09%)

**Table 4: Early initiation of Breastfeeding**

|  |  |  |  |
| --- | --- | --- | --- |
| Early initiation of Breastfeeding (N=541) | Frequency  | Percentage  | 95% CI value  |
| Don’t know | 6 | 1.11% | 0.14%,2.08% |
| Immediately after birth | 276 | 51.01% | 45.74%,55.18% |
| Less than 1 hour, though not immediately after birth | 179 | 33.09% | 28.33%,37.15% |
| Between 1 and 24 hours after birth | 68 | 15.57% | 12.06%,17.38% |
| More than 24 hours after birth | 12 | 2.22% | 0.45%,3.99% |

Additionally, from the FGDs, caregivers generally have very good knowledge about shaldud (colostrum) feeding time and early breastfeeding initiation within one hour, which is an indication of good knowledge about early initiation.

**Infants who were fed only breast milk:** 66.06% of the sampled infants 0-5 months in Rohingya, were reported to have been exclusively breastfed for the first 6 months after birth. However, there is also a strong cultural/religious influence on caregivers to provide honey, sweet water to their infants before(colostrum). This has affected the level of exclusive breastfeeding for under six months within the Rohingya communities in the refugee camps.

**Table 5: Exclusive breastfeeding**

|  |  |  |  |
| --- | --- | --- | --- |
| Exclusive breastfeeding over the last 24 hours (N=109) | Frequency  | Percentage  | 95% CI value |
| Yes | 72 | 66.06% | 55.86%, 76.22% |
| No | 37 | 33.94% | 23.78%, 44.14% |

**Children 12–23 months continued Breastfeeding:** According to the survey findings, 81.44% (n=214) of the children aged 12-23 months in the Rohingya camps were breastfed 24 hours before the survey date. However, caregivers during the focus group discussions reported that mothers who get pregnant while still breastfeeding usually stop breastfeeding the current child, even if this child is still at a recommended breastfeeding age.

**Table 6 : Breastfeeding for Children 12–23 months**

|  |  |  |  |
| --- | --- | --- | --- |
| Continued breastfeeding at 12-23 months (N=262) | Frequency | Percentage | 95% CI value  |
| Yes | 214 | 81.44% | 76.60%, 86.28% |
| No | 48 | 18.56% | 13.72%, 23.40% |

* 1. **Complementary Feeding Practices for children 6-23 months**

**Infants 6–8 months were timely introduced to solid foods:** According to the survey findings, 78.05% (n=64) of the sampled children aged 6-8 months were timely introduced to complementary feeding in addition to breastmilk.

**Table 7 : Feeding Practices for children 6-23 months**

|  |  |  |  |
| --- | --- | --- | --- |
| Infants 6-8 months who consumed solid, semi-solidor soft foods during the previous day (N=82) | Frequency  | Percentage  | 95% CI value  |
| Yes | 64 | 78.05% | 68.86%,88.78% |
| No | 18 | 21.95% | 11.22%,31.14% |

The qualitative results from the focus group discussions also indicate that caregivers have good knowledge of the timely introduction of complementary feeding. Nevertheless, the practices on the timely introduction of solid/semi-solid foods continue to be negatively affected by some social influence from family members like in-laws, grandmothers, and neighbors, hence resulting in either too early or too late introduction of solid/semi-solids before the 6th month after birth.

**Children 6–23 months of age who consumed minimum dietary diversified foods:** 55.32% (n=239) of the children aged 6-23 months were reported to have eaten at least five or more of the eight food groups 24 hours before the survey date.

**Table 8 : Minimum dietary diversity for Children 6–23 months**

|  |  |  |  |
| --- | --- | --- | --- |
| Minimum dietary diversity (N=432) | Frequency  | Percentage  | 95% CI Value  |
| No | 193 | 44.68% | 39.09%, 50.55% |
| Yes | 239 | 55.32% | 49.45%, 60.91% |

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### **Children 6–23 months of age who consumed solid, semi-solid or soft foods at least the minimum number of times during the previous day:** The proportion of children aged 6-23 months who ate at least two or more solid/semi-solid foods was 68.5%, as per the age of the children.

**Table 9 : Minimum meal frequency – children 6-23 months**

|  |  |  |  |
| --- | --- | --- | --- |
| Minimum meal frequency – children 6-23 months (N=432) | Frequency  | Percentage  | 95% CI Value  |
| Yes | 296 | 68.5% | 65.4-71.1 |
| No | 136 | 31.5% | 28.4-34.7 |

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### **Children 6–23 months of age who consumed a minimum acceptable diet during the previous day**

**Table 10 : Minimum acceptable diet**

|  |  |  |
| --- | --- | --- |
| Minimum acceptable diet (N=432) | Frequency  | Percentage  |
| No | 301 | 69.7% |
| Yes | 131 | 30.3% |

The survey results show that only 30.3% (n=131) of the sampled children received a minimum acceptable diet

1. **DISCUSSION**
	1. **Breastfeeding Practices**

**Ever breastfed – children 0-23 months.** Breastfeeding a child is recommended for all infants worldwide. The survey findings show that the children aged 0-23 months 97.23% from Rohingya camps were ever breastfed.

**Early initiation of breastfeeding – children 0-23 months:** The prevalence of early initiation of breastfeeding among children aged 0-23 months within Rohingya camps is 84.1%. The findings show much better practice

**Exclusive breastfeeding up to six months old – children 0-5 months:** 66.06% of the Rohingya camps of the sampled infants 0-5 months were reported to have been exclusively breastfed for the first 6 months after birth.

**Continued breastfeeding – children 12–23 months:** According to the survey findings, 81.44% of children in camps aged 12-23 months were breastfed 24 hours before the survey date.

However, caregivers during the focus group discussions reported that mothers who get pregnant while still breastfeeding usually stop breastfeeding the current child, even if this child is still at a recommended breastfeeding age. This practice is related to religious beliefs where breastfeeding while being pregnant is considered a sin among the religious communities, hence directly affecting the continued breastfeeding practices in communities where child spacing is not fully practiced.

* 1. **Complementary Feeding Practices**

**Introduction of solid, semi-solid, or soft foods – children 6-8 months:** According to the survey findings, 78.05% of the camps surveyed children aged 6-8 months were timely introduced to complementary feeding in addition to breastmilk.

The qualitative results from the focus group discussions also indicate that caregivers have good knowledge of the timely introduction of complementary feeding. Nevertheless, the practices on the timely introduction of solid/semi-solid foods continue to be negatively affected by some social influence from family members like in-laws, grandmothers, and neighbors, hence resulting in either too early or too late introduction of solid/semi-solids before the 6th month after birth.

**Minimum dietary diversity – children 6-23 months:** 55.3% of the children from Rohingya camps aged 6-23 months were reported to have eaten at least five or more of the eight food groups 24 hours before the survey date.

**Minimum meal frequency – children 6-23 months:** The proportion of children aged 6-23 months who ate at least two or more solid/semi-solid foods was 68.5% in camps. The findings are indicative of households mainly relying on culturally acceptable and available foods. The qualitative results from the conducted focus group discussions reveal that mothers have good knowledge of how often a child above 6 months should eat, but the actual practices do not always reflect this knowledge.

**Minimum acceptable diet – children 6–23 months:** The survey results show that only 30.3% of the sampled children received a minimum acceptable diet.

* 1. **Comparison of the last UNICEF-ACF IYCF Survey 2022 with the current IYCF survey**
		1. **Breastfeeding Practices**

***Figure 1: Breastfeeding indicators for the Rohingya camps with the last UNICEF-ACF IYCF survey-2022***

* + 1. **Complementary Feeding Practices**

***Figure 2: Complementary Feeding indicators for the Rohingya camps with the last UNICEF-ACF IYCF survey-2022***

1. **CONCLUSION**

Overall, this IYCF survey was the first of its kind to be conducted in the Rohingya community to inform the new IYCF indicators released by the WHO and UNICEF in 2021. [14,15]

Examining the IYCF assessment findings in the Rohingya community, the levels of breastfeeding and complementary feeding practices are generally in line with the national average according to the 2022 UNICEF-ACF IYCF Survey. While breastfeeding practices are largely within acceptable levels, complementary feeding practices remain a significant concern, particularly regarding Minimum Dietary Diversity and Minimum Acceptable Diet.

Strong cultural and religious influences on IYCF practices were evident throughout this survey. The introduction of pre-lacteal feeds was a common practice due to a strong cultural belief that giving honey, mustard seeds, and sugar/glucose water enhances the child’s lip movement and improves suckling. This has negatively impacted exclusive breastfeeding for infants under six months. .[16] Mothers who reported giving birth at home due to cultural barriers were also deprived of the initial assistance and guidance from medical personnel regarding appropriate breastfeeding practices immediately after delivery at the health facility or later during the 1000-day window of opportunity. Consequently, this negatively affected the breastfeeding practices of the child during the first two years of life.

More mothers and mothers-to-be are to be educated. Not only them, but all women and men should learn to take care of their infants.[17]

1. **RECOMMENDATIONS**

## 7.1 Short Term

* Strengthen the integrated preventive nutrition programming (IYCF-E) with health (Immunization, ANC, Sick child Consultation, GMP, etc.)
* Increase the knowledge and skills of health and nutrition service providers on breastfeeding support and promotion at the facility and household levels
* Strengthen the community awareness interventions through training and engaging peer counsellors, mother-to-mother support groups, and community support groups to provide counselling and guidance to mothers in their communities on Infant and Young Child Feeding, including hygiene practices
* Scale up outreach activities through quality home visits, group meetings, growth monitoring sessions, and cooking sessions (i.e., Mukhe vat) for nutrition education and interpersonal communication to facilitate knowledge into optimal practices

## 7.2 Medium term

* Mainstream and prioritize the promotion and support of breastfeeding activities at the community level
* Ensure that monitoring, evaluation, and research are conducted regularly and are used to revise strategies and interventions for improving infant and young child feeding
* Strengthen monitoring and enforcement procedures of the National Code/BMS Act to detect code violations more effectively and to accelerate the legal process when needed.

## 7.3 Long-term

* Strengthen the Baby-Friendly Hospital Initiative through more integration with the nutrition program
* Ensure advocacy and behaviour change communication toward IYCF recommended practices
* Develop advocacy and contextual communication materials for all audiences/stakeholders
* Ensure that governments, private sectors, and other concerned parties share responsibility for the successful implementation of the National Strategy regarding IYCF through a functional nutrition governance mechanism
* Ensure that the nutrition sector focuses more on the Rohingya community nutrition programming through coordination and funding advocacy
* Pay special focus on nutrition-sensitive activities for minimizing economic barriers and ensuring the availability of a nutritious diet year-round, like income-generating activities, homestead gardening/ kitchen gardening, livestock rearing, etc., to meet the nutritional needs
* Periodically update the guidelines, SOP as required, considering new research findings and international recommendations/updated guidelines
* Implement Health system strengthening activities for promoting institutional delivery
* Promote gender equality and empower women in multi multi-sectoral approach to fight against malnutrition and improve IYCF-related decision-making
* Ensure access to formal education for the community members living Rohingya camps, with a strong focus on girls
1. **INFORMED CONSENT**

Before the start of quantitative and qualitative data collection, the survey team had a minute or two of introduction and the purpose of the survey, and how long the survey would take for the respondents. The team also guaranteed the respondents or the FGD group the confidentiality and privacy of the information collected during the survey. No personal and family information would be revealed during reporting, and the rights and privacy of the respondents would be respected. If she/he wish not to respond to questions or wish to drop the survey, both quantitative and qualitative. Therefore, the survey only proceeded upon getting informed consent from the respondent and or the FGD group participants.

The participants were selected equitably, and their informed consent was sought to ensure that they participated in the study voluntarily

1. **ETHICAL CONSIDERATIONS**

To protect participants, especially children and pregnant or breastfeeding women, the following principles guided our work:

**Voluntarism, Confidentiality, and Anonymity**: “Participation is completely voluntary.” Before starting, we explained the purpose of the study and assured participants that their answers would be kept confidential. They can stop or skip questions at any time without any negative consequences.

**Do No Harm**: We avoided asking any questions that could upset or harm participants. If sensitive issues come up, we provide support or refer them to appropriate help.

**Integrity:** All information collected is reported accurately. We double-checked the data to ensure everything was correct and presented in the right context.

**Participant Feedback:** We shared key findings with the community to get their thoughts and included their feedback in the final report.

**Child Protection**: When talking to children, a responsible adult was present with the child. Children were asked personal or upsetting questions, and all interviewers followed strict child protection policies and rules.

1. **ETHICAL APPROVAL:** The approval for the survey was taken from the respective authorities, such as the Refugee Relief Repatriation Commissioner (RRRC), the Camp-in-Charge (CiC) of the respective camps
2. **CONFLICT OF INTEREST STATEMENT:** All authors and researchers declared that there is no personal conflict of interest in the study.
3. **DISCLAIMER (ARTIFICIAL INTELLIGENCE)**

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, manuscript.

1. **REFERENCE**

[1] World Health Organization. Infant and Young Child Feeding: Model Chapter for Textbooks for Medical Students and Allied Health Professionals. France: World Health Organization, 2009. <https://www.who.int/publications/i/item/9789241597494>

[2] Black RE, Morris SS, Bryce J. Where and why are 10 million children dying every year? Lancet 2003; 361: 2226-34. [https://doi.org/10.1016/s0140-6736(03)13779-8](https://doi.org/10.1016/s0140-6736%2803%2913779-8)

[3] WHO. Effect of breastfeeding on infant and child mortality due to infectious diseases in less developed countries: a pooled analysis. Collaborative Study Team on the role of breastfeeding on the prevention of infant mortality. Lancet 2000; 355: 451-5. <https://pubmed.ncbi.nlm.nih.gov/10841125/>

[4] Edmond KM, Kirkwood BR, Amenga-Etego S, Owusu- Agyei S, Hurt LS. Effect of early infant feeding practices on infection-specific neonatal mortality: an investigation of the causal links with observational data from rural Ghana. Am J ClinNutr2007; 86: 1126-31. <https://pubmed.ncbi.nlm.nih.gov/17921392/>

[5] Arzu, T., Sujan, M. A. K., & Hossain, M. S. (2017). Assessment of infant and young child feeding indicators with special emphasis on practices and knowledge of mothers in rural areas. International Journal of Science and Research (IJSR), 6(10), 888–891. [*https://www.ijsr.net/getabstract.php?paperid=ART20176925*](https://www.ijsr.net/getabstract.php?paperid=ART20176925)

[6] Arzu, T., Satter, M. A., Paul, D. K., Sujan, A. K., Jabin, S. A., Mitra, K., Islam, D., et al. (2024). Comparison between low-cost locally produced complementary foods with high-cost imported complementary foods available in Bangladesh by rat bioassay. International Journal of Life Science Research Archive, 7(1), 19–27. [*https://doi.org/10.53771/ijlsra.2024.7.1.0058*](https://doi.org/10.53771/ijlsra.2024.7.1.0058)

[7] Arzu, T., Sujan, A. K., Paul, D. K., Ahmad, T., Juliana, F. M., & Hossain, S. (2019). Comparative study of growth monitoring & promotion of children with special care (IYCF counseling) and without special care. American Journal of Food Science and Technology, 7(4), 104–112. [*https://pubs.sciepub.com/ajfst/7/4/1/index.html*](https://pubs.sciepub.com/ajfst/7/4/1/index.html)

[8] Nutrition Sector. (2022). Infant and Young Child Feeding Survey: Rohingya Camps, Cox’s Bazar, Bangladesh. <https://rohingyaresponse.org/wp-content/uploads/2023/12/Final-Report-IYCF_Survey_Refugee-camps_Coxs-Bazar_Bangladesh_OCT-2022.pdf>

[9] Arzu, T., Sujan, A. K., Juliana, F. M., & Hossain, S. (2018). Study of IYCF indicators on practices and knowledge of mothers in rural areas. American Journal of Public Health Research, 6(3), 130–133. [*https://doi.org/10.12691/ajphr-6-3-1*](https://doi.org/10.12691/ajphr-6-3-1)

[10] Arzu, T., Sujan, M. A. K., Paul, D. K., Ahmad, T., Gulshan, K. R., Juliana, F. M., & Hossain, M. S. (2019). Impact of infant and young child feeding (IYCF) counseling on practices and knowledge of mothers in rural areas. World Journal of Nutrition and Health, 7(1), 11–17. [*https://pubs.sciepub.com/jnh/7/1/3/index.html*](https://pubs.sciepub.com/jnh/7/1/3/index.html)

[11] Arzu, T., Taslima Arzu, (November 21-22, 2019| Singapore). “Impact of infant and young child feeding (IYCF) counselling on practices and knowledge of mothers in rural areas in Bangladesh”. Allied academies, 17th International Conference on Clinical Nutrition and Fitness, Journal of Nutrition and Human Health; 2019. (Volume-3, page no. 19)

<https://www.alliedacademies.org/proceedings/impact-of-infant-and-young-child-feeding-iycf-counselling-on-practices-and-knowledge-of-mothers-in-rural-areas-in-bangla-5767.html>

[12] 16. Sphere Association. (2022). The Sphere Handbook: Humanitarian Charter and Minimum Standards in Humanitarian Response, fourth edition, Geneva, Switzerland. [www.spherestandards.org/handbook](http://www.spherestandards.org/handbook);

[13] Nutrition Sector. (2022), Standardized Expanded Nutrition Survey (SENS) Executive Summary, Rohingya Refugee Response, Cox’s Bazar, Bangladesh, November- December 2022. <https://rohingyaresponse.org/wp-content/uploads/2023/12/2022-Standard-Expanded-Nutrition-Survey-Executive-summary_Final.pdf>

[14] Indicators for Assessing Infant and Young Child Feeding Practices: Conclusions of a Consensus Meeting Held 6-8 November 2007 in Washington, DC, USA. World Health Organization, 2008. Available at: <http://whqlibdoc.who.int/publications/2008/9789241596664_eng.pdf>

[15] Indicators for assessing infant and young child feeding practices: definitions and measurement methods By WHO-UNICEF, 2021. <https://www.who.int/publications/i/item/9789240018389>

[16] Infant and Young Child Feeding Survey: Host Community, Cox’s Bazar, Bangladesh, October 2022. <https://rohingyaresponse.org/wp-content/uploads/2023/12/Final-Report-IYCF_Survey_Host-community_Coxs-Bazar_Bangladesh_NOV-2022.pdf>

[17] Thanigavel, P. T., & Priya, F. M. H. (2021). A Cross-Sectional Study on Knowledge and Attitude Regarding Exclusive Breastfeeding among Women of Reproductive Age Group in Chennai, Tamil Nadu. Journal of Pharmaceutical Research International, 33(60A), 282–292. <https://doi.org/10.9734/jpri/2021/v33i60A34486>

1. <http://www.raosoft.com/samplesize.html> [↑](#footnote-ref-1)