


BMJ Open Type of terrain and infant and young child feeding practices: cross-sectional study findings on children below 2 years of age from northern Bangladesh

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To cite: Farzana FD, Choudhury N, Haque MA, *et al.* Type of terrain and infant and young child feeding practices: cross-sectional study findings on children below 2 years of age from northern Bangladesh. *BMJ Open* 2022;**12**:e056593. doi:10.1136/bmjopen-2021-056593

► Prepublication history for this paper is available online. To view these files, please visit the journal online (<http://dx.doi.org/10.1136/bmjopen-2021-056593>).

Received 19 August 2021
Accepted 07 January 2022



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ABSTRACT

Introduction Optimal feeding practices are vital for the subsistence, adequate nutrition, physical growth and mental development of infants and young children. This study aimed to examine the prevalence of core infant and young child feeding (IYCF) indicators and their associations with the type of terrain, that is, geographical area or zone among the beneficiaries of a large-scale nutrition programme, *Suchana*, being carried out in the northern part of rural Bangladesh.

Methodology A cross-sectional study was conducted from November 2016 to February 2017 in Sylhet and Moulvibazar districts of Sylhet Division, Bangladesh. Data pertaining to 5440 children aged below 24 months were analysed for this study. Univariate analysis was carried out to establish the prevalence of the indicators; selected variables were subjected to multiple regression model to identify independent relationships between the IYCF indicators and the type of terrain stratified as plain land, hilly area, flash-flood prone area and haor (wetland).

Results In logistic regression analysis, flash-flood prone areas were significantly associated with higher exclusive breast feeding (1.92, 95% CI 1.12 to 3.30; $p=0.019$), minimum meal frequency (1.45, 95% CI 1.07 to 1.97; $p=0.018$) and minimum dietary diversity (1.63, 95% CI 1.01 to 2.63; $p=0.046$) compared with plain land. Moreover, hilly areas were associated with significantly lower introduction of solid, semisolid or soft foods (0.39, 95% CI 0.18 to 0.82; $p=0.013$) compared with plain land.

Conclusion The observed prevalence of the indicators can be set as benchmark while prioritising interventions aimed at improving IYCF practices among underprivileged families residing in different types of rural setting in Bangladesh.

INTRODUCTION

Optimal feeding practices are vital for the subsistence, adequate nutrition, physical growth and mental development of infants and young children.¹ These feeding practices include both breast feeding and complementary feeding and are commonly known as

Strengths and limitations of this study

- The large sample size, accurate techniques of selecting the study households and statistical methodology represent strengths of this study.
- This study was conducted on a vulnerable population, so the findings cannot be generalised to all segments of society.
- When collecting data on the infant and young child feeding practices, we had to depend solely on the respondents' responses; thus, there is a probability of introducing recall bias.

infant and young child feeding (IYCF) practices.¹ Of all of the proven preventive nutrition and health interventions, optimal IYCF practices have the single greatest impact on child growth, development and survival.² Inappropriate complementary feeding and breastfeeding practices both adversely affect children's health and growth.^{3–5}

Infants are most susceptible to adverse health and nutrition outcomes during the transition period when complementary feeding commences. As breastmilk alone is nutritionally inadequate after the age of 6 months, a sufficient amount and appropriate diversity of complementary foods are required to support accelerated growth.⁶ Well-timed, sufficient and safe complementary food is required to satisfy the nutritional requirements of these children.⁷ In order to assess the IYCF criteria, it is crucial to explore the current prevalence of IYCF indicators that are easily measurable, accurate and reliable. Such indicators provide indispensable evidence to track improvements and guide investment from the government and other stakeholders to improve the nutrition and health of young children, particularly during

the first 2 years of life.⁸ Inadequate breast feeding and complementary feeding are also mentioned as causes in the WHO's conceptual framework for childhood stunting.⁹ Moreover, these feeding practices should not be followed distinctly, as the features of optimal feeding at this age are multidimensional.⁸

The WHO suggested a set of vital indicators of child feeding practices applicable to children below 2 years of age should be monitored to ensure proper nutrition and growth.^{8,10} As global public health endorsements, these core indicators emphasise the initiation of breast feeding within 1 hour of birth, exclusive breast feeding for the first 6 months of life and continued breast feeding for 2 years or more, along with the introduction of age-appropriate, nutritionally sufficient complementary feeding after 6 months of age.^{7,8,10-12} Though these practices are considered compelling interventions that can boost child health, low rates of breast feeding and complementary feeding practices are observed globally.¹³ In many countries, fewer than one-fourth of children aged 6–23 months receive the WHO recommended serving and variety of food.¹⁴ Moreover, complementary feeding often starts too early or too late, which also leads to nutritional inadequacies.¹³

Poor IYCF practices are the dominant factors contributing to the high rates of child undernutrition in low-income and middle-income countries,^{15,16} and Bangladesh is no exception. Childhood undernutrition is more prevalent among the poorest socioeconomic segments of the population.¹⁷ Additionally, living in a vulnerable location such as a haor (wetland) or flood-prone or hilly areas may negatively influence appropriate IYCF practices compared with living on plain land. Due to the lack of studies on the effect of the type of terrain on IYCF practices in the Bangladeshi context, the objective of this article was to examine the prevalence of the WHO's core recommended IYCF practice indicators and their associations with the type of terrain (haor (*wetland*), flood-prone, hilly area and plain land) among the beneficiaries of the *Suchana* programme in rural northeast Bangladesh.¹⁸ *Suchana* is a large-scale nutrition programme working with the poor and vulnerable population in this region to improve their livelihood options. The findings of this study are expected to provide additional evidence to promote IYCF practices by enabling intervention activities to be more precisely tailored to the geographical setting.¹⁹

METHODS

Study design

This cross-sectional study analysed data derived from the database of the baseline survey of a larger cluster-randomised pre–post study, which was conducted to evaluate the performance of the *Suchana* programme,¹⁸ a comprehensive programme designed to improve the nutritional status of children targeting the poorest segment of the population in northeast Bangladesh.

Study area

The study area consists of Sylhet and Moulvibazar districts of Sylhet Division, Bangladesh. In total, 640 villages from 80 unions in these districts were surveyed.

Study population

Data pertaining to 5440 children aged below 24 months were analysed. During data collection, special attention was given to child-feeding practices. Information was collected through a 24-hour recall questionnaire administered by trained interviewers targeting the previous 24 hours, as widely used and considered appropriate for surveys seeking information on IYCF practices.⁸ The selection procedure of the household is mentioned further.

First, two districts (ie, Sylhet and Moulvibazar) of Sylhet division, where no other major large-scale maternal and nutrition programmes are being implemented, were selected for *Suchana*. Then all sub-districts, except for tea gardens and a small number of urban areas, within these two districts were divided into four phases in a randomised manner. In the baseline study, phase-I and phase-IV areas were surveyed. From the pool of 157 unions, 40 random unions were allocated to phase-IV and another 40 unions were allocated to phase-I.

Second, within each union, villages were listed based on vulnerability (eg, frequency of flooding/submerging, low or no intervention by development programmes, poverty/household living situation, remoteness/difficulty to reach and superstitions/high prevalence of social taboos) after discussion with local government officials, elected representatives, local elites and field visits. *Suchana* consortium staff members from local offices within these districts selected the poorest communities within their area. Eight villages from each union were chosen for baseline evaluation.

Third, field staff used a combination of a participatory approach, especially wealth ranking methods, a series of focus group discussions and individual interviews with different local people, to identify the very poor households to be targeted in each community. Through a participatory rural appraisal, households were allocated to one of four community-defined wealth groups. The households who were ranked in the bottom two of the wealth groups were visited by field staff to determine whether or not they meet the programme selection criteria for enrolment in *Suchana*. Based on the criteria, sampling frame was made. Using this frame, we carried out household selection via probability sampling approach using systematic sampling method.

Duration of the study

The *Suchana* baseline survey data were collected from November 2016 to February 2017.

Variables of interest

The variables of interest included core IYCF indicators consistent with the WHO guidelines: (1) early initiation of breast feeding (children born in the last 2 years

being placed on their mother's breast within an hour after delivery); (2) exclusive breast feeding (EBF) under 6 months (infants under 6 months given only breastmilk and no other food); (3) continued breast feeding at 1 year (children aged between 12 and 15 months who are still breast fed); (4) introduction to solid, semi-solid or soft foods (introduction of solid, semisolid or soft foods to infants aged between 6 and 8 months); (5) minimum dietary diversity (MDD); (6) minimum meal frequency (MMF); (7) minimum acceptable diet (MAD); and (8) consumption of iron rich/fortified foods.¹⁰

MDD is defined as children between 6 and 23 months old being fed foods from at least four of the seven food groups: (1) food made from cereal grains, roots and tubers; (2) legumes such as beans and peas, and nuts; (3) milk and other dairy products; (4) meat; (5) eggs; (6) foods rich in vitamin A; and (7) fruits and vegetables. MMF is defined as achieving the minimum number of feeds (or more) for both breastfed and non-breastfed children aged between 6 and 23 months who have been introduced to solid, semisolid or soft foods (this includes milk feeds for non-breastfed children). MAD was defined as a combination of MMF and MDD for children aged between 6 and 23 months of age. Consumption of iron-rich/iron-fortified food was assessed as the proportion of children aged between 6 and 23 months who are given iron-rich food or food fortified with iron specially prepared for infants and young children, or food fortified with iron at the household level.

The Household Food Insecurity Access Scale was used to define food insecurity according to the Food and Nutrition Technical Assistance's guidelines to provide a constant assessment of the degree of food insecurity (access component) at the household level.²⁰ This scale identifies the level of food insecurity based on a lack of access to food due to poverty, not due to shortage of supply of food.²⁰ The level of anxiety and uncertainty of the participants regarding household food resources, satisfaction about the nature of the food and inadequacy of food consumption experienced were assessed using a standard nine-question questionnaire which inquires about worrying about food, inability to eat preferred foods, the lack of food diversity in diet, having to eat food that they dislike, eating less food than needed, consuming fewer meals in a day, not having food at home, going to bed hungry and not eating food for a whole day and night.^{21 22}

Programme workers who had been working in the areas for a significant period of time classified the locations of each household based on the type of terrain as follows: haor (wetland), flash-flood prone area, hilly area and plain land. These were practically categorised.

Analysis

In this analysis, data on children aged below 24 months were assessed. Stata V.14 (Stata Corporation, College Station, TX, USA) was used for statistical analyses. Variables relevant to the analysis were selected after consulting previous survey questionnaires and demographic and

health survey questionnaires. Various statistical plots were used for data visualisation. Descriptive statistics such as means and SD, and frequencies and proportions were calculated to assess the distribution of the data. The primary analysis involved producing descriptive statistics using appropriate cut-off values for different variables. Simple logistic regression analysis was performed to investigate the bivariate relationships between the IYCF practices and the type of terrain and other variables. Finally, the strength of the associations was determined by calculating adjusted ORs and 95% CIs using multiple logistic regression. Multicollinearity was checked after estimating the variance inflation factor using Stata *Collin* command. Statistical significance was defined as a p value of <0.05.

Patient and public involvement

Patients and the public were not actively involved in formulating the research question and protocol development, including the outcome measures. However, for smooth operation of the field works, local elites/influential persons, for example, teachers, religious persons and local government council members were informed about the study.

RESULTS

Table 1 presents the descriptive statistics for the study population. The mean age of the children was 13 months; around 49% of children were female. Mean maternal age was around 27 years; maternal age at first marriage and first pregnancy were 18 and 19 years, respectively. Around 23% of respondents had 1 year of formal schooling. Fifteen percent of respondents had received the standard number of four antenatal care visits during their last pregnancy; about 84% had a normal delivery for their last pregnancy. Seventeen percent of women reported having decision-making power on certain household activities (decision-making activities: (1) major household purchases, (2) food purchases, (3) food preparation, (4) own healthcare, (5) children's healthcare and (6) visiting family and relatives). The mean household size was 6.3; 96% of household heads were male and around 51% had at least 1 year of formal education. More than 90% of the respondents were Muslim. Only 14% of households were food secure.

Figure 1 presents the prevalence of the core IYCF indicators stratified by the type of terrain. The rate of exclusive breast feeding ranged from 60% to 75%, with the highest prevalence in flash-flood prone areas. Early initiation of breast feeding ranged from 85% to 88%, with the highest prevalence among children from haor areas. The prevalence of continued breast feeding at 1 year was 98% in hilly areas. Around 83% of children from plain lands were introduced to solid and semi-solid foods at an appropriate age (6–8 months). MDD was attained by 16% of children from flash-flood prone and hilly areas. MMF was observed for 51% of children, and a MAD was reported for 13% of children from flash-flood prone

Table 1 General characteristics

Indicator	Frequency/mean	Percentage/SD	95% CI
Child's characteristics			
Age (months)*	13.39	6.41	13.22 to 13.56
Female sex	2669	49.06	47.73 to 50.27
Maternal characteristics			
Age (years)*	26.89	5.64	26.74 to 27.04
Age at first marriage*	18.23	2.73	18.16 to 18.31
Age at first pregnancy*	19.32	2.94	19.25 to 19.40
Maternal education			
No schooling	4191	77.04	75.90 to 78.14
At least 1 year of formal education	1249	22.96	21.86 to 24.10
Antenatal care check-ups			
Less than four	4626	85.04	84.06 to 85.96
At least four	814	14.96	14.04 to 15.94
Number of children			
1	1163	21.38	20.31 to 22.49
2–3	2328	42.79	41.48 to 44.11
4+	1949	35.83	34.56 to 37.11
Type of delivery			
Caesarean	852	15.66	14.72 to 16.65
Vaginal	4588	84.34	83.35 to 85.28
Decision-making power over			
Food purchases	2393	43.99	42.67 to 45.31
Major household purchases	1348	24.78	23.65 to 25.94
Food preparation	4186	76.95	75.81 to 78.05
Children's healthcare	3133	57.59	56.27 to 58.90
Own healthcare	2771	50.94	49.61 to 52.27
Visiting family and relatives	2327	42.78	41.47 to 44.10
All types of decision making	928	17.06	16.08 to 18.08
Household characteristics			
Household size*	6.3	2.45	6.23 to 6.36
Education of household head			
At least 1 year of formal education	2784	51.18	49.85 to 52.50
No schooling	2656	48.82	47.50 to 50.15
Sex of household head			
Male	5244	96.40	95.87 to 96.86
Female	196	3.60	3.13 to 4.14
Religion			
Non-Muslim	476	8.75	8.03 to 9.53
Muslim	4964	91.25	90.47 to 91.97
Household food insecurity			
Food secure	764	14.04	13.15 to 14.99
Mildly food insecure	603	11.08	10.28 to 11.95
Moderately food insecure	2523	46.38	45.06 to 47.71
Severely food insecure	1550	28.49	27.31 to 29.71

*Mean±SD.

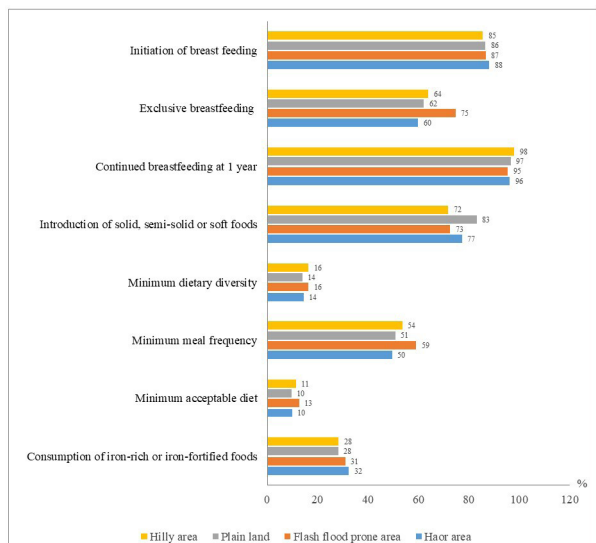


Figure 1 Distribution of infant and young child feeding indicators by type of terrain.

areas. Consumption of iron-rich food during last 24 hours preceding the interview was observed for 32% of children in haor areas.

Table 2 presents the associations between the IYCF indicators and the type of terrain. Four of the eight core indicators were significantly associated with the type of terrain. Compared with the plain land, flash-flood prone areas were associated with significantly better odds of exclusive breast feeding (1.92, 95% CI 1.12 to 3.30; $p=0.019$), MMF (1.45, 95% CI 1.07 to 1.97; $p=0.018$) and MAD (1.63, 95% CI 1.01 to 2.63; $p=0.046$). However, hilly areas were associated with a significantly lower odds of introduction of solid, semi-solid or soft foods (0.39, 95% CI 0.18 to 0.82; $p=0.013$) compared with plain land.

DISCUSSION

Here, we analysed data generated in the *Suchana* baseline survey (which employed a cross-sectional design) to examine the prevalence of WHO-recommended core IYCF indicators and their associations with the type of terrain among potential beneficiaries of the *Suchana* intervention in rural Bangladesh. The results indicated that, compared with children living in plain lands, children living in flash-flood prone areas were significantly more likely to achieve EBF, MMF and MAD. In contrast, children in hilly areas were significantly less likely to be introduced to solid and semi-solid foods at an appropriate age.

In this study of a vulnerable population in north-east Bangladesh, four of the eight core IYCF indicators (EBF; initiation of solid, semi-solid and soft foods; MMF; MAD) were significantly related to the type of terrain. A small number of studies reported that the feeding practices of children vary with the geographical setting.^{23 24} Geographical differences have also been denoted as one of the variables associated with inappropriate complementary feeding practices among children aged 6–23 months in low-income countries.^{17 25–30} Similarly to our study, the area of residence (urban) was described as a key element of EBF in a study conducted in Ethiopia.³¹ A study in India found MMF and MAD were related with area of residence comparable to our study.⁵ A number of community-based cross-sectional studies from India demonstrated significant associations between MAD and the area of residence,^{5 31} similar to this analysis.

A systematic review of data on children below 2 years of age from Bangladesh reported living in a flood-prone area was an impediment to IYCF practices.³² In contrast, we observed higher rates of EBF, MMF and MAD practices in flood-prone areas compared with the other areas.

Table 2 Strength of associations between the IYCF indicators and the type of terrain using plain land as the reference

IYCF indicator	Adjusted OR (95% CI), P value		
	Haor (wetland)	Flash flood prone	Hilly
Exclusively breast fed	0.93 (0.68 to 1.27), 0.644	1.92 (1.12 to 3.30), 0.019	1.21 (0.76 to 1.92), 0.414
Initiation of breast feeding within 1 hour of birth	1.13 (0.88 to 1.45), 0.320	1.02 (0.76 to 1.37), 0.877	0.83 (0.68 to 1.01), 0.059
Continued breast feeding at 1 year	0.93 (0.41 to 2.12), 0.868	0.78 (0.28 to 2.15), 0.631	2.04 (0.38 to 10.9), 0.400
Introduction of solid, semisolid or soft foods	0.67 (0.34 to 1.31), 0.234	0.58 (0.20 to 1.67), 0.311	0.39 (0.18 to 0.82), 0.013
Minimum dietary diversity	1.13 (0.90 to 1.42), 0.297	1.43 (0.86 to 2.35), 0.162	1.06 (0.78 to 1.45), 0.688
Minimum meal frequency	0.99 (0.79 to 1.24), 0.914	1.45 (1.07 to 1.97), 0.018	1.08 (0.88 to 1.34), 0.455
Minimum acceptable diet	1.10 (0.83 to 1.47), 0.491	1.63 (1.01 to 2.63), 0.046	1.08 (0.74 to 1.58), 0.684
Consumption of iron-rich/fortified foods	1.23 (0.98 to 1.54), 0.079	1.30 (0.95 to 1.78), 0.099	0.91 (0.60 to 1.38), 0.658

Adjusted for child's sex and age, maternal age at marriage, education, number of children, antenatal care, maternal nutritional status, type of delivery, experience of any domestic violence, decision-making power, the educational level of the HH head, the sex of HH head, the age of HH head, HH size, HFIAS and HH asset index. Clusters were adjusted.

HFIAS, Household Food Insecurity Access Scale; HH, household; IYCF, infant and young child feeding.

Mothers of flash-flood prone areas were well motivated possibly, particularly from their late pregnancy for practising high rates of exclusive breast feeding, though breast feeding at 1 year was not optimum (not statistically significant though), which could be due to their involvement in agricultural or other wage-earning activities. Additionally, these discrepancies could be attributed to the differences in the feeding habits and purchasing power of households in specific types of terrain. Lower dietary diversity that impacted MAD has been reported for living in rural compared with those in urban Nepal; this may have been influenced by household food insecurity status and traditional beliefs and practices regarding food consumption. For example, in rural communities in Nepal, vegetables and fruits are considered hazardous to the health of infants and young children because these foods are regarded as 'cold foods'.^{5 33} Similar to this analysis, mothers' knowledge on the timing and importance of IYCF, and IYCF practices may be of suboptimum level, which may be related to the cultural background of the household as well as the community. The study also mentioned the existence of widespread misconceptions that less than 1-year-old infants are unable to digest food from animal sources.²⁵

Seasonal and agroecological variations in IYCF practices among children aged 6–23 months were observed in Ethiopia due to the fact that food availability and access in the country are strongly affected by seasonality.³⁰ At the household level, attributing factors such as the participation of women in agricultural activities often reduces the time available to mothers for the care of infants and young children. Furthermore, among communities that primarily rely on production of cash crops, their selling of the products results in ready purchase of food stuffs for the household. Some communities also produce vegetables and fruits, which to an extent are consumed at the household level. This could be the possible reason for not practising timely initiation of solid and semisolid foods by the mothers belonging to *hilly* areas; may be due to their increasing commitments in agricultural activities in the field, wage-earning doings as day labourer or family commitments, they failed to introduce solid/semi-solid foods to their children in due time.

Geographical variations in dietary diversity in Indonesia have been related to different food cultures or beliefs about the types of foods that are suitable for infants and young children and the availability of these foods, and these factors negatively impact MAD.²⁶ In India, food insecurity in the poorest households and traditional barriers in households in the middle wealth quintile were identified as factors for children not attaining MAD. The factors that consistently impacted inappropriate IYCF practices were a low-level schooling of the mother, a low frequency of antenatal visits and lack of exposure to media.²⁹

Complementary feeding is frequently not initiated at an appropriate age: children may be fed irregularly and the nutritional quality of the complementary food is low-grade, which does not support optimal growth and

development.³⁴ Nutrition interventions can encourage the adoption of conventional food preparations within communities and can also improve the recipe by incorporating additional locally accessible and culturally acceptable foods with a high nutritive value.³⁵ Previous interventions aiming to increase IYCF knowledge and increase appropriate practice of mothers should suit well in remote rural areas^{31 36} to make it easy and encouraging for them. Furthermore, nutrition interventions that aim to promote child feeding should also involve other household members beyond the mothers, including the fathers and grandparents of the children; these individuals contribute largely to the family income, take the lead in decisions at the household level and have authority over their children's well-being.³⁷

Inadequate IYCF practices have been identified as one of the most imperative proximal elements that contribute to the high burden of child malnutrition in Bangladesh. Large-scale interventions to promote the improvements in the crucial factors associated with undernutrition in Bangladesh, such as IYCF practices, are urgently required to accelerate the reduction in undernutrition.^{14 38} Well-designed, well-implemented, large-scale interventions that involve interpersonal and mass communication and strategic use of resources have great potential to rapidly improve IYCF practices.¹⁴ In this regard, the framework of the *Suchana* programme—a large-scale nutrition programme that aims to improve the nutritional status of children belonging to the lowest socioeconomic rural segment of Bangladesh—stresses the importance of key IYCF practices. One of the mandates of the *Suchana* programme is to enhance IYCF practices and also establish a better system to maintain these integral improvements. As the prevalence of the IYCF indicators did not considerably vary between the various types of terrain in this analysis, the programme does not need to adopt specific approaches for each area; rather a comprehensive approach will be suitable. Furthermore, access to adequate nutrition, together with cooperation from the family to facilitate optimal feeding practices, is a basic right that should be secured and promoted for every child.³⁹

One of the explicit purposes of the global strategy for IYCF is to construct an environment that will allow mothers, families and other caregivers to choose and apply conversant options about ideal feeding practices for infants and young children in all situations³⁹; these principles have also been adopted within the implementation strategy of the *Suchana* intervention. Nutrition interventions are not only about health; while consolidating local food habits, this ensures the contentment of the child and convenience for the mother.⁴⁰ Moreover, the widespread availability of quality diets for children has been acknowledged to be an imperative part of the wider economic policy approaches for the future economic growth and development of a nation.³⁶

The large sample size, and accurate techniques of selecting the study households and quality of statistical

methodology represent strengths of this study. The study selected only households that had children below 2 years of age. The study area included, purposively selected only two of the four districts of Sylhet region. Moreover, only vulnerable populations were studied. Thus, the results may not be representative of the marginalised population of the entire region, and findings cannot be generalised to all segments of the society. Because of its cross-sectional nature and the absence of longitudinal follow-up or cohort design, the study is grossly lacking any changes that may have occurred during the entire study period. When collecting data on the IYCF practices, we had to depend solely on the respondents' responses; thus, there is a probability of introducing recall bias. Nonetheless, all attempts were made to minimise bias by providing a 4-week specific training to our data collectors on interview techniques for questions that could be subject to recall bias.

CONCLUSIONS

The current study demonstrated associations between four core IYCF indicators and the type of terrain. The prevalence of the core indicators could be set as benchmarks when planning future interventions to improve IYCF practices among underprivileged populations in rural Bangladesh. However, it should be noted that the full set of indicators should be considered for programmatic purposes. It should also be emphasised that context-specific and evidence-based indicators of IYCF intervention are included in and supported by the national policy.

Acknowledgements This article is based on data during the *Suchana* baseline survey; this intervention is being implemented by Save the Children, with support from the Foreign, Commonwealth and Development Office (FCDO) and the European Union (EU). The International Centre for Diarrhoeal Disease Research, Bangladesh (icddr,b) acknowledges with gratitude the commitment of Save the Children, the FCDO and the EU to its research efforts. We acknowledge with gratitude the commitment of the Government of the People's Republic of Bangladesh to icddr,b's research strength. We also acknowledge the following donors for providing unrestricted support to icddr,b's effort and advancement of its strategic plan: Canada (Department of Foreign Affairs, Trade and Development), Sweden (Sida) and the UK (FCDO). We gratefully acknowledge our core donors for their support and commitment to icddr,b's research efforts. We would like to acknowledge the invaluable contributions of Save the Children as lead agency, the technical partners Helen Keller International, World Fish and International Development Enterprises and the implementing partners Friends In Village Development Bangladesh, Rangpur Dinajpur Rural Services and the Centre for Natural Resource Studies, which played critical roles in the study.

Contributors MAH conceptualised the manuscript. MAH, FDF, MA and MJR performed statistical analysis. FDF drafted the manuscript. ASGF, TA, NC, TJS, FN, SMTA and SSR critically reviewed the scientific content of the manuscript. All authors contributed to the revision of the final draft before submission, read and approved the final version, and are responsible for the final content of this article.

Funding This work was supported by Foreign, Commonwealth and Development Office (grant/project number 204131–103).

Competing interests None declared.

Patient and public involvement Patients and/or the public were not actively involved in the design, conduct, reporting or dissemination plans of this research. Refer to the Methods section for further details.

Patient consent for publication Consent obtained from parent(s)/guardian(s).

Ethics approval This study was approved by the Research Review Committee and the Ethical Review Committee, the two obligatory components of the institutional review board of the icddr,b. Written informed consent was obtained from all study participants. The enumerator informed each respondent about the purpose of the study by reading the consent form aloud at the beginning of each interview. The respondents were also informed of the voluntary nature of their participation, the maintenance of their confidentiality and their right to withdraw from the study at any point during the interview. The identities of the respondents were not used while analyzing the data.

Provenance and peer review Not commissioned; externally peer reviewed.

Data availability statement Data are available upon reasonable request. All data relevant to the study are included in the article or uploaded as supplemental information. The data of this study on which the findings are based upon, are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

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