




# ENDLINE SURVEY FOR NUTRITION INTERNATIONAL'S MATERNAL AND NEW BORN HEALTH AND NUTRITION INTERVENTIONS IN BANGLADESH, 2024


Prepared for:  
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## List of Acronyms

AHI	Assistant Health Inspector
ANC	Antenatal Care
BCI	Behaviour Change Intervention
BDHS	Bangladesh Demographic and Household Survey
BMRC	Bangladesh Medical Research Council
BP	Blood Pressure/Birth Postpartum/Beneficiaries Perception
BRAC	Bangladesh Rural Advancement Committee
BSCIC	Bangladesh Small and Cottage Industries Corporation
CHCP	Community Health Care Provider
CHW	Community Health Worker
CI	Confidence Interval
CIDD	Control of Iodine Deficiency Disorders
CSA	Complex Sample Analysis
CSBA	Community Skilled Birth Attendant
CSPN	Child Safety and Protection Nutritionist
DGFP	Directorate General of Family Planning
DGHS	Directorate General of Health Services
DDFP	Deputy Director Family Planning
DNA	Deoxy Nucleic Acid
EA	Enumerating area
EPI	Expanded Programme on Immunization
FPI	Family Planning Inspector
FWA	Family Welfare Assistant
FWC	Family Welfare Center
FWV	Family Welfare Volunteer
GoB	Government of Bangladesh
HA	Health Assistant
HI	Health Inspector
HIV	Human Immunodeficiency Virus
HH	Household
IFA	Iron Folic Acid
IPC	Interpersonal Communication/Intensive Pregnancy Care
IPHN	Institute of Public Health and Nutrition
IUGR	Intra Uterine Growth Restriction
IYCF	Infant and Young Child Feeding
KAP	Knowledge, Attitude and Practice
KII	Key Informants Interview
MCWC	Mother and Child Welfare Center
MDG	Millennium Development Goals
MOI	Ministry of Industries
MoHFW	Ministry of Health and Family Welfare
MTEPI	Medical Technologist - Expanded Program on Immunization
NGO	Non-Government Organization
NI	Nutrition International
NNS	National Nutrition Services
NPNL	Non-Pregnant and Non-Lactating
NTD	Neural Tube Defects
PPS	Probability Proportion to Size
RS	Right Start
SACMO	Sub-Assistant Community Medical Officer
SDG	Sustainable Development Goals

SI	Sanitary Inspector
SSN	Senior Staff Nurse
TB	Tuberculosis
TBA	Trained Birth Assistant
UHC	Upazila Health Complex
UH&FWC	Union Health and Family Welfare Center
UNICEF	United Nations Children's Fund
UPHCC	Urban Primary Health Care Center
USC	Union Sub-Center
WHO	World Health Organization

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## Executive Summary

### **Introduction**

The endline survey for Nutrition International's Maternal and Newborn Health and Nutrition (MNHN) interventions in Bangladesh aimed to track progress against key indicators of NI's programs on maternal and newborn health and nutrition (MNHN) since baseline, focusing on iron folic acid (IFA) supplementation across 16 intervention districts, specifically targeting women who are 0-11 months postpartum. The study sought to assess the coverage, adherence, and knowledge of IFA supplementation, along with maternal and newborn health practices, to guide future interventions. The focus on IFA supplementation and maternal nutrition is crucial in improving maternal health outcomes and reducing the prevalence of anemia and low birth weight.

### **Methodology**

The study employed a mixed-method approach, combining quantitative data from structured interviews with qualitative data from Key Informant Interviews (KIIs) to ensure a comprehensive assessment. A multi-stage sampling method was used to select a sample of 3,840 postpartum women from 16 districts across Bangladesh. Using mobile data collection tools, data was collected from healthcare providers, service users, and key informants. Statistical analyses, including univariate, bivariate, and complex sample analysis, were performed using SPSS. Qualitative data was analyzed through a thematic analysis approach to identify key insights into barriers and opportunities in maternal and newborn health.

### **Key Findings and Their Impact**

The endline survey reveals significant progress in improving key maternal and newborn health indicators, reflecting the impact of Nutrition International's (NI) intervention in Bangladesh. These improvements highlight the success of the program in addressing maternal anemia, improving ANC uptake, and promoting newborn health practices, though some challenges persist in ensuring long-term sustainability and adherence.

**IFA Supplementation and Maternal Nutrition:** One of the primary objectives of the intervention was to improve Iron Folic Acid (IFA) supplementation among pregnant women. The survey found that 88.1% of mothers received any IFA supplements during pregnancy, a significant increase from 81.1% at baseline. This shows improved coverage and access to IFA supplements, indicating that the program was effective in increasing availability and awareness. However, a small decline in the percentage of mothers receiving at least 90 tablets (71.4% at baseline to 70.5% at endline). Also, 95.3% of respondents visiting public facilities received iron/IFA supplements, and 81.3% received at least 90 tablets, which is higher than the overall estimates and certainly higher than private health facilities; 46.4% of mothers (52.7% from public health facilities) received the recommended 150 tablets, a decline from 57.4% at baseline, which suggests that while IFA supplementation is more widely available, there are challenges in adherence. Among surveyed women, 64.4% consumed (71.3% from public facilities) more than 90 tablets, a 4.9 percentage point decrease from the baseline (69.40). Women often face side effects such as nausea, which discourages them from completing the full course. The increase in coverage is a positive outcome, but the drop in adherence underlines the need for enhanced counseling and support to manage side effects and ensure compliance.

**Antenatal Care (ANC):** The uptake of Antenatal Care (ANC) services has also improved significantly. The survey shows that 97.3% of mothers received ANC at least once, compared to 80.8% at baseline, marking a 16.5 percentage point increase in the uptake of ANC services. This improvement reflects successful outreach efforts and greater health-seeking behavior among pregnant women. However, the percentage of mothers who completed the recommended four ANC visits remained relatively stagnant at 56.5% (Women receiving ANC from public health facility went for at least 4 ANC visits was 61.3%), indicating that while many women access ANC services initially,

continuity of care remains a challenge. Barriers such as transportation issues, distance, and time constraints continue to prevent some women from completing the full course of ANC visits. These barriers need to be addressed to ensure that pregnant women receive the full range of preventive care necessary to manage anemia and other complications.

**Knowledge and Practices Related to Maternal and Newborn Health:** The intervention has had a positive impact on maternal knowledge about anemia prevention and breastfeeding practices. At endline, 87.9% of mothers were aware of the benefits of IFA supplementation, up from 77.8% at baseline, demonstrating the success of Behavior Change Communication (BCC) programs in raising awareness. Additionally, 94% of mothers were informed about breastfeeding initiation within the first hour of birth, indicating improvements in newborn care knowledge. Despite these gains in knowledge, the survey found a decrease in the percentage of mothers who reported overcoming barriers to IFA consumption (from 74.3% to 58.3%), which suggests that knowledge alone is insufficient to change behavior. Cultural barriers, superstitions, and side effects are still significant challenges that prevent adherence to recommended health practices, particularly in rural areas.

**Breastfeeding and Skilled Birth Attendance:** The intervention has also contributed to positive changes in newborn care practices, particularly in breastfeeding and skilled birth attendance. The percentage of mothers who initiated breastfeeding within one hour after birth increased to 71.3% at the endline, up from 68.0% at baseline, reflecting an improvement in early newborn care practices. Additionally, the proportion of births attended by a skilled birth attendant (SBA) rose dramatically from 84.9% at baseline to 97.3% at the endline. This improvement indicates that skilled care during delivery is becoming more accessible, which is crucial for reducing maternal mortality and preventing newborn complications. The increased access to skilled birth attendance and early breastfeeding is a positive outcome, as both are key determinants of maternal and newborn health.

**Facility Stock and Supply:** A significant improvement was noted in the availability of IFA supplements at health facilities. The percentage of facilities reporting stockouts of IFA supplements decreased from 30% at baseline to 13.1% at endline, indicating that the supply chain has been strengthened. This is a crucial improvement, as consistent availability of IFA supplements is essential to the success of the program. However, while the reduction in stockouts is a positive trend, 13.1% of facilities still experienced stockouts, indicating that supply chain management is not yet fully optimized. Ensuring consistent availability of IFA supplements in all facilities, particularly in remote areas, remains a critical challenge to ensure that every pregnant woman has access to these vital nutrients.

**Barriers to Program Effectiveness:** Despite the positive changes, the program continues to face significant barriers that affect its overall effectiveness. Manpower shortages remain a key challenge, particularly in remote areas. Many health workers reported being unable to cover large regions due to insufficient staff, which limits the program's ability to reach all target populations. Additionally, cultural resistance (such as traditional beliefs that prioritize natural remedies over supplements, the belief that it causes babies to grow too large, leading to difficult deliveries and excessive bleeding, that IFA is only for pregnant mothers who are sick, and concerns about side effects like nausea etc.) to IFA supplementation and newborn care practices persists in some areas, particularly in conservative communities. These cultural barriers need to be addressed through community engagement and the involvement of local leaders to ensure that health practices are accepted and followed. Logistical challenges, such as stockouts and transportation issues, also continue to affect the program's ability to maintain consistent service delivery, particularly in hard-to-reach areas.

**Conclusion and Recommendations**

The Nutrition International (NI) intervention has led to significant improvements in key maternal and newborn health indicators, particularly in IFA supplementation, antenatal care (ANC) uptake, and breastfeeding initiation. Receiving or purchasing any IFA supplementation increased from 81.1% to 88.1%, but adherence remains a challenge, with only 46.4% of mothers completing the recommended dosage. ANC services saw a marked increase, with 97.3% of mothers receiving at least one ANC visit, though continuity of care remains an issue, with only 56.5% of mothers completing the four visits. Improvements in skilled birth attendance and early breastfeeding initiation reflect successful outreach efforts, but cultural barriers and logistical challenges continue to hinder the program's effectiveness, particularly in remote regions.

To address these challenges, several recommendations have been made. Short-term efforts should focus on enhancing IFA adherence through better counseling and ensuring consistent stock of supplements in healthcare facilities. Medium-term recommendations include expanding ANC follow-up services, using reminder systems, and scaling up behavior change communication (BCC) to target broader populations. Long-term efforts should concentrate on strengthening healthcare infrastructure in rural areas, addressing cultural barriers through community engagement, and improving monitoring and evaluation (M&E) systems to ensure sustainability and effective program delivery. These efforts are essential to ensure the program's continued success and achieve lasting improvements in maternal health and newborn care across Bangladesh.

## Key Indicators at a Glance

Indicators	Baseline			Endline			p-value
	#	%	N	#	%	N	
% of mothers of infants 0-11 months who received ANY iron/IFA supplements throughout their previous pregnancy	3127	81.1	3840	3381	88.1	3840	0.00001
% of mothers of infants 0-11 months who received at least 90 iron/IFA supplements throughout their previous pregnancy	2740	71.4	3840	2705	70.5	3840	0.28914
% of mothers of infants 0-11 months who received at least 150 iron/IFA supplements throughout their previous pregnancy	2157	57.4	3840	1782	46.4	3840	0.00001
% of mothers of infants 0-11 months who received ANC by a skilled health provider at least once during previous pregnancy	3103	80.8	3840	3737	97.3	3840	0.00001
% of mothers of infants 0-11 months who received ANC by a skilled health provider at least four times during previous pregnancy	2181	56.8	3840	2168	56.5	3840	0.78716
% of mothers of infants 0-11 months who received ANC by a skilled health provider in their first trimester during previous pregnancy		42.9	3840	1980	51.6	3840	0.00001
% of mothers of infants 0-11 months who can describe one benefit or reason for consuming iron/IFA supplementation during pregnancy		77.8	3840	3376	87.9	3840	0.00001
% of mothers of infants 0-11 months who can explain how to overcome at least one typical barrier to consuming iron/IFA supplements during pregnancy		74.3	3840	2239	58.3	3840	0.00001
% of mothers of infants 0-11 months who have been exposed to BCIs about daily iron/IFA supplements throughout pregnancy	3114	82.3		3462	84.9	3840	0.00001
% of mothers of infants 0-11 months who can describe one sign or symptom of anemia	2930	78.7	3840	3453	89.9	3840	0.00001
% of mothers who have good knowledge of health nutrition and diet	3613	94.1	3840	3829	99.7	3840	0.00001
In areas supported by NI, % of contact points (community/facility) that experienced a stock out of IFA at any point in the last 3 months	69	17.0	304	34	10.6	321	0.02034
In areas supported by NI, % of contact points (community/facility) that experienced a stock out of IFA at any point during the year	75	30	304	42	13.1	321	0.00001
In areas supported by NI, % of contact points (community/facility) with IFA supplements adhering to local standards at the time of monitoring visit	184	55	244	279	86.9	321	0.00001
In areas supported by NI, % and # of providers consulted in a KAP survey who can describe at least three benefits or reasons for consumption of IFA during pregnancy	395	67		299	93.1	321	0.00001
In areas supported by NI, % and # of providers able to correctly identify how to overcome at least two typical barriers to IFA consumption by pregnant women (counseling skills)				314	97.8	321	-

Indicators	Baseline			Endline			p-value
	#	%	N	#	%	N	
% of providers who have good knowledge of health nutrition and diet				317	98.8	321	-
% of newborns who received timely initiation of breastfeeding in the past year	2612	68	3840	2736	71.3	3840	0.00164
% of births assisted by a skilled birth attendant in the past year	3260	84.9	3840	3735	97.3	3840	0.00001
% newborns receiving optimal timing of cord clamping in the past year	261	6.8	3840	267	6.9	3840	0.86502
% of women 0-11 months postpartum who can name one benefit or reason to put the newborn to breast within one hour of birth	3510	91.4	3840	3627	92	3840	0.00001
% of women 0-11 months postpartum who can describe how soon to put the newborn to breast	3395	88.4	3840	3663	95.4	3840	0.00001