

Delivery of maternal nutrition interventions at scale and mainstreaming into the health system in Bangladesh



Frontline worker demonstrating dietary diversity to a pregnant woman and her husband, Bangladesh, 2017

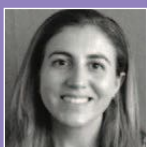
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BANGLADESH

What we know: Maternal nutrition is a significant public health concern in Bangladesh that can lead to small-for-gestational age and pre-term newborns thus perpetuating the intergenerational cycle of malnutrition.

What this article adds: Alive & Thrive (A&T) carried out implementation research between 2015 and 2016 on the integration of maternal nutrition into existing large-scale programme platforms in Bangladesh. Results demonstrated significant impacts on the coverage of maternal nutrition services, maternal dietary diversity, the number of iron folic acid (IFA) and calcium supplements consumed and exclusive breast-feeding rates in just one year. Effects were likely due to a carefully designed, context-specific package of maternal nutrition interventions, the high quality and coverage of programme delivery and strong stakeholder engagement. Ongoing A&T technical assistance has helped mainstream maternal nutrition in key Government of Bangladesh (GoB) priority areas. This involved inclusion of maternal nutrition interventions in national strategies and programme guidelines, the development of national capacity building materials and supervision tools, the development of health service delivery standard operation procedures and counselling tools and integration with health information systems and social protection programming. Challenges to integration across nutrition-specific and nutrition-sensitive programmes include high staff workload and staff turnover and data gaps in routine monitoring systems.

Background

Maternal and child undernutrition in Bangladesh

In Bangladesh, while women's nutrition has improved significantly over the past decade, undernutrition in this group remains high. Among ever-married adolescents and women aged 15 to 49 years, 19% are underweight (body mass index (BMI) <18.5 kg/m²), a decrease from 34% in 2004 (Black et al, 2013). Nearly one in two women of reproductive age (15 to 49 years) are anaemic (42%) and one quarter of

non-pregnant non-lactating Bangladeshi women are calcium deficient – a risk factor for pre-eclampsia (currently the second leading cause of maternal death, globally responsible for 19% of total deaths) (Government of Bangladesh, 2015; Black et al, 2013). Diet quality is a challenge in Bangladesh; the mean dietary diversity score for women aged 10 to 49 years was 4.1 in 2015, a decrease from 4.4 in 2014 (JPG, 2016). The coverage of antenatal care (ANC) services has steadily improved in Bangladesh but still falls short with

only 47% of pregnant women completing four or more ANC visits during pregnancy in 2017 (an increase from 31% in 2014) indicating that Bangladeshi women are missing opportunities for maternal nutrition services such as nutrition counselling, weight monitoring and micronutrient supplementation.

Inadequate maternal nutrition has consequences for both mothers and infants. Poor maternal nutrition, including anaemia and calcium deficiency, puts women at risk of preventable death and complications during pregnancy and delivery. Poor maternal nutrition also has implications for the growth and development of women's infants. Undernourished mothers are at a higher risk of giving birth to low birth weight (LBW) babies, a key risk factor for wasting in infancy and childhood and non-communicable diseases and short stature in later life. The rate of LBW in Bangladesh is high at 27.8% (UNICEF and WHO, 2019). Maternal micronutrient deficiencies also increase the risk of birth defects and cognitive impairments. Infant feeding practices are another key determinant of early undernutrition.

Maternal nutrition programming in Bangladesh

The first major vertical nutrition programme to be implemented in Bangladesh was the government-led Bangladesh Integrated Nutrition Program (BINP) which operated between 1996 and 2002. Community-based nutrition activities were a core component of the BINP, implemented through partner non-governmental organisations (NGOs). Although the BINP ended in 2002, the same activities were continued until 2011 under the government-led, NGO-implemented National Nutrition Project (NNP). The community-based maternal nutrition component of BINP and NNP focused primarily on pregnancy weight monitoring, nutrition education, iron and folic acid (IFA) supplementation and food supplementation.¹ The BINP covered 61 sub-districts known as upazilas (approximately 16% of the rural population); the NNP then scaled up to cover 110 out of 492 upazilas (nearly one quarter of the population). Despite various successes and positive outcomes, the BINP and NNP faced programmatic challenges in terms of cost effectiveness for services delivered and low impact on project targets for reducing low birth weight and stunting (White et al, 2005).

In consideration of the importance of an integrated approach to achieve better nutrition outcomes, the vertical approach (NNP) was closed down in 2011 and, instead, nutrition

services were mainstreamed through the government health service delivery platform. This was implemented under the Health, Population and Nutrition Sector Development Program (HPNSDP) from July 2011- June 2016 and was guided by the National Nutrition Services Operational Plan (NNS OP).

Integration of maternal nutrition into Alive & Thrive/BRAC Health, Nutrition and Population Program (HNPP)

In 2014, Alive & Thrive set out to address the dearth of experience or evidence of addressing maternal nutrition in a comprehensive manner by testing the feasibility of integrating a package of maternal nutrition interventions into the maternal, newborn and child health (MNCH) programme of BRAC's large-scale Health, Nutrition and Population Program (HNPP) in Bangladesh.²

A&T designed a package of maternal nutrition interventions that included iron and folic acid (IFA) supplementation, calcium supplementation, promotion of a varied diet, counselling on improved protein and energy intake, the monthly weight gain tracking of pregnant women and the promotion of early initiation and exclusive breast-feeding. A&T's interventions took place through BRAC's health and community services and focused on reaching pregnant women, postpartum mothers and individuals who influence women's nutrition-related decisions including family members, community influencers and health care providers. Interventions were delivered through home-based counselling, coaching and demonstrations by BRAC workers on dietary diversity and appropriate food quantity during

pregnancy and lactation, regular antenatal care (ANC) visits for the provision of free IFA and calcium tablets and measurement of weight gain and community mobilisation platforms including 'husband forums' that aimed to shift social norms on pregnancy and gender.

The package was delivered in 10 'intensive' (intervention) upazilas with 10 'non-intensive' (comparison) upazilas serving as the control. Mothers in the intensive group received BRAC's standard MNCH programme and A&T's intensified package of maternal nutrition interventions while the non-intensive group received only BRAC's standard MNCH program (Table 1). A baseline survey was conducted between July and August 2015 followed one year later by an endline survey between July and August 2016 in both the A&T intensive and comparison areas with the International Food Policy Research Institute (IFPRI) as the evaluation partner. Results showed that the intervention had a significant positive impact on the consumption of IFA and calcium tablets, on maternal dietary intake (dietary diversity and micronutrient intake) and on exclusive breast-feeding but not on initiation of breast-feeding.³

Lessons learned

Published results demonstrate that integrating maternal nutrition into large-scale maternal, newborn and child health (MNCH) services is feasible and effective. Our approach yielded numerous lessons learned for programmers and policymakers about how to change maternal nutrition behaviors and improve the quality of service delivery.⁵ Key lessons learned are described in Box 1.

Table 1 Intensive and non-intensive interventions

Indicator	Indicator Intensive (intervention) upazilas	Non-intensive (comparison) upazilas
Counselling on diet diversity and quantity	Improved counselling with emphasis on coaching and demonstration	Routine nutrition education messages during antenatal care (ANC) contacts
Iron folic acid (IFA) and calcium supplements	Provision of free IFA and calcium tablets and emphasis on compliance during home visits by Shastho Kormi (SK) (salaried frontline workers)	IFA/calcium tablets sold by Shastho Shebika (SS) (volunteer frontline workers) or provided for free by the government
Weight measurement	Measurement and documentation of weight gain (or loss) of women every month by SK	None
Counselling on early breast-feeding and exclusive breast-feeding	More frequent counselling, supervision and monitoring and problem-solving	Routine messages in third trimester
Social mobilisation	Husband forums held in second and third trimesters and interactive media events	None
Number of visits during pregnancy and postpartum	SK: 7 visits during pregnancy, 5 visits during postpartum SS: 14 visits during pregnancy, 10 visits during postpartum	SK: 7 visits during pregnancy, 5 visits during postpartum SS: 7 visits during pregnancy, 0 visits during postpartum
Incentive structure	Added monetary incentives for SS workers who effectively achieved the following measures (in addition to activities under the standard incentive structure): ⁴ - SS visits twice per month - Pregnant woman/recently delivered woman eats food from at least five food groups - Pregnant woman takes 30 IFA/30 calcium tablets - SS helps SK to record weight of all pregnant women	Identification of pregnant women Ensure early initiation of breast-feeding

¹ During 2004 and 2011, NNP was implemented without food supplementation.

² BRAC is an international development organisation based in Bangladesh <http://www.brac.net/>

³ Findings described in research snapshot in this edition entitled "Integrating nutrition interventions into an existing maternal, neonatal and child health programme in Bangladesh"

⁴ If all additional criteria were achieved, SS workers received \$1.30/month

⁵ Alive & Thrive. 2017. Implementation Manual: Community-based Maternal Nutrition Program, Bangladesh. Dhaka, Bangladesh: Alive & Thrive.

Box 1 Key lessons learned from the Alive & Thrive/BRAC maternal nutrition initiative

1. Behaviour Change (SBC) interventions can impact maternal nutrition behaviors within a relatively short period of time.
2. The focus for SBC interventions should be the prioritisation of key behaviours and on small doable actions that pregnant women and influencers can take.
3. The use of multiple platforms and high intensity of exposure through different channels helps to reinforce key messages and change behaviours.
4. Supportive supervision is essential to boost the knowledge and performance of health providers, especially their counselling skills.
5. SBC approaches need to target pregnant women and the secondary audiences who influence them, e.g. husbands, mothers-in-law, community elders and health workers.
6. Quality of SBC messages is as important as the quantity of messages (Nguyen et al, 2018).
7. Rigorous data is essential to improve coverage and the quality of interventions.
8. Leveraging champions and building advocacy coalitions are essential to support and sustain the progress made.

Based on the study findings and the results of a sustainability assessment conducted by Harvard University on the dimensions and determinants of sustainability in Bangladesh, the following lessons have been learned around the sustainability of the programme:

- **Financing:** The gains in nutrition require sustained funding to continue success; without sustained financing, activities are at risk due to a decline in dose and fidelity over time which will affect outcomes.
- **Incentive schemes:** Incentives (financial or non-financial such as awards or certificates) are important to motivate frontline workers (FLWs) to integrate Maternal, Infant and Young Child Nutrition (MIYCN) into their work. Currently the Government of Bangladesh (GoB) does not provide incentives to health workers. Advocacy among policymakers will be required to incorporate this approach into the government system and take it to scale.
- **FLWs' competing priorities:** When integrating MIYCN into existing FLW roles, special effort must be made to protect gains in MIYCN as health workers are often stretched thinly with many priorities.
- **Health workforce turnover:** High turnover of FLWs and high-level officials can lead to difficulty in maintaining a shared understanding of and commitment to nutrition priorities.
- **Social and behavioral factors:** Social and behavioral challenges are persistent and require sustained efforts to reach new caregivers entering the 1,000 day period and sustained efforts to motivate FLWs to persist in their interpersonal counselling (IPC) despite Social Behaviour Change (SBC) challenges.

Integration of maternal nutrition into large-scale MNCH services

BRAC has continued to support intensive counselling on maternal nutrition as part of its ongoing Essential Health Care programme. The compelling results of the implementation research have influenced the Government of Bangladesh (GoB) to accelerate the mainstreaming of maternal nutrition in the health system. The GoB, Alive & Thrive (A&T) and other partners have

utilised and incorporated evidence and lessons learned from this research into several national strategy plans and documents and maternal nutrition Social Behaviour Change (SBC) approaches and counselling messages have been institutionalised into national nutrition frameworks, guidelines and tools to strengthen service delivery coverage and quality. Several interlinked progressive steps were taken to this end:

- **ANC services delivered at primary health care facilities (Community Clinics):** Integration of priority maternal nutrition components (counselling, weight gain tracking and iron folic acid (IFA) supplementation) in training materials, supervision checklists and counselling materials.

- **Disbursement linked indicators (DLIs):** Maternal nutrition indicators have been included in the DLIs under the World Bank (WB) funded Health Sector Support Project (2017-2022). Indicators were included around counselling, tracking weight gain and IFA supplementation. This has accelerated capacity building for community health care providers and other frontline workers (FLWs) to deliver and track maternal nutrition services (see below).
- **National Quality Assessment Guidelines for maternal nutrition:** This is conducted by National Nutrition Services (NNS) to drive routine monitoring and a continuous closing of gaps and bottlenecks. The guidelines for Maternal, Infant and Young Child Nutrition (MIYCN) were developed by A&T at the request of the GoB.
- **Comprehensive Competency-based Training for Nutrition:** Pre-service training on maternal nutrition for FLWs has been updated and expanded.
- **National Guidelines for Maternal Nutrition (2020):** National guidelines have been developed and include SBC approaches and key maternal counselling messages.
- **National Nutrition Services Operational Plan (NNS-OP):** The NNS-OP prioritises and mainstreams maternal nutrition interventions and costs programme components including maternal nutrition, SBC and mass media messaging.



Frontline worker taking the weight of a pregnant woman, Bangladesh, 2017

- **Nutrition Information and Planning Unit:** Maternal nutrition indicators have been included in the national Health Management Information System (HMIS).
- **Directorate General of Family Planning (DGFP):** MIYCN messages have been disseminated through DGFP FLWs.
- **Infant and Young Child Feeding Alliance:**⁶ Advocacy led to the successful integration of maternal nutrition into the terms of reference for the Infant and Young Child Feeding (IYCF) Alliance (which was previously absent from the Alliance's mandate).

The inclusion of the three maternal nutrition DLIs under the WB funded Health Sector Support Project (2017-2022) (and two DLIs related to infant and young child nutrition) were major wins because they elevated the profile of maternal nutrition within the government. This is linked to the disbursement of significant funds by the WB. The process of including these indicators has enabled a strengthening of the culture of data use within the government (as they are now tracking and reviewing these maternal nutrition indicators on a routine basis). Additionally, there has been increased attention paid to the *quality* of service delivery. As part of the requirements for reaching the DLIs, the GoB needed to put in place quality assessment guidelines (one for maternal nutrition and one for child nutrition) and use the guidelines to conduct an assessment of MIYCN service quality. A&T provided technical assistance to the government to develop the guidelines and the methodology and tools for the assessments.

Integration of maternal nutrition into social protection programming

The results of the implementation research also influenced the Ministry of Women and Children Affairs (MoWCA) to accelerate the mainstreaming of maternal nutrition in nutrition-sensitive programming, notably into the government's Improved Maternity and Lactating Mother Allowance (IMLMA). With an aim to improve the nutrition situation of poor and extreme poor women, IMLMA is a cash transfer plus health service social protection programme funded and led by the Department of Women Affairs under MoWCA with the commissioned technical assistance of the WFP. It builds on the Mother Child Benefit Program (MCBP) and further prioritises nutrition and adoption of key MIYCN practices. A&T was asked by the Government of Bangladesh (GoB) and the WFP to develop the nutrition Social Behaviour Change Communication (SBCC) strategy for the IMLMA project, which serves to guide the integration of SBCC nutrition approaches into existing IMLMA activities and platforms.

IMLMA beneficiaries receive support for five years, from pregnancy through until the child reaches four years of age. The national Social Behaviour Change (SBC) strategy developed by A&T outlines the priority nutrition practices, the target audiences, approaches and

communications channels, SBC materials and a monitoring and evaluation framework. IMLMA is currently being evaluated in eight upazilas from eight divisions of the country by IFPRI. Based on the lessons learned, the government intends to scale up the IMLMA activities to 64 upazilas by 2021.

Challenges experienced in the integration process

These experiences highlight several challenges in the integration of maternal nutrition into nutrition-specific and nutrition-sensitive systems. Firstly, health facilities, especially primary health care facilities, are overburdened with a high workload and personnel and logistics shortages. Integration of maternal nutrition needs to be done carefully to ensure high coverage and quality. This may require advocacy to fill vacant posts or task shift among existing frontline workers (FLWs) that presents challenges. While there are two cadres of community-based workers in the current system (Health and Family Planning Directorate's Health Assistants (HA) and Family Welfare Assistants (FWA)), neither report to the National Nutrition Services (NNS). Officially, FWAs are tasked with providing MIYCN messages, screening for malnutrition and providing IFA supplementation during their domiciliary and community level activities. However, since primary target of FWAs is the promotion of family planning methods, the quality and coverage of MIYCN services are limited.

Incentives (financial or non-financial) are important for motivating FLWs and require strong policy advocacy for investment in incentive schemes. For instance, India is a good example of incentive schemes for FLWs that have gone to scale. BRAC continues to use incentives to improve performance management. However, incentives are not widely used in the Government of Bangladesh (GoB) public health system with the exception of within family planning and the expanded programme on immunisation platforms. In addition, there is a high turnover among FLWs, supervisors and management and leadership at national and sub-national levels which can impede maintaining a shared understanding and commitment to improving maternal nutrition.

Finally, routine monitoring systems are constrained by workload burdens, capacity issues and technology challenges which limit the information available to make timely and strategic decisions to improve the quality and coverage of maternal nutrition interventions. These issues will need to be addressed in the long term in order to achieve high impact.

Conclusions

The A&T implementation research integrating maternal nutrition into existing large-scale programme platforms demonstrated significant impacts on the coverage of maternal nutrition services, maternal dietary diversity, the number of IFA and calcium supplements consumed and the exclusive breast-feeding rate in a relatively short time period (one year). The effects of the programme were likely to be due to a carefully

designed, context-specific package of maternal nutrition interventions and the high quality and coverage of the programme delivery.

A&T, together with the Government of Bangladesh and partners, has utilised the lessons learned to accelerate the mainstreaming of maternal nutrition into nutrition-specific and nutrition-sensitive programming. A&T, as a trusted technical assistance provider and knowledge partner, is accelerating the drive for systemic change in key government priority areas that all require tremendous stakeholder engagement. This includes the use of data for decision-making by district and upazila managers and (FLWs), building the skills of FLWs to deliver high quality maternal nutrition counselling with guidelines and tools and strengthening supportive supervision practice and community engagement to raise awareness of the importance of maternal nutrition. The intention is that the system achieves sustainable increases in the quality and coverage of maternal nutrition interventions and ultimately results in the improved health and well-being of women and their children in Bangladesh.

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⁶ The IYCF Alliance is a national technical working group on nutrition that is Government-led and includes development partners. It started with a focus on IYCF and then expanded its mandate to include maternal nutrition, although its original name remained (IYCF Alliance).

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