Report on
Integrated model of service delivery and community mobilization to ensure IFA consumption during pregnancy according to national guideline in Satkhira, Bangladesh

Case Study conducted under:

Improving Delivery and Uptake of Essential Nutrition Interventions through the Health and Food System and in the Community (IAHBI) Project, CARE Bangladesh.

Supported by UNICEF
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A. Background:

Prevalence of anaemia in children, pregnant and lactating women

Nutritional deficiencies are the most common causes for anaemia. Iron deficiency anaemia is a major contributor to the global burden of disease (WHO, 2008). In addition to iron, other nutritional deficiencies (e.g., folate, vitamin B-12) can cause anaemia. Pregnant women with a haemoglobin level less than 11g/dl and non-pregnant women with a level less than 12g/dl are considered anaemic (WHO, 2001).

During the past three decades a number of studies including four national nutrition surveys (1962/64; 1975/76; 1981/82 and 1995/96) have been carried out to investigate the prevalence of anaemia among different population groups in Bangladesh, and those have demonstrated that anaemia is a significant public health problem. Among the rural population, the prevalence of anaemia is 43% in adolescent girls, 45% in non-pregnant women and 49% in pregnant women [Food Security Nutritional Surveillance Project 2013, BRAC Institute of Global Health (BIGH)]. The data on the aetiology of anaemia reveal that iron deficiency may be a substantial cause of anaemia in the Bangladeshi population. Other dietary factors in addition to parasitic infestations may also contribute the high prevalence of anaemia. Low haemoglobin level was highly prevalent both in pregnant and lactating women (Table 1)

<table>
<thead>
<tr>
<th>Subjects</th>
<th>Overall</th>
<th>Location Districts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Satkhira mean (SD)</td>
</tr>
<tr>
<td>Pregnant women (n=99)</td>
<td>10.4 (1.3)</td>
<td>10.3 (1.4)</td>
</tr>
<tr>
<td>Lactating women (n=272)</td>
<td>11.4 (1.3)</td>
<td>11.4 (1.2)</td>
</tr>
</tbody>
</table>

Source: Baseline Survey Report on “Integrated Agriculture and Health Based Interventions for Improved Food and Nutrition Security in selected districts of Southern Bangladesh” by Food Security Nutritional Surveillance project, BRAC Institute of Global Health (BIGH), December 2013
The overall anaemia prevalence was high in both pregnant and lactating women. The prevalence of anaemia among pregnant women was 68.4% in Satkhira, 50% in Khulna and 81.8% in Barisal district. On the other hand, the prevalence of anaemia among lactating women of the same district was 68.7%, 61.3% and 70% respectively. The prevalence was highest in Barisal and lowest in Khulna district both for pregnant and lactating women. The overall anaemia prevalence was also very high in baseline among lactating women (66.0%) compared with earlier nationally representative survey findings (NSP 2001, 33.0%; NMSS 2013, 26.0%).

The Improving Delivery and Uptake of Essential Nutrition Interventions through the Health and Food System and in the Community (IAHBI) project of CARE Bangladesh falls within a larger joint project between FAO and UNICEF, funded by USAID to improve food and nutrition security with special focus on pregnant and lactating woman, adolescent girls and under 5 children of Assasuni and Shyamnagar upazilas of Satkhira and Muladi upazila of Barisal district in southern Bangladesh from June, 2013 to May, 2015. A baseline survey was conducted in 2013 by FSNSP project, BRAC Institute of Global Health, BRAC University to understand the nutritional gaps to ensure better agricultural output, dietary diversity and nutritional status of women and children in southern districts.
Before initiating interventions on services delivery and community mobilization an explorative study was executed on April, 2014 to find out the status of consumption of IFA tablet by pregnant women according to national guideline in selected 03 unions of two upazilas (Assasuni and Shyamnagar) of Satkhira. After project interventions another survey was conducted on October, 2014 at same location with women with having child aged less than 6 months to find out the effect of the interventions. Here in this report it was tried to find out the results and effect of these interventions.

B. Objective of the study

The key objective of the study is to develop an integrated model of service delivery and community mobilization to ensure IFA supplementation during pregnancy according to national guideline.

Specific objective is:

- To ensure at least 100 IFA tablet consumption by pregnant women in selected three unions of two upazilas (Assasuni and Shyamnagar), Satkhira following national guideline of IFA supplementation

C. Intervention of the project

The current government policy to prevent and control anemia includes Iron Folic Acid (IFA) tablet supplementation to pregnant and lactating women, and adolescent girls and unmarried women through service delivery points [Family Welfare Center (FWC), Community Clinic (CC), Upazilla Health Complex (UHC), Satellite clinic etc] through frontline workers e.g. Family Welfare Assistant (FWA).

The national recommendation of IFA is as below:

<table>
<thead>
<tr>
<th>Target Group</th>
<th>Dose</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Adolescent girls (13-19 years) and not pregnant women</strong></td>
<td>Elemental iron 60 mg + folic acid 400 µg Per week- 02 tablet</td>
<td>03 month continue Next 03 month stop Again next 03 month - continue</td>
</tr>
<tr>
<td><strong>Pregnant women</strong></td>
<td>Elemental iron 60 mg + folic acid 400 µg Per day- 01 tablet</td>
<td>Throughout pregnancy</td>
</tr>
<tr>
<td><strong>Lactating women</strong></td>
<td>Elemental iron 60 mg + folic acid 400 µg</td>
<td>After delivery for 03 months</td>
</tr>
</tbody>
</table>
UNICEF has been supporting “Integrated Agriculture and Health Based Intervention (IAHBI)” Project in the Southern part of Bangladesh (Satkhira and Barisal) since 2013. The objective of the project is, “To improve the delivery, monitoring and uptake of essential nutrition interventions and practices through the local health and food system and in the community”. The focus of the project is to mainstreaming nutrition through existing GoB health facilities and Health System strengthening. IFA supplementation for pregnant and lactating women and adolescent girls is one of the major components of Direct Nutrition Intervention (DNI). IFA tablet is being dispensed to the target group through all GoB health and family planning centers – FWC, CC, satellite clinic and through FWA during bi-monthly home visit. As the project has main focus on GoB health system strengthening and DNI mainstreaming, so the project continuously engages and provides effort to ensure that all health and family planning service providers are adequately capacititated on planning, implementing and monitoring of DNI, nutrition interventions mapping and mainstreamed those into different health service platforms (UHC, FWC, CC). Also the project emphasized and ensured that all health and family planning authorities including managers and partners are adequately oriented on nutrition activities and have the capacity to monitor and supervise nutrition activities and providers.
After a few months of implementing intervention, project conducted bottleneck analysis to find out gaps as to why pregnant women were not consuming at least 100 IFA tablets during pregnancy. The key finding was women were not getting IFA tablets. Then the CARE Bangladesh project team developed a model of integrated intervention at facility and community level to improve IFA consumption during pregnancy. This integrated intervention was implemented at three unions - two in Assasuni and one in Shyamnagar upazila of Satkhira district.

D. Interventions (started on May, 2015 and still continuing) used to improve effective IFA coverage:

Below activities were taken:

- Ensuring registration of all pregnant women at CC and in FWA register
- This registration was validated by GoB frontline supervisors during household and facility visits
- The service providers [Community Health Care Provider (CHCP), Family Welfare Assistant (FWA), Family Welfare Visitor (FWV)] provided adequate number of IFA to all pregnant women using the register and made counseling on IFA including its benefits, side-effects and potential solution of side-effect
- Supervisors and FWA follow up on consumption during household visits
- Community Group (CG) and Community Support Group (CSG) follow up all pregnant women to ensure referral and consumption of IFA using CSG register of pregnant women and social map
- Building awareness regarding the importance of consumption of IFA tablets at the community by Adolescent Girls Group (AGG), Community Group (CG), Community Support Group (CSG), Mother Support Group (MSG) and religious leaders
- Ensuring supplies of IFA tablets and maintain communication with Upazilla Health & Family Planning Officer (UH&FPO) and Upazilla Family Planning Officer (UFPO).
Intervention delivery process:

- Strengthening supply chain through accurate forecasting
- Capacity building of health providers
- Pregnant women received and consumed IFA
- Promoting behavior change using CG, CSG, AGG, MSG
- Follow-up by Supervisors, CG and CSG
- Efficient planning and monitoring
- Registration of all pregnant women

E. Evaluation:
E.1. Indicator details of the study:

<table>
<thead>
<tr>
<th>Determinants</th>
<th>Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Availability</td>
<td>% of pregnant women for whom sufficient quantities of IFA tablets have been supplied</td>
</tr>
<tr>
<td>Access</td>
<td>% of pregnant women who have access within 30 minutes to Ante Natal Care (ANC) services (from FWC or CC) providing IFA supplementation</td>
</tr>
<tr>
<td>Utilization</td>
<td>% of pregnant women who received IFA tablets from first ANC visit</td>
</tr>
<tr>
<td>Adequate coverage</td>
<td>% of pregnant women who received at least 100 IFA tablets during last pregnancy</td>
</tr>
<tr>
<td>Effective coverage</td>
<td>% of women who consumed at least 100 IFA tablets during last pregnancy</td>
</tr>
</tbody>
</table>
E.2. Data collection:

Data have been collected on October, 2014 to evaluate intervention impact. Lot Quality Assurance Sampling (LQAS) method was used for this purpose. Randomly selected 66 lactating women were interviewed with semi-structured questionnaire.

<table>
<thead>
<tr>
<th>Name of Upazilla</th>
<th>Name of Union</th>
<th># of lactating women interviewed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assasuni</td>
<td>Shreeula</td>
<td>19</td>
</tr>
<tr>
<td>Assasuni</td>
<td>Bordal</td>
<td>19</td>
</tr>
<tr>
<td>Syamnagar</td>
<td>Ramjannagar</td>
<td>28</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>66</strong></td>
</tr>
</tbody>
</table>

Community Facilitator (CF) of IAHBI project collected data using random sampling method from a lactating women list under close supervision of Upazilla GoB Health Managers.

E.3. Analysis

Data tabulation sheet (Excel) is used for quantitative data analysis, which is a part of LQAS package. Before entering data into data tabulation sheet they are cross checked. Then calculation and analysis of data yields findings of the survey.

E.4. Results

The study explored the IFA consumptions status of those selected unions of two study upazilas. Status of IFA consumptions after intervention is shown in the below Tables (Table 4 and Table 5). Table 4 presents the situation of Assasuni upazila which illustrates that the availability, accessibility and utilization of the IFA are 100%, but adequate coverage and effective coverage both are 84% among lactating mother during their last pregnancy period. On the other hand at Syamnagar upazila, the availability, accessibility, utilization and adequate coverage of IFA all are 100%, but effective coverage is 93% (Table 5). The details of the results are as below:

<table>
<thead>
<tr>
<th>Name of Upazilla</th>
<th>Name of Union</th>
<th>Availability</th>
<th>Accessibility</th>
<th>Utilization</th>
<th>Adequate coverage</th>
<th>Effective coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assasuni</td>
<td>Shreeula</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>89%</td>
<td>89%</td>
</tr>
<tr>
<td>Bordal</td>
<td>Shreeula</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>79%</td>
<td>79%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>84%</td>
<td>84%</td>
</tr>
</tbody>
</table>
Table 5: IFA status of Syamnagar upazilla

<table>
<thead>
<tr>
<th>Name of Upazilla</th>
<th>Name of Union</th>
<th>Availability</th>
<th>Accessibility</th>
<th>Utilization</th>
<th>Adequate coverage</th>
<th>Effective coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Syamnagar</td>
<td>Ramjannagar</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>93%</td>
</tr>
</tbody>
</table>

F. Discussion

After the project intervention, the IFA consumption status for both Assasuni and Syamnagar upazilas has significantly improved. The Figure 2 shows the difference between two different periods of IFA consumption at Assasuni upazila. A bottleneck study was conducted in April, 2014 which was compared to the data collected after implementation of new intervention in October, 2014. It was found that, the availability of IFA was 100% both on April, 2014 and October, 2014. But accessibility increased from 94% to 100%, utilization increased from 42% to 100%, adequate coverage increased from 42% to 84% and effective coverage of IFA increased from 35% to 84% during this time period.

**Figure 02**: IFA consumption status of Assasuni upazilla on pre and post intervention

Figure 3 compares the situation of IFA consumption for two different time periods of Syamnagar upazila where data comparison was done after project intervention in October, 2014 to the data collected in April, 2014. It is found that, the availability of IFA in Syamnagar upazila was 100% for both point of time, accessibility increased from 90% to 100%, utilization increased from 86% to 100%, adequate coverage
increased from 28% to 100% and effective coverage increased from 24% to 93%. Effective coverage of IFA increased significantly in all three unions of two upazila.

**Figure 03: IFA consumption status of Syamnagar upazilla of before and after project intervention**

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**G. Conclusion**

Consumption of at least 100 IFA during pregnancy is feasible through existing GOB health system, and involving existing community support system including CG, CSG, Adolescent Girls Group, Mother Support Group. This model can be scaled up in other low performing areas with minimum resource mobilization.