**ENDLINE EVALUATION OF NUTRITION AT THE CENTER (N@C)-CARE BANGLADESH INTERVENTION PROGRAM, 2018**

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**GLOSSARY**

|  |  |
| --- | --- |
| ACPR | Associates for Community and Population Research |
| ANC | Antenatal Care |
| ARI | Acute Respiratory Infection |
| BDHS | Bangladesh Demographic and Health Survey |
| BMI | Body Mass Index |
| BNNP | Bangladesh National Nutrition Program |
| CED | Chronic Energy Deficiency |
| CSBA | Community Skilled Birth Attendant |
| EPDS | Edinburg Postnatal Depression Scale |
| FWC | Family Welfare Center |
| FWV | Family Welfare Visitor |
| Hb | Hemoglobin |
| HH | Household |
| IYCF | Infant and Young Child Feeding |
| M A | Medical Assistant |
| MCWC | Maternal and Child Welfare Center |
| MUAC | Mid Upper Arm Circumference |
| N@C | Nutrition at the Center |
| NGO | Non-Government Organization |
| PDD | Postnatal Depression Development |
| PNC | Postnatal Care |
| PPS | Probability Proportional to Size |
| SACMO | Sub-Assistant Community Medical Officer |
| TBA | Traditional Birth Attendant |
| TTBA | Trained Traditional Birth Attendant |
| UHC | Upazila Health Complex |
| UNICEF | United Nations International Children Fund |
| VIP | Ventilated Improved Pit latrine |
| VGD | Vulnerable Group Development |
| VGF | Vulnerable Group Feeding |
| WASH | Water Sanitation and Hygiene |
| WHO | World Health Organization |

**EXECUTIVE SUMMARY**

Rates of malnutrition among women and children in Bangladesh are among the highest in the world. Malnutrition is one of the leading causes of mortality and morbidity in many countries. Considering the serious effect of malnutrition, improved nutritional outcomes are intimately tied to Millennium Development Goals in improving maternal health, reducing child mortality and eradicating extreme poverty and hunger. CARE Bangladesh, in collaboration with Government of Bangladesh (GoB) implemented ~~a~~ Nutrition at the Center (N@C) program in Bangladesh with two-fold strategies that include integrating nutrition in existing community health system and promotion of multisectoral approaches to improve nutrition. Among others, the intervention includes, household food productions, water sanitation and hygiene, maternal and child health, infant and young child feeding, gender and women’s empowerment. For measuring the impact/effect of this intervention, benchmarks on important nutrition related indicators were established through a baseline survey conducted in the N@C intervention and control areas in 2014.

Following the same methodology that was applied in the baseline survey, the endline evaluation survey also collected quantitative information on nutrition related indicators from the intervention sub-districts of Sunamganj (Derai and Biswamberpur) and control sub-districts of Kishoreganj (Itna and Nickly).

The endline survey was based on representative sample of 1211 children of age 0-35 months and their mothers/caregivers drawn equally from intervention and control areas. Interviews were conducted with the women/mothers using ODK based platforms for data collection using tablet computers (TABs). Anthropometric measurements and blood sample were taken from non-pregnant mothers and a sub-sample of children age 6-23 months. This report presents key findings of the 2018 endline/final evaluation.

For comparing and interpreting results related to IYCF, maternal, food security and WASH aspects by intervention and control areas, possible effects of some additional inputs in the control area that was not known during the project design phase and initiation of implementation of the N@C project, i.e., in 2013-2014 should be kept in mind. In addition, the flash flood that has occurred in the intervention upazillas in March and August 2017 have caused widespread damage and negatively affected the households and lives. The key findings along with comparison between baseline and endline and intervention and control results are summarized below

**Access to food, food security, and household hunger**:

Household food security is an important issue in any under developed country like Bangladesh. At household level, food security refers to the ability of the household to secure, either from its own production or through purchases, adequate food for meeting the dietary needs of all members of the household. The endline survey showed that 97.7 percent of intervention and 99.5 percent of control households purchased some kind of food, 69.0 percent of intervention and 62.3 percent of control households received food from *Food for Work Program* of the government and about one-third households of both intervention and control produced own food. These figures are similar to those of the baseline for both intervention and control areas. However, trade/borrowing food drastically reduced in both the survey areas since 2014 baseline time.

Fruits and vegetables provide vitamins and other micronutrients. Kitchen garden is an easy and convenient source of vegetables and fruits for household consumption. It was found that more households in intervention than control have kitchen garden (39.7 percent of intervention vs. 29.4 percent of control) where vegetables and fruits were produced mainly for household consumption. Proportion of households having kitchen garden increased by 6.2 percentage points in intervention areas since the baseline survey in 2014.

About 14.0 percent of intervention and 16.6 percent of control households stored food in the last post-harvest period. These values were significantly low compared with the baseline estimates (24.0 percent in intervention vs. 45.1 percent in control). This may be due to flood and huge harvest lost in the last year 2017 (please see Appendix-A).

Level of household hunger remained high but reduced significantly in both the areas. About 19.5 percent of intervention against 8.6 percent of control households faced the problem of not having any food to eat for lack of money/resources in the last one month preceding the endline survey. Among those households who experienced such incidences, frequent occurrences of such incidences rarely happened.

From other findings related to household hunger, it was evident that higher proportion of intervention households are food in-secured than control households. Similar situation also prevailed at the time of baseline survey in 2014.

Women’s Dietary Diversity is a proxy of food security. A comparison of the endline results with the baseline show a 12 percentage points rise in dietary diversity among intervention women from 23.6 percent in the 2014 baseline to 35.5 percent in the 2018 endline surveys. The corresponding rise in dietary diversity in control area was 11 percentage points (30.3 percent in the baseline vs. 41.4 percent in the endline) during the same period.

**Maternal Health and Nutrition:**

Malnutrition among women and children is a serious health problem in Bangladesh. Anemia is a key health status indicator for maternal nutrition. Low body mass index (BMI) is a risk factor for poor maternal health and birth outcomes. BMI is also a measure of nutritional status. It measures thinness or obesity. Antenatal care, postnatal care vitamin A supplements are key components of Maternal Care. Like the baseline survey, 2018 endline survey also collected information on certain maternal care such as use of antenatal care, and post-natal care during or after last pregnancy. The survey measured blood sample, height and weight of non-pregnant women/mothers using appropriate scales.

Results show that since 2014 baseline survey, anemia among women increased from 30.5 percent to 40.6 percent in intervention areas. Most of the anemic women were either mild or moderately anemic. The mean BMI was found to be somewhat higher for women of intervention area (20.4 kg/m2) compared with the baseline estimate (19.6 kg/m2). The mean BMI among the control women was 21.8 kg/m2 in the endline against 20.6 kg/m2 in the baseline.

Prevalence of chronic energy deficiency (CED) in women, as defined by BMI less than 18.5kg/m2, significantly reduced to 28.3 percent in 2018 compared with 38.5 percent in the 2014 baseline time. Reduction in CED among the control women was almost the same.

A sharp rise was recorded in receiving any ANC visit from 2014 baseline to 2018 endline survey period. About 84.2 percent women of intervention received at least one ANC in 2018 against only 37.9 percent in 2014. Similar changes were recorded in receiving any ANC in control area (75.6 percent in endline vs. 31.2 percent in baseline).

Prevalence of 4+ ANC visits rose significantly in intervention area (49.3 percent in endline vs. 22.5 percent in baseline) since baseline period. Prevalence of 4+ ANC visits was found low in control area (38.5 percent in endline vs. 15.4 percent in baseline).

It appears that prevalence of postnatal checkup (PNC) rose sharply in intervention area from 14.7 percent in the 2014 baseline to 41.4 percent in the 2018 endline survey period. Similar rise also occurred in the control area (38.7 percent in endline from 11.0 percent in the baseline).

**IYCF practices:**

Infant and Young Child Feeding (IYCF) practices include breastfeeding practices, time initiation of solid or semi-solid foods at a completed six months and increasing the amount and variety of foods and frequency of feeding as the child gets older, while maintaining frequent breastfeeding up to 24 months of age. Proper IYCF practices can ensure health and nutrition.

Early initiation of breastfeeding is important for both the mother and the child. The endline survey results showed 81.7 percent of intervention children age 0-23 months was put to the breast within an hour of birth. The corresponding figure was 74.9 percent in the 2014 baseline survey period, showing 6.8 percentage points rise since baseline time. The proportion of control children age 0-23 months were put to the breast within one hour of birth was 56.3 percent against baseline estimate of 66.3 percent, showing a decline of 10 percentage points from 2014 to 2018 period.

According to the endline survey results, Prevalence of exclusive breastfeeding rose to 61.4 percent in 2018 from 48.7 percent among intervention children age 0-5 months, while this change is negative from 65.0 percent in baseline to 60.0 percent in endline in control children.

Receiving complementary feeding timely (6-8 months child) rose to 91.3 percent from baseline rate at 85.1 percent in intervention area. Similar change was also noticed in the control areas.

As regards dietary diversity among children, results show that 53.3 percent of intervention and 52.2 percent of control children age 6-23 months consumed foods from at least 4 groups (of 7 groups) during the 24 hours prior to the survey. These estimates are substantially higher than the baseline estimates.

Receiving minimum acceptable diet among 6-23 months children rose to 51.1 percent in 2018 from 28.4 percent in 2014 baseline in intervention area. The corresponding change in control was 51.3 percent in 2018 from 27.5 percent in 2014.

**Child anthropometrics:**

The standard indices of physical growth that describe the nutritional status of children are: stunting, wasting and underweight: One of the goals of the N@C intervention was to improve child nutrition.

According to 2018 endline survey results, 32.8 percent of intervention children age 0-35 months were stunted, while 13.8 percent were severely stunted. The corresponding baseline estimates were 47.2 percent and 18.2 percent respectively. This shows an overall decrease in stunting by 14.2 percentage points since 2014 baseline. The corresponding decrease in stunting for control was by 13.4 percentage points.

About 10.3 percent of intervention children age 0-35 months and 9.2 percent of control were wasted (too thin for height) or severely wasted. These estimates are slightly lower than those of the baseline estimates.

A significant decline of 11.8 percent in the prevalence of underweight or severely underweight was recorded among intervention children against only 2.7 percent decline in control.

**Child anemia:**

Prevalence of iron deficiency anemia among 6-23 months children was found still very high at 81.2 percent in intervention and 77.4 percent in control. This prevalence is somewhat low compared to the respective baseline rates.

**Water, sanitation and hygiene:**

Tube well is the primary source of drinking water both in intervention and control households (98.4 percent in intervention and 99.5 percent in control). On an average, a woman has taken 7.1 minutes in intervention against 6.0 minutes in control to get and comeback with water from the primary source.

Hand washing practices with soap before and after eating, before feeding the child, and after defecation are still low. For example, only 15.1 percent of intervention women against 17.6 percent in the baseline use soap for washing hands before eating. Use of soap after toilet use increased significantly (81.0 percent) since baseline (56.1 percent) in intervention area.

About 69.8 percent in intervention and 75.4 percent in control use pit latrine with slab/water sealed, which showed a significant shift or improvement from baseline period (42.0 percent in intervention vs. 35.2 percent in control).

**Women empowerment, gender attitude and postnatal depression:**

Role of women in decision making on important household activities is negligible. Only 15.3 percent of intervention women in the endline against 9.6 percent in the baseline enjoy freedom to take decision about own health care. Mainly husbands decide about important household activities, but about a quarter of women reported that they make decision jointly with husbands on important household activities.

Large majority of women now than baseline time enjoy freedom to spend own money, but about 60 percent of husbands decide whether wife can work to earn money.

A significant change occurred in the attitude of women towards gender violation and rights. Smaller proportion of women now than baseline time approve hitting wife if they go out without permission, for arguing with husbands or for refusal of having sex. Approval rate was higher in the baseline both in intervention and control areas.

According to Edinburgh Postnatal Depression Scale (EPDS), 86.4 percent of intervention and 79.2 percent of control women suffer from short-lived distress. Proportion of women with discomfort and high depression decreased significantly compared to baseline prevalence.

**CONCLUSION**

Nutrition at the Centre (N@C) program is essentially an important initiative. The N@C put concerted effort in collaboration with Local Government, MOH&FW and other relevant line ministries as well as Civil Society Organizations (CSO) to alleviate maternal and child nutrition and improve nutrition related behaviors.

Since 2014 baseline survey, improvement occurred in the prevalence of important indicators related to maternal health and nutrition, such as, ANC, PNC, anemia and low BMI. Certain IYCF related issues like timely initiation of breastfeeding, prevalence of exclusive breastfeeding, minimum dietary diversity, minimum acceptable diet, and consumption of iron-rich and iron-fortified food have increased. This may be attributed to the programmatic effort, increase in awareness as well as increased utilization of nutrition related services.

Along with positive changes in maternal and child nutrition related indicators in N@C intervention areas, similar improvement also occurred in the control areas. This might be the effect of certain new interventions in the control areas which were not known prior to design of the project and evaluation. According to the project stakeholder and staff observations of CARE, effects of some additional inputs in the control area such as Shouhardo III, IDP, BRAC, Plan International and also extensive input support from Water Development Board in the last few years may have created positive changes in the control upazilas Itna and Nikli.

From socio-economic points of view, the intervention area is relatively a poorer area and highly inaccessible compared to the control area. Without extra programmatic effort the improvement that has occurred in the minimum dietary diversity (both among children and mothers), meal frequency, and hygiene practices could not perhaps have occurred.

Low prevalence in nutrition-related behaviors are definitely not due to resource constraints only, but more likely to be due to lack of awareness and gap between perception and practice. It takes time to translate perception into practice. Where knowledge and perception are low, resource constraint is high and access to health care and nutrition specific and sensitive services are not easy, improvement in health and nutritional status may not sustain without extra programmatic support.

The positive changes may largely be attributed to the promotion of multisectoral approaches that mobilized both nutrition specific and sensitive services through better local level planning, coordination and accountability.

The multi-factorial determinants of nutritional status and the multi-sectoral response that includes food security, WASH, Positive Gender Norms and livelihoods, in addition to health services, represents an important area for continued concerted research and programming. As development partner, N@C and CARE may design or re-design its activities harnessing the learning and programs of the government and others partners.

**KEY findings:**

| **Indicators** | **Control area** | | **Intervention** | |
| --- | --- | --- | --- | --- |
| **BL** | **EL** | **BL** | **EL** |
| **Food security and household hunger:** |  |  |  |  |
| Having kitchen garden to grow food for family or personal consumption: | 28.3 | 29.4 | 33.5 | 39.7 |
| Sources of household food that HH members consume (Produce own food): | 54.5 | 36.0 | 39.9 | 31.9 |
| Sources of household food that HH members consume (Purchase food): | 96.5 | 99.5 | 98.8 | 97.7 |
| Sources of household food that HH members consume (Food for work): | 17.2 | 62.3 | 6.9 | 69.0 |
| Household hunger (incidence of having no food to eat for lack of resources/money to get food): | 28.8 | 8.6 | 56.5 | 19.5 |
| **MAternal Health and nutrition:** |  |  |  |  |
| Women’s dietary diversity (Consume from 5 or more groups): | 30.3 | 41.4 | 23.6 | 35.5 |
| Chronic energy deficiency (BMI < 18.5 kg/m2): | 25.4 | 15.5 | 38.5 | 28.3 |
| Prevalence of anemia among women: | 41.2 | 31.7 | 30.5 | 40.6 |
| Receiving any ANC: | 31.2 | 75.6 | 37.9 | 84.2 |
| Receiving 4+ ANC: | 15.4 | 38.5 | 22.5 | 49.3 |
| Receiving PNC: | 11.0 | 38.7 | 14.7 | 41.4 |
| **Child Health and nutrition:** |  |  |  |  |
| IYCF 1: Timely Initiation of Breast Feeding (0-23) months | 66.1 | 56.3 | 74.8 | 81.7 |
| IYCF 2: Exclusive Breast Feeding (0-5) months | 65.0 | 60.0 | 48.7 | 61.4 |
| IYCF 3: Timely Complementary Feeding (6-9) months | 73.1 | 89.5 | 82.1 | 91.3 |
| IYCF 4: Introduction of Solid/Semi-solid or soft food (6-8) months | 73.5 | 89.7 | 82.5 | 91.8 |
| IYCF 5: Continued BF at (12-15) months | 100.0 | 94.6 | 98.2 | 97.4 |
| IYCF 6: Minimum Dietary Diversity (6-23) months | 32.9 | 51.3 | 32.6 | 52.0 |
| IYCF 7: Minimum Meal Frequency (6-23) months | 75.8 | 96.2 | 81.7 | 97.2 |
| IYCF 8: Minimum Acceptable Diet (6-23) months | 27.5 | 51.3 | 28.4 | 51.1 |
| IYCF 9: Iron Rich or Fortified Solid/Semi-solid Foods (6-23) months | 48.0 | 98.1 | 54.6 | 98.4 |
| IYCF 10: Bottle Feeding (0-23) months | 12.3 | 18.2 | 5.5 | 7.8 |
| Stunting prevalence (Height-for-age below -2 SD of the WHO Child Growth Standards median) among (0-35) months children | 39.6 | 26.2 | 47.2 | 32.8 |
| Wasting prevalence (Weight-for-height below -2 SD of the WHO Child Growth Standards median) among (0-35) months children | 9.3 | 9.2 | 10.5 | 10.3 |
| Underweight prevalence (Weight-for-age below -2 SD of the WHO Child Growth Standards median) among (0-35) months children | 25.7 | 23.0 | 35.6 | 23.8 |
| Prevalence of anemia (<11.0 g/dl)- Children 6-23 months | 88.8 | 77.4 | 85.3 | 81.2 |
| **WATER AND SANITATION PRACTICES:** |  |  |  |  |
| Main source of drinking water: Tubewell/Deep Tubewell | 71.8 | 99.5 | 74.6 | 98.4 |
| Hand-washing with soap before eating: | 4.8 | 8.0 | 17.6 | 15.1 |
| Hand-washing with soap before preparing food: | 1.5 | 3.2 | 11.9 | 5.1 |
| Hand-washing with soap before feeding the child: | 2.1 | 17.1 | 9.1 | 13.0 |
| Hand-washing with soap after toilet use: | 32.1 | 69.1 | 56.1 | 81.0 |
| Hand-washing with soap after processing of cow dung for fuel: | 16.3 | 10.0 | 11.4 | 14.1 |
| Hand-washing with soap agent after toilet: | 88.4 | 96.2 | 62.0 | 96.2 |
| Pit latrine with slab/water sealed: | 35.2 | 75.4 | 42.0 | 69.8 |
| **Women’s empowerment:** |  |  |  |  |
| Self-decision about own health care: | 8.6 | 19.4 | 9. 6 | 15.3 |
| Self-decision about child’s health care: | 8.3 | 19.8 | 12.4 | 16.7 |
| Self-decision about large HH purchases: | 1.4 | 4.2 | 2.6 | 1.3 |
| Self-decision about HH purchases for daily needs: | 12.9 | 15.8 | 14.8 | 9.4 |
| Self-decision about own visit to parent’s family: | 15.7 | 15.1 | 13.0 | 10.0 |
| Self-decision about spending own money: | 49.7 | 87.5 | 54.3 | 85.4 |
| Self-decision about spending husband’s money: | 2.1 | 4.2 | 2.2 | 3.4 |
| In your household, who usually decides whether you can work to earn money (Self): | - | 12.6 | - | 6.9 |
| How food is shared when not have enough food (Self): | 70.1 | 70.8 | 70.9 | 79.6 |
| Mental depression- Edinburgh postnatal depression scale: Range of EPDS Score |  |  |  |  |
| 0 - 9 Score | 43.6 | 79.2 | 31.4 | 86.4 |
| 10 - 12 Score | 24 | 12.1 | 23.4 | 8.4 |
| 13+ Score | 32.4 | 8.6 | 45.2 | 5.3 |

**Chapter 1**

**INTRODUCTION**

**1.1 Background**

Maternal and child malnutrition continues to be one of the leading causes of mortality and morbidity in developing countries. Despite gains globally, undernourishment in the developing world remains high especially in southern Asia and sub-Saharan Africa (34% and 34.2% of the population, respectively).[[1]](#footnote-1) Approximately 870 million people are estimated to have been undernourished in the period 2010-12 with consequences that affect each stage in the lifecycle and across generations.[[2]](#footnote-2) Nutrition has come to the forefront of global health and development, with an increasingly expanding body of evidence linking poor maternal and child nutritional status to impaired cognitive development, and impaired human capital later on in life. Malnourished mothers are more likely to die in childbirth and have low birth weight babies who, in turn, face higher mortality rates and increased risk of acute and chronic diseases[[3]](#footnote-3). Stunted children face lifelong consequences in reduced mental capacity, lower retention in school and reduced lifetime earnings.[[4]](#footnote-4)

Narrow sectorial strategies will not solve the problem: social and behavior change strategies without the availability of sufficient nutritious food will be of limited benefit. Other obstacles such as poor absorption of nutrients resulting from chronic gut damage (environmental enteropathy), or low empowerment of women to purchase adequate food for her children or make decisions that affect the family’s heath, may further limit the overall impact of nutritional interventions. Finally, women who are themselves undernourished are more likely to give birth to preterm babies and less able to support their health and nutrition.[[5]](#footnote-5)

In addition to addressing nutrition holistically and in a multi-sectorial approach, the Lancet, a scientific peer-reviewed journal has highlighted nutrition-sensitive programs as a noble and promising platform for delivering nutrition-specific interventions, which are interventions addressing more immediate determinants of nutrition[[6]](#footnote-6). Finally, approaches have been incorporated through efforts by multi-lateral organization and host countries. The new Scaling-Up Nutrition program funded by the United Nations includes over 50 out of 58 countries in Africa and Asia and couples nutrition specific interventions with complementary strategies addressing issues such as gender inequality, food security and social protection, and access to safe water[[7]](#footnote-7).

Nutrition at the Center (N@C) combines best practices together with country-specific needs to implement and evaluate an integrated approach to maternal and child nutrition, which includes activities related to strengthening of:

(1) Infant and young child feeding (IYCF) and maternal nutrition practices

(2) Food security

(3) Water, sanitation and hygiene (WASH) practices

(4) Women’s empowerment and

(5) Maternal health

This integrated approach is expected to yield a significant sustainable impact for families and communities and validate the effectiveness of CARE’s women and community-centered programmatic approach.

As a global organization, CARE seeks to increase organizational and global commitment to effectively address the critical issues of hunger and malnutrition. Its vision is a world where malnutrition has been substantially reduced, disparities in hunger have been eliminated among the poorest of the poor and those who are relatively more well off. This vision is grounded in CARE’s core belief that all children have a right to the best possible start in life and to optimal health, development and well-being.

Since April 2013, CARE Bangladesh, in collaboration with Government of Bangladesh (GoB) implemented ~~a~~ Nutrition at the Center (N@C) program in Bangladesh with two fold strategies that include integrating nutrition in existing community health system and promotion of multisectoral approaches to improve nutrition. Among others, the intervention include, household food productions, water sanitation and hygiene, maternal and child health, infant and young child feeding, gender and women’s empowerment.

1.2  **Goals of N@C-CARE Bangladesh Intervention Program**

The goal of Nutrition at the Center - CARE Bangladesh intervention program is to improve the nutritional status and anemia for women (age 15-49) and children less than 3 years of age in identified resource poor geographical areas. The program objectives aim to:

* Improve nutrition-related behaviors
* Improve use of maternal and child health and nutrition services
* Increase household adoption of appropriate water and sanitation practices
* Increase availability and equitable access to quality food

Nutrition at the Center, in association with CARE Bangladesh, has been implementing nutrition program in two upazilas/sub-districts - Derai and Biswamberpur of Sunamganj district of Bangladesh since 2014.

**1.3 The Baseline Study, 2014**

In order to measure the performance of the program and achievements, a baseline survey was conducted in the program and comparison areas in 2014 to establish benchmarks for nutrition related indicators. The baseline survey collected quantitative information; measured nutrition related indicators and reported in the baseline evaluation report the benchmark status based on anthropometric measures and blood specimens collected.

The baseline survey reported that only 28.4 percent of children age 6-23 months of the project areas had minimal acceptable diet, while 85.3 percent were anemic. Nearly 45 percent of children age 0–35 months was underweight or severely underweight. About 31 percent of non-pregnant women were anemic and 38.5 percent had low BMI. This report presents key findings of the 2018 endline evaluation survey and attempts to measure progress and performance of the program.

**1.4 The Objectives of the 2018 Endline Survey**

The purpose of the endline survey was to collect quantitative information on nutrition-related topics and measure achievement/impact of the program. This survey addressed nutrition-related topics exactly similar to those measured in the baseline survey.

The impact indicators for N@C were as follows:

* Reduction of stunting among children under 3 years of age
* Reduction in anemia prevalence among children under age 6-23 months
* Reduction in anemia prevalence among women of reproductive age (15-49 years).

The specific objectives were to assess the status of the following:

* Infant and young child feeding (IYCF) practices
* Current nutritional status of children age 0-35 months and of women of reproductive age
* Household food security
* Household WASH practices
* Women’s empowerment
* Lessons learned for future programming.

In addition, the endline evaluation aimed:

* To provide an objective assessment of the achievements and results, weaknesses and strengths of the project,
* To document evidence, lessons learned and good practices identified for future nutrition programming,
* To examine if the evidence provided insights into its likely sustainability and potential for scale-up,
* The Endline/Final Evaluation also attempted to examine different aspects of integrated approach to nutrition, effectiveness of intervention and sustainability of the program. More specifically, the study examined:
* If the integrated program approach was effective in reducing stunting and anemia, and how successful the project was in addressing the barriers affecting a) water, sanitation and hygiene practices, b) food security and access to nutritious foods, c) access to and utilization of health services, d) gender equality by addressing gender based violence and e) changes in maternal, infant and young child nutrition behaviors and practices, and if there is any synergistic effect of the project’s integrated, multi-sectoral approach.

The following indicator variables relevant to specific objectives were measured:

|  |  |
| --- | --- |
| **Broad Areas** | **Indicator Variables** |
| Basic characteristics | Household characteristics, background characteristics of respondents, participation in community and program groups |
| Infant and Young Child Feeding Practices (IYCF) | Early initiation of breastfeeding  Exclusive breastfeeding (< 6m)  Timely complementary feeding  Introduction of solid, semisolid and soft foods  Minimum meal frequency  Minimum dietary diversity  Minimum acceptable diet  Continued breastfeeding at one year  Continued breastfeeding at two years  Consumption of iron-rich or iron-fortified foods  Bottle feeding, etc. |
| Nutritional Status | a) Children: Wasting, Underweight, Stunting, and Anemia  b) Non-pregnant Mother/Women: Body Mass Index, Anemia |
| Health Systems accessibility | Utilization of health services |
| Food Security and Agricultural Extension | * Women’s Dietary Diversity * Household Hunger Scale * Coping Strategy Index * Food preservation and storage * Household’s access and use of agricultural extension service * HH food security |
| Water, Sanitation and Hygiene | * Access to clean water * Access to sanitary latrine * Practice to make water safe for drinking * Proper disposal of children feces * Variables related to environmental enteropathy * Proper hand washing practices |
| Women’s Empowerment | Mobility Index  Community Social Capital Index  Household Decision Making Index  Gender Attitude and Believe Index |

**Chapter 2**

**METHODOLOGY**

The endline evaluation survey was predominantly quantitative in nature. Exactly similar methodology that was applied for the baseline evaluation was also followed in the endline evaluation. Face to face interviews were conducted using sex-matched-interviewers. Anthropometric measurements (height, weight, and MUAC) were taken using appropriate scales, and blood specimens were collected using HemoCue analyzer. All data were collected using ODK based platforms for data collection and uploaded to a central server. A four-cell comparison type study design: Baseline vs. Endline and Intervention vs. Comparison was used. The endline survey was based on representative samples from intervention and control areas. The reason for including a control area/population was to distinguish/identify the effect of the extraneous factors that might have had influence on the program outcomes.

**2.1 Study Sites, Coverage and Study Participants**

Derai and Biswamberpur upazilas/sub-districts of Sunamganj district was the intervention/project area, while Itna and Nikli upazilas/sub-districts of Kishorganj district was the control area. The endline survey covered all the 14 unions of the intervention sub-districts/upazilas of Sunamganj and all the 16 unions of the control sub-districts/upazilas of Kishoreganj districts.

The study participants for quantitative information were:

* Children age 0-35 months of age for anthropometric measurements and 6-23 months for anemia
* Women of 15-49 years of age who are non-pregnant and have at least one child less than 3 years of age for measuring BMI and anemia.

**2.2 Sample Design and Selection of Sample**

The survey was based on representative sample of children age 0-35 months and non-pregnant women age 15-49 years who have at least one child less than 3 years of age drawn from intervention and comparison areas.

**Sample size**

###### The estimated sample size for anthropometric measurements and infant feeding was 599 children age 0 – 35 months from intervention and equal number from comparison areas giving a total of 1198 children in the sample. Exactly 183 children from age group 0 – 5 months, and 104 children from each of the age groups 6-11, 12-17, 18-23 and 24-36 months from each of intervention and comparison areas were attempted to include in the sample. All mothers/caregivers of these children were attempted to be interviewed and data was collected using ODK based platforms and tablet computers (TABs).

For assessing anemia among children age 6 – 23 months, blood specimens were supposed to be collected from a sub-sample of 430 children taking 217 from each of control and 213 from intervention areas.

For measuring BMI and anemia among mothers, anthropometric measures and blood specimens were collected from 587 non-pregnant mothers taking from control and 579 from intervention areas. Table 1 shows the ultimate sample size of mothers/caregivers and children covered in the survey.

**Table 2.1: Number of Children and their non-pregnant mothers in the sample from intervention and control areas, 2018**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Survey area** | **Anthropometric & Interviews**  **# of children age <3 yrs. By age in month** | | | | | | **# of non-pregnant mother for BMI** | **# of mother for Anemia** | **# of (6-23) months children for Anemia** |
| **0 - 5** | **6 – 11** | 12-17 | **18 – 23** | **24 – 35** | **All** |
| **Control** | 185 | 104 | 105 | 105 | 103 | 602 | 587 | 196 | 217 |
| **Intervention** | 184 | 104 | 111 | 104 | 106 | 609 | 579 | 197 | 213 |
| **Total** | 369 | 208 | 216 | 209 | 209 | 1211 | 1166 | 393 | 430 |

**Selection of sample/participants:**

For selecting sample, probability proportional to size (PPS) method was used to select 600 women from the intervention and 600 women from the comparison unions.

Upon arrival in each sampled Union, a community meeting was held (pre-arranged by CARE Bangladesh) to inform community members of the purpose of the data collection and sought their co-operation. Starting from a prominent point at the center of a union/village, data collectors visited each household contiguously, and interviewed one eligible woman who had given birth in the last 36 months. In the event that there were multiple women present who had given birth in the last 36 months, the data collectors randomly selected a mother for interview. If there were no eligible women in the household, data collectors proceeded to the next household. This procedure continued until required number of children by specified age groups was found and their mothers interviewed.

Height/length and weight of children age 0-35 months were measured using appropriate scales. Height and weight of non-pregnant mothers were also measured. Blood specimens were collected using HemoCue from every third/fourth child age 6-23 months and non-pregnant mothers. All data were collected using ODK based platforms for data collection and uploaded to a central server. TAB and programs with necessary training were provided by CARE.

The main target groups, children aged 0-35 months and their non-pregnant mothers/caregivers were selected using the following inclusion and exclusion criteria:

**Inclusion criteria for children:**

* Children age 0-35 months
* Children who permanently live with family members in households in the specified survey areas/districts
* In the event that there were multiple women present who had given birth in the last 36 months, the data collectors randomly selected a mother for interview.

**Exclusion criteria for children:**

* Foster children
* Children with any known or suspected chronic or congenital diseases or physical deformity that is associated with growth problem.

**Inclusion criteria for women:**

* Mothers or primary caregivers of 15-49 years of age who are non-pregnant and have at least one child less than 3 years of age
* Women/mothers who permanently reside in households in the designated survey upazilas/unions.
* A randomly selected mother if a household has more than one mother with a child of age 0-35 months.

**Exclusion criteria for women:**

* Any women of age 15-49 years living in the selected sub-district/union for less than 6 months
* Women younger than 15 years of age or older than 49 years of age
* Women/mother with any known or suspected chronic or congenital disease

**Inclusion criteria for women for collecting blood specimen:**

* Non-pregnant women age 15-49 having at least one child age 0-36 months
* Willing to participate in the study
* Willing to provide blood samples

**Exclusion criteria for women for blood specimen:**

* Suffering from any severe, acute or chronic illnesses
* Currently pregnant
* Refusal to participate in the study
* Refusal to provide blood samples

**Inclusion criteria for children for blood specimen:**

* Age within 6-23 months
* Willing to participate (Mother) and provide blood sample

**Exclusion criteria for children for blood specimen:**

* Age outside the range of eligibility
* Suffering from any illness

**2.3 Implementation**

The survey was implemented by Associates for Community and Population Research (ACPR), a survey research organization located in Dhaka. A three-member research team headed by Professor Dr M Sekander Hayat Khan was responsible for implementing the survey.

**2.3.1 Development, Pre-testing and Finalization of Questionnaire**

The survey used one instrument for data collection:

* A women’s questionnaire for interviewing mothers/caregivers

Women’s questionnaire was used to interview mothers/caregivers of children age 0-35 months. The instruments were drafted in English by CARE and then modified by ACPR research team members after sharing with CARE. After preparation of definitive questionnaire in English, this was pretested on February 27-28, 2018 and then finalized in consultation with CARE. The data collection instrument is attached in **Appendix B**.

**2.3.2 Recruitment and training of field staff**

All the field staff was recruited from among qualified and experienced staff who had participated in at least three studies of similar nature. The minimum qualification for data collection staff was a graduation degree from a recognized university or institution.

The survey staff was provided with three weeks intensive training including two days of field practice from February 12 to March 06, 2018. First one-week training was using paper-based questionnaire. Then training was provided using tablet computers (TAB). Training included lectures on how to conduct an interview and complete the questionnaire, mock interviews by participants, how to take anthropometric measurements using appropriate scales. Training strategy aimed at developing a uniform understanding of the concepts of different terms and that of the items in the instruments. Attempts were made to ensure a uniform pattern in administering the instruments.

From second week, training was provided using Tablet Computers (TAB) with ODK programs. CARE facilitated the TAB based training. TAB based training included: how to use TAB, how to enter and save data, and how to edit and transfer data to the central server. At every stage of the training performance and progress of the trainees were reviewed. After completion of the training, those with superior performance were selected as supervisor and others as enumerators.

**2.3.3 Collection of quantitative data using TAB**

Data collection consisted of the following components:

* Conducting interviews with mothers/caregivers of 0-35 months children
* Taking anthropometric measurements of children 0-35 months and their non-pregnant mothers
* Collection of blood specimens from a sub sample of children age 6-23 months and non-pregnant mothers

Fieldwork for the survey was carried out by four interviewing teams, each consisting of one male team leader, one female supervisor cum anthropometric expert, four female interviewers/enumerators, a trained blood sample collector using HemoCue analyzer and one logistic staff for assisting with carrying measuring scales. The interviewers interviewed mothers/caregivers of 0-35 month’s children using tablet computers (TABs). The interviewers also took anthropometric measures of eligible children and non-pregnant women. The female supervisor with the team was responsible for taking anthropometric measures and the designated person for collecting blood specimen collected blood using HemoCue analyzer. Data collection was done in one phase, starting on March 7 and ending on April 04, 2018.

Data quality was ensured through proper monitoring by the research team. They visited the teams, observed interviews, and conducted routine checks. In addition, CARE Bangladesh monitored fieldwork by using its own mechanism. After a day’s work in the field, data collectors checked the data they collected using TABs in the evening of the day. If any gaps, omissions, or inconsistencies detected, they tried to resolve those by themselves, if failed, they sought assistance of the team leaders. If needed, they verified data in the following day by revisits of households.

**2.3.4 Assessment of hemoglobin**

Blood sample was taken for measuring anemia from 393 non-pregnant mothers and 430 children age 6-23 months. Hemoglobin was assessed by the HemoCue photometer (HemoCue AB, Angleholm Sweden). Blood specimen was collected from the fingertip by making a prick with a lancet/needle after taking all aseptic precautions. Hemoglobin was measured on the finger prick sample with the HemoCue analyzer. Special training was provided to the designated blood specimen collectors on how to collect blood sample and use HemoCue for appropriate application in the field. They calibrated the HemoCue machines daily by using the standardized micro-cuvette. Hemoglobin readings were recorded in the TAB just after obtaining the values while in the field.

Two cutoff values were used to define anemia among the children: cutoff <10.5g/L and <11.0g/L. For assessing anemia among non-pregnant mothers, three cutoffs were used and classified as mild, moderate and severely anemic.

**2.3.5 Anthropometric Measurements**

Anthropometric measurements such as height/length, weight and MUAC for the children and height and weight for the non-pregnant women were obtained and directly entered the values in the TABs for estimation of indicators of general nutritional status.

It is assumed that nutritional status might act as a covariate of biochemical markers among children and perhaps in pregnant and lactating women of childbearing age. Weight of the children and mothers were measured by electronic digital scale *UniscaleSeca*, with accuracy upto±100 gms. Mother and Child’s weight was taken together, followed by the weight of the mother only, and then child’s weight was obtained by taking the difference of the two measures. Length/height of children and mothers was measured by locally made wooden length board. Weight, length, MUAC was taken three times and the average was taken. Measurements on height, weight and MUAC were subsequently compared to the standards according to the WHO 2006 growth standards and the nutritional status was assessed by z-score.

For children, the following definitions and cut-off points were used for assessing nutritional status:

**Definition of under nutrition:**

A child who is more than two standard deviations below the median (-2 SD) of the WHO reference population in terms of height-for-age is considered short for his/her age or stunted. If a child is below three standard deviations (-3 SD) from the reference median, then he/she is considered to be severely stunted. Similar cut-offs were applied for wasting and underweight.

|  |  |  |
| --- | --- | --- |
| **State** | **Cut-off (moderate)** | **Cut-off (severe)** |
| Wasting | <–2 SD weight-for-height z-score | < –3SDweight-for-height z-score |
| Stunting | < –2 SD height-for-age z-score | <–3 SD height-for-age z-score |
| Underweight | < –2 SD weight-for-age z-score | <–3 SD weight-for-age z-score. |

For women/mothers, Body Mass Index [BMI – (weight (kg)/height (m)2]) was calculated from weight and height data. The following standard cut-off values were used to comment on the nutritional status. Chronic Energy Deficiency (CED) and severe CED were defined as BMI (kg/m2) <18.5 and <16.0 respectively.

**Definition of Chronic Energy Deficiency (CED):**

|  |  |
| --- | --- |
| ***State*** | ***Cut-off*** |
| CED | BMI (kg/m2) <18.5 |
| Severe CED | BMI (kg/m2) <16.0 |

**2.3.6 Infant and Young Child Feeding (IYCF) Indicators**

Feeding practices and child nutrition are highly correlated. Adequate nutrition is vital for child health and development, and that can be ensured when young children are properly fed. The period from birth up to two years of age is mostly important because of the rapid growth and brain development that occurs during this time. The Infant and Young Child Feeding (IYCF) practice provides information on key indicators related to optimal feeding practices. Feeding practices described in this report are related to breastfeeding practices, introduction of solid and semi-solid foods to breastfed and non-breastfed children, and complementary feeding, including appropriate dietary diversity and meal frequency for children 6-23 months according to globally-agreed feeding guidelines.

Not only breastfeeding practices, WHO recommends greater attention and focus on appropriate feeding practices for children of complementary feeding age (6-23 months). The effort by an interagency working group has resulted in a set of simple, valid and reliable indicators that measure food-related aspects of complementary feeding (including dietary variety and frequency of eating episodes), as well as current guidance on the feeding of non-breastfeeding infants and young children up to 24 months of age. The IYCF indictors are given below. Estimated values of these indicators are presented in the results section of the report.

Indicator 1: *Timely Initiation of Breastfeeding:* Proportion of children 0-23 months who were put to the breast within one hour of birth

Indicator 2: *Exclusive breastfeeding under 6 months:* Proportion of infants 0-5 months who are fed exclusively with breast milk

**Indicator 3:** *Timely Complementary feeding:* Proportion of infants 6-9 months who received breast milk and a solid or semi-solid food (based on 24-hour dietary recall). Solid and semi-solid foods are defined as mushy or solid foods, not fluids

**Indicator 4:** *Introduction of Solid, semi-solid or soft foods:* Proportion of infants 6-8 months who receive solid, semi-solid or soft foods

**Indicator 5:** *Continued breastfeeding at 12-15 month*: Proportion of children 12-15 months old who are fed breast milk

**Indicator 6:** *Minimum dietary diversity:* Proportion of children 6-23 months who receive foods from 4 or more (of 7) food groups

**Indicator 7:** *Minimum meal frequency:* Proportion of breastfed and non-breastfed children 6-23 months who receive solid, semi-solid or soft foods (but also including milk feeds for non-breastfed children) the minimum number of times or more

**Indicator 8:** *Minimum acceptable diet:* Proportion of children 6-23 months of age who receive a minimum acceptable diet (apart from breast milk)

**Indicator 9:** *Consumption of iron rich or iron fortified foods at home:* Proportion of children 6-23 months old who receive an iron-rich food or iron-fortified food that is specially designed for infants and young children, or that is fortified in the home

**Indicator 10:** *Bottle feeding:* Proportion of children 0-23 months old who were fed with a bottle during the previous day

**2.3.7 Data Management and Analysis**

The endline survey data was collected using ODK platform and tablet computers (TABs). After a day’s work in the field, data collectors checked collected/entered data in the TABs, which was rechecked by the supervisors. Then the data was transferred to the central server for compilation. At the end of data collection, Data Management Manager of ACPR and an IT expert re-verified the collected and stored data for addressing omissions and inconsistencies. Then analysis was done using edited and clean data file as per analysis plan suggested by CARE and following WHO guidelines. Results are presented in Tables in the result sections of the report. Important indicators are highlighted by Figures.

* + 1. **Difficulties Faced, Limitations and Some Observations**

1. The survey team faced some difficulties in conducting the survey. The survey area is not easily accessible, and therefore the survey teams faced problems in finding the eligible respondents and took longer time than expected. This might have had some effect on the quality of data.
2. For differential analysis, sample size was not large enough to estimate certain indicators with desirable precision. Specifically, estimates on some indicators related to IYCF should be taken with caution.
3. Comparison of baseline results with corresponding end-line results are made, but the reliability may not be high in which sample size is small. The results may not be comparable to the available national estimates.
4. Despite having many advantages of TAB based data collection, it has some limitations in our context. The field staff that we get for collection from rural areas is not familiar with TAB based data collection. For this survey, we tried to recruit best possible staff. Even after providing intensive training to the data collection staff and supervision and monitoring in the field, some inconsistencies in the age of children and mothers and some omissions were found. As a result, the size of the complete data set was somewhat reduced.
5. The reason behind taking control in any evaluation is to distinguish/identify the effect of extraneous factors that might have had influence on the program outcomes. The control used in this survey for difference-difference analysis appears to be an improper control. Some extra programmatic efforts might have had influenced results of the control areas.

**Some Observations:**

The non-N@C projects implemented in the control upazilas (Itna and Nikli) included: (i) GoB-MoH&FW MNCH-Health-Nutrition and FP services; (ii) WASH result project-DFID (Plan Bangladesh: provided Toilet, Tube well, Community latrine, Hand Washing Station to approximately 5000 PEP households along with extensive BCC activities at Itna and Nikli UZ); (iii) Recall 2021(Oxfam-POPI: duck, hen/ chicken and cash among 8500 households, toilet, tube well, bathroom for female and BCC activities for 8500 households, working for women empowerment at both Upazilas, mainly focusing on early marriage, women economic empowerment and so on at Itna and Nikli Upazila); (iv) SOUHARDO III-USAID (CARE Bangladesh-POPI: distributing wheat, dal, oil, cash among 8283 families, working for women empowerment focusing on early marriage, women economic empowerment and so on at Itna and Nikli UZ ); (v) Essential Health Care (BRAC: Nikli UZ); (vi) Integrated Development Program (IDP-HNPP of BRAC: providing duck, goat, hen/ chicken for 5400 households, 19000 pack of vegetable seeds, fruit tree, cash for small business, opened fingerlings at water body and established 4 sanctuaries, distributing and maintaining 6000 individual latrine and 10 community latrine, female bath room, providing 72 tube well, distributing health hygiene kids (bucket, soap, sandal etc.) with BCC activities at Itna UZ); (vii) Smiling Sun USAID NHSDP (Swanirvor Bangladesh: ESP at Itna and Nikli UZ); (viii) Haor Flood management and livelihood improvement project – JICA/ JAIKA and GoB (Water Development Board: at Nikli UZ); (ix) Ensuring nutrition and food security through integrated agriculture development (DAE: Nikli UZ); and (x) IFMC: Integrated Farm Management (DAE: provided agriculture logistics, irrigation pump and vegetable seeds for homestead food production, they also provided training on fish culture, poultry, goat rearing, cow fattening, organic vegetable production, season long training, nutrition etc. in Nikli upazila. Previously, Concern Worldwide also implemented some sorts of development program at Itna upazilla.

The above unforeseen additional health and nutritional inputs and activities in the control sub-districts are expected to have produced some positive effects in the area, and thus the comparative changes in the N@C project intervention areas may have not appeared as remarkable as it is in reality.

Floods in March and August 2017 due to heavy rain fall and onrush of upstream water from Meghalaya hills have caused havoc in both Derai and Bishwambaarpur upazillas of Shunamganj district. In March 2017, almost 100,000 hectares of boro crop went under water; loss occurred with the fish and livestock; mothers, children and elderly population suffered most, and struggled with sanitation (latrine went under water), pure drinking water (damaged tube well), and access to health and nutrition services. In 2944 households (out of 3000) visited by the N@C project staff at two intervention upazillas, there was damage of an estimated BDT 16,571,994, with 45 percent of children and 32 percent of mothers suffering from various illnesses, 90 percent homestead gardens, 79 percent pit latrines, 42 percent sac gardens being destroyed, 956 ducks sold, 1555 ducks lost and 1999 ducks died.

In August 2017, damages due to flash flood occurred mostly at Bishwambarpur upazilla, where about 1950 hectors crop lands of Ropa Amon and about 75 hectors areas of seed plots outaway, over 50,000 people were marooned, out of 2905 homestead gardens about 2581 out were either completely or partially damaged; out of 4520 sack gardens, about 2743 were either completely or partially damaged; 80 percent of the project beneficiaries claimed that their seed beds were completely submerged; out of 13,672 ducks 534 died and 295 floated away; 437 households struggled to reach service center and market to purchase food; over 5790kg vegetables was damaged; 1582 latrines were either completely or partially damaged; about two third of the tube-wells become unusable; 49 families had to be shifted at flood shelter centers.

Through the above account, it is evident that the additional health and nutrition related inputs in the control area and the effects of flash flood in the project area may have influenced the findings in terms of direct attributions and achievements of the project.

**Chapter 3**

FINDINGS AND DESCRIPTION

The key findings based on quantitative data collected in the 2018 Endline Survey are presented and discussed in this chapter. Findings on basic background characteristics of households and respondents, households’ food security, maternal health, infant and young child feeding practices (IYCF), access to water and sanitation, women’s empowerments, gender attitude and belief are discussed. Differential analyses are done by intervention and control, sex of children and breastfeeding status wherever applicable, and results are compared with the 2014 baseline survey results. Improvements/changes in the key indicators are discussed.

**3.1 Household Demographics**

This section provides an overview of demographic and socioeconomic characteristics of respondents/mothers, which include age, education, marital status, age at first marriage, and number of living children. This information helps one to interpret findings and understand results presented in the report.

Information on housing characteristics of responding mothers (of 0-35 month’s old children) is also presented in this section. These include condition of households, ownership of land and homestead, and possession of household durable goods.

Basic background characteristics of 1211 mothers of 0-35 month’s children drawn from intervention and control areas are presented in Table 3.1. About 8 in 10 women/mothers (81.1 percent in intervention and 79.8 percent in control) were in the age group 20-34 years. The mean age was 26.0 years in intervention and 25.5 years in control areas. Age structure among women of intervention and control areas appeared to be almost identical.

Education is one of the most influential determinants of an individual’s knowledge, attitude and behavior. Education enhances the ability of individuals to achieve desired demographic and health goals. Table 3.1 shows that 15.1 percent women/mothers of intervention and 18.1 of control had no formal education. Nearly 50.7 percent of intervention and 40.2 percent of control had some primary or completed primary education and approximately 7.1 percent of control and 4.6 percent of intervention women had above secondary level education.

Literacy is an important indicator both for the individual and society. Women literacy is directly associated health and nutrition. Ability to read and write empowers both men and women. To assess the level of literacy of women, the endline survey asked women to read a sentence written on a card. The interviewers carried a card with a simple sentence printed in Bangla. Those who had attended at least some secondary school were assumed to be literate, and women who had not attended any school and those who had not attended any secondary school were asked to read the cards during the interview. Table 3.1 shows that two-thirds (65.5 percent in intervention Vs. 66.4 percent in control) were literate.

Almost all the women of intervention and of control were currently married and monogamous. The mean and median age at first marriage was 17 years in intervention and 16.0 years in control areas. This means, 50 percent of women got married before reaching age 17 years. The legal age of marriage for girls in Bangladesh is 18 years, but a large proportion of marriage in intervention and control areas take place before the legal age. These results are exactly similar to the results recorded in the 2014 N@C baseline Survey. The 2014 BDHS also reported similar findings for women of Bangladesh.

Table 3.1 also shows that 94 percent households of both intervention and control were headed by men. Only 5 percent households were headed by women.

Sharing food out of same bowl is a proxy indicator for number of people in the household. The survey asked questions how many people share food in their household. Results show that, on average, 2.6 persons in intervention and 2.4 persons in control households share food per household, which may include maid servant and close relatives.

|  |
| --- |
| **Table 3.1: Characteristics of Women/mothers**  Percentage distribution of women/mothers who have at least one child of age less than three years by selected background characteristics, according to Intervention and Control areas |

| **Characteristics** | **Control areas** | | **Intervention areas** | |
| --- | --- | --- | --- | --- |
| BL (%) | EL (%) | BL (%) | EL (%) |
| **Age** |  |  |  |  |
| < 20 years | 10.0 | 11.8 | 6.8 | 10.8 |
| 20-24 | 37.1 | 37.2 | 32.9 | 31.9 |
| 25-29 | 26.1 | 27.2 | 32.8 | 30.0 |
| 30-34 | 17.3 | 15.4 | 17.7 | 19.2 |
| 35-39 | 7.4 | 7.1 | 7.5 | 6.2 |
| 40-44 | 1.0 | 0.7 | 1.7 | 1.6 |
| 45-49 | 1.0 | 0.5 | 0.6 | 0.2 |
| Mean age | 26.1 | 25.5 | 26.8 | 26.0 |
| **Education:** |  |  |  |  |
| No education | 32.3 | 18.1 | 32.2 | 15.1 |
| Some primary | 35.9 | 29.7 | 32.3 | 36.6 |
| Primary completed | 10.7 | 10.5 | 14.1 | 14.1 |
| Some secondary | 17.7 | 27.4 | 17.9 | 24.6 |
| Secondary completed | 1.4 | 3.8 | 1.6 | 3.8 |
| Some higher education | 1.3 | 6.1 | 1.1 | 2.5 |
| Higher education completed | 0.1 | 1.0 | 0.3 | 1.1 |
| Adult education | 0.5 | 0.5 | 0.3 | - |
| Religious education only | 0.1 | 2.8 | 0.2 | 2.1 |
| **Literacy rate** | 59.8 | 66.4 | 56.8 | 65.5 |
| **Current Marital status:** |  |  |  |  |
| Married (monogamous) | 98.6 | 99.0 | 98.7 | 99.3 |
| Divorced or separated | 0.9 | 0.5 | 0.9 | 0.3 |
| Widowed | 0.5 | 0.5 | 0.4 | 0.3 |
| Mean age at marriage | 16.6 | 16.3 | 17.2 | 16.9 |
| Median age at marriage | 16.7 | 16.0 | 17.3 | 17.0 |
| **Number** | 781 | 602 | 1190 | 609 |
| **Currently pregnant:** |  |  |  |  |
| Yes | 6.9 | 2.3 | 9.8 | 4.8 |
| No | 92.4 | 97.7 | 89.2 | 94.9 |
| Don’t know/Not sure | 0.6 |  | 1.0 | 0.3 |
| Number | 781 | 596 | 1190 | 605 |
| **Head of household** |  |  |  |  |
| Male-headed household | 95.3 | 93.5 | 96.0 | 94.7 |
| Female-headed household | 3.4 | 5.8 | 3.2 | 4.8 |
| Joint (male and female) headed household | 1.3 | 0.7 | 0.7 | 0.5 |
|  |  |  |  |  |
| **Number of living children:** |  |  |  |  |
| 1 | 26.6 | 30.6 | 25.5 | 31.5 |
| 2 | 27.3 | 31.4 | 24.8 | 25.9 |
| 3 | 21.1 | 19.9 | 22.1 | 17.6 |
| 4 | 13.6 | 10.5 | 12.0 | 14.0 |
| 5 or more | 11.4 | 7.6 | 15.6 | 11.0 |
| **Mean HH size (Share food)** | 5.78 | 2.39 | 6.32 | 2.55 |
|  |  |  |  |  |
| **Number** | 792 | 602 | 1206 | 609 |

**3.1.1 Household Characteristics**

Table 3.2 gives percent distribution of households by their characteristics, according to intervention and control areas. About 93 percent (92.8 percent in intervention vs. 93.0 percent in control) women had own house. Nearly 88.0 percent of intervention and 89.5 percent of control households had earth/sand floor, 95.2 percent of intervention and 97.7 percent of control households had tin/metal roof, and 74.2 percent of intervention and 95.0 percent of control households had walls made of tin. It may be mentioned that tin sheets are commonly used for roof and walls in rural households.

Table 3.2 also shows that only 31.5 percent households of intervention against 41.9 percent in control had own agricultural land, but most households (about 93.0 percent in both areas) had homesteads.

The survey collected information on household ownership of selected durable assets. The percent distribution of households by possession of various durable goods, according to intervention and control areas is given in Table 3.3. While presence of essential household items in rural households is not common, it is interesting to see that more than 9 in 10 household (94.6 percent of intervention and 95.0 percent of control) own mobile/cell phone. About 80 percent own chair, more than half own table, nearly two-thirds own electric fan and 17.1 percent of intervention and 31.6 percent of control households own television. Variations in the ownership pattern by intervention and control areas are not high.

As regards cooking places, 4.9 percent households of intervention and 8.1 percent of control had cooking place in the living or sleeping room. However, nearly 8 in 10 households had cooking place either in a separate building or outdoor with some variation by intervention and control areas (Table 3.2).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table 3.2: Household Characteristics**  Percentage distribution of women/mothers by household characteristics, according to Intervention and Control areas | | | | |
| **Characteristics** | **Control areas** | | **Intervention areas** | |
| BL (%) | EL (%) | BL (%) | EL (%) |
| **Own agricultural land:** |  |  |  |  |
| Yes | 39.0 | 41.9 | 28.5 | 31.5 |
| No | 61.0 | 58.1 | 71.5 | 68.5 |
| **Own any house:** |  |  |  |  |
| Yes | 91.9 | 93.0 | 88.8 | 92.8 |
| No | 8.1 | 7.0 | 11.2 | 7.2 |
| **Characteristics of the house**  **Main material of floor:** |  |  |  |  |
| Earth/Sand | 97.9 | 89.5 | 94.2 | 88.0 |
| Bamboo | - | - |  | 0.2 |
| Stone/Brick | - | - |  | 0.3 |
| Cement | 2.1 | 10.5 | 5.6 | 11.5 |
| Tiles | 0.0 | - | 0.2 | - |
| **Main material of roof:** |  |  |  |  |
| Grass roof | 0.3 | 0.3 | 6.4 | 1.3 |
| Metal roof/Tin | 99.4 | 97.7 | 90.9 | 95.2 |
| Stone or tile roof/Tally | 0.0 | - | 0.1 | 0.2 |
| Plastic plus grass | 0.1 | - | 0.1 | 0.2 |
| Cement | 0.3 | 2.0 | 2.5 | 3.1 |
| **Main material of walls:** |  |  |  |  |
| Earth/Sand/Mud/Clay | 1.3 | 0.2 | 26.9 | 6.4 |
| Bamboo, corn stalks | 3.9 | 0.2 | 8.2 | 0.7 |
| Stone/Fired Brick | 0.0 | - | 2.1 | 2.1 |
| Cement | 1.5 | 4.7 | 8.6 | 15.3 |
| Tile | - | - | - | 0.2 |
| Mud brick or wattle | 0.8 | - | 0.8 | 0.5 |
| Tin | 92.8 | 95.0 | 50.8 | 74.2 |
| Other | 0.5 | - | 2.5 | 0.7 |
| **Cooking places:** |  |  |  |  |
| In a room used for living or sleeping | 1.8 | 8.1 | 6.3 | 4.9 |
| In a separate room in the same building used as a kitchen | 0.3 | 5.0 | 18.4 | 23.2 |
| In a separate building used as kitchen | 68.8 | 49.3 | 41.2 | 33.2 |
| Outdoors | 29.2 | 37.5 | 34.1 | 38.8 |
| **Number** | **792** | **602** | **1206** | **609** |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table 3.3: Ownership of household assets**  Percent distribution of women/mothers by ownership of household assets, according to intervention and control areas | | | | |
| **Assets** | **Control areas** | | **Intervention areas** | |
| BL (%) | EL (%) | BL (%) | EL (%) |
| Radio | 0.4 | 0.8 | 1.2 | 1.1 |
| Television | 12.2 | 31.6 | 12.4 | 17.1 |
| Mobile phone | 83.2 | 95.0 | 76.3 | 94.6 |
| Telephone land | 0.1 | 1.8 | 0.2 | 2.0 |
| Refrigerator | 1.4 | 13.3 | 1.3 | 9.4 |
| Animal-drawn cart | 0.9 | 1.0 | 0.7 | 1.5 |
| Table | 43.7 | 52.0 | 53.6 | 65.4 |
| Chair | 53.3 | 77.9 | 65.7 | 79.5 |
| Electric fan | 28.3 | 76.6 | 19.2 | 60.9 |
| DVD/VCD player | 2.0 | 3.0 | 2.3 | 0.5 |
| Water pump | 5.4 | 6.0 | 2.0 | 4.4 |
| **Total** | **100.0** | **100.0** | **100.0** | **100.0** |
| **Number** | **792** | **602** | **1206** | **609** |

# **3.2 Agricultural Production and Access to Food**

Food security is an important issue in any under developed country like Bangladesh. At household level, food security refers to the ability of the household to secure, either from its own production or through purchases, adequate food for meeting the dietary needs of all members of the household. Like 2014 baseline survey, 2018 endline survey also collected information on production and access to food, preservation and storage of food, and households by hunger status.

# Table 3.4 gives distribution of households by main sources of food and production of food in the kitchen garden and use of this food. It shows that 97.7 percent of intervention and 99.5 percent of control households purchased some kind of food, 69.0 percent of intervention and 62.3 percent of control households received food from *Food for Work program* of the government. These figures are much higher than those of the baseline figures (6.9 and 17.2 per cent) for both intervention and control areas. However, trade/borrowing food has been drastically reduced in both the survey areas since 2014 baseline time.

Fruits and vegetables provide vitamins and other micronutrients. Kitchen garden is an easy and convenient source of vegetables and fruits for household consumption. Bangladesh national nutrition program (BNNP) encourages setting-up of kitchen gardens and growing of fruits and vegetables in those gardens/yards. Table 3.4 also shows percent distribution of households by possession of kitchen garden and use of these food items by intervention and control areas, according to baseline and endline surveys.

It can be seen that more households in intervention than control have kitchen garden (39.7 percent of intervention vs. 29.4 percent of control) where vegetables and fruits are produced mainly for household consumption. Proportion of households having kitchen garden increased by 6.2 percentage points in intervention areas since baseline survey in 2014. But that figure remained almost the same (only 1.1 percent increase) in comparison areas.

Almost all the households in both the areas consumed food items that they produced in kitchen garden.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table 3.4: Sources of household food and presence of kitchen garden**  Percent distribution of households by sources of household food, whether have kitchen garden, according to baseline and endline surveys and by Intervention and Control areas. | | | | |
|  | **Control areas** | | **Intervention areas** | |
|  | BL (%) | EL (%) | BL (%) | EL (%) |
| **Main sources of household food that household members consume:** |  |  |  |  |
| Produce own food | 54.5 | 36.0 | 39.9 | 31.9 |
| Purchase food | 96.5 | 99.5 | 98.8 | 97.7 |
| Food for work | 17.2 | 62.3 | 6.9 | 69.0 |
| Government food aid | 0.6 | 19.6 | 1.0 | 17.9 |
| NGO food aid | 0.9 | 2.2 | 8.2 | 1.5 |
| Trade/Borrow food | 59.3 | 6.0 | 55.7 | 9.0 |
| Charity/Beg | 1.1 | 1.2 | 1.3 | 1.1 |
| Other | - | 0.7 | - | 0.2 |
| **Have home/kitchen garden to grow food for family or personal consumption:** |  |  |  |  |
| Yes | 28.3 | 29.4 | 33.5 | 39.7 |
| No | 71.7 | 70.6 | 66.5 | 60.3 |
| Number | 792 | 602 | 1206 | 609 |
| **Main uses of foods produced in home/kitchen garden:** |  |  |  |  |
| Personal/Family Consumption | 100 | 100.0 | 100.0 | 100.0 |
| Sale | 17.0 | 20.3 | 12.4 | 16.5 |
| Barter trade | 1.3 | 4.0 | 0.5 | 6.6 |
| Other | - | 2.3 |  | - |
| **Number** | **224** | **177** | **404** | **242** |

**3.3 Food Preservation and Storage**

During post-harvest periods food items/grains are easily available and prices usually remain low. Rural households usually store food items during post-harvest period either from own production or through purchases for meeting the dietary needs of the remaining period of the year. As was done in the 2014 baseline survey, the endline survey also asked respondents if they had preserved any fruits and vegetables for use later in the year. Table 3.5 shows that preservation of fruits and vegetables at household level was not very common but increased by 4 percentage points in intervention areas from the 2014 baseline time to 2018 endline period (from 9.5 percent to 13.5 percent). In the control areas Preservation of food reduced to half from baseline period (24.0 percent) to the endline survey time (12.1 percent). It may be noted that available land for production of food is low in intervention area, and this is due to the fact that a large portion of it comprise of low land which is not suitable for agriculture.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table 3.5: Preservation and storage of food**  Percent distribution of households by Preservation and Storage of food), according to baseline and endline surveys and by Intervention and Control areas. | | | | |
|  | **Control areas** | | **Intervention areas** | |
|  | BL (%) | EL (%) | BL (%) | EL (%) |
| **In the last 12 months, whether household preserved any fruits and vegetables for use later in the year:** |  |  |  |  |
| Yes | 24.0 | 12.1 | 9.5 | 13.5 |
| No | 76.0 | 87.9 | 90.5 | 86.5 |
| Number | 792 | 602 | 1206 | 609 |
| **During the last 12 months, whether stored any crops that grew:** |  |  |  |  |
| Yes | 45.1 | 16.6 | 24.0 | 14.0 |
| No | 54.9 | 83.4 | 76.0 | 86.0 |
| Number | 769 | 602 | 1170 | 609 |
| **Purpose of the crop(s) being stored:** |  |  |  |  |
| Food for household consumption | 100 | 100.0 | 100 | 97.6 |
| To sell for higher price | 52.0 | 51.0 | 43.3 | 38.8 |
| Seed for planting | 18.9 | 30.0 | 36.7 | 57.6 |
| **Number** | **347** | **100** | **281** | **85** |

Respondents were asked if they, in the last post-harvest period, had stored any crops that they grew. Table 3.5 also shows that 14.0 percent of intervention and 16.6 percent of control households stored foods in the last post-harvest period (February-March, 2018). These values are significantly low compared with the baseline values (24.0 percent in intervention and 45 percent in control). Storing was done mainly for future household consumption, but higher proportion of control households (51 percent of those who stored against 38.8 percent of intervention) stored food grains for sell at higher price at a later time.

**3.4 Assistance from Agricultural and live-stock Extension Workers**

The survey asked women/respondents if they/their husband ever met or been visited by Agricultural and Live-stock Extension Workers in the last 12 months. Table 3.6 shows that only 2.5 percent of intervention and 4 percent of comparison ever met or visited by Agricultural Extension Workers and less than one percent by Live-stock Workers in the last 12 months.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table 3.6: Assistance from Agricultural and Live Stock Extension Workers**  Percent distribution of women or their husbands by ever met/visited by Agriculture and Live stock extension workers in the last 12 months preceding the survey by baseline and endline surveys and according to intervention and control areas. | | | | |
|  | **Control areas** | | **Intervention areas** | |
|  | BL (%) | EL (%) | BL (%) | EL (%) |
| **In the past 12 months, have you/ your husband ever met, or been visited by an agricultural extension worker:** |  |  |  |  |
| Yes | 1.9 | 4.0 | 6.5 | 2.5 |
| No | 97.0 | 95.8 | 93.2 | 97.5 |
| Don’t know | 1.1 | 0.2 | 0.3 | - |
| **In the past 12 months, have you/your husband ever met, or been visited by a livestock/fisheries extension worker:** |  |  |  |  |
| Yes | 2.1 | 0.8 | 2.7 | 0.7 |
| No | 97.1 | 99.2 | 97.2 | 99.3 |
| Don’t know | 0.8 | - | 0.1 | - |
| **Number** | **792** | **602** | **1206** | **609** |

**3.5 Food Security and Household Hunger**

Household food security refers to the ability of the household to secure, either from its own production or through purchases, adequate food for meeting the dietary needs of all members of the household. To assess households’ food security status and hunger scale, a set of 6 questions were asked in the endline survey that included incidence of having no food to eat, frequency of such incidence, slept hungry at night for not having enough food with frequency of such happenings, incidence of whole day without any food and frequency of such incidence in the last 4 weeks/30 days. These questions were also asked in the 2014 baseline survey.

Table 3.7 depicts households’ food security status and level of household hunger. It is evident that the level of household hunger reduced significantly in both the areas. About 19.5 percent of intervention against 8.6 percent of control households faced the problem of not having any food to eat for lack of money/resources in the last one month (in 2018). Among those households who experienced such incidences (not having food to eat) more than 10 times in the last one month, only 1.7 percent of intervention and none in comparison households experienced such situation.

About 15.4 percent in intervention and 7.0 percent of control households reported that some household members had to go to sleep at night for not having enough food. Twelve percent of intervention and 4.3 percent of control women reported that some members were without food for whole day for not having enough food. But such situation occurred rarely. These findings show that higher proportion of intervention households are food in-secured than control households. Similar situation prevailed at the time of baseline survey in 2014 (Table 3.7).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table 3.7: Household Hunger**  Percent distribution of households by responses on household hunger during last one month according to baseline and endline surveys and by Intervention and Control areas. | | | | |
|  | **Control areas** | | **Intervention areas** | |
|  | BL (%) | EL (%) | BL (%) | EL (%) |
| **In the past 4 weeks/30 days was there ever no food to eat of any kind in your house because of lack of resources/money to get food:** |  |  |  |  |
| Yes | 28.8 | 8.6 | 56.5 | 19.5 |
| No | 71.2 | 91.4 | 43.5 | 80.5 |
| **Number** | **792** | **602** | **1206** | **609** |
| **How often did this happen in the past [4 weeks/30 days]:** |  |  |  |  |
| Rarely (1-2 times) | 53.5 | 78.8 | 37.9 | 59.7 |
| Sometimes (3-10 times) | 40.4 | 21.2 | 53.6 | 38.7 |
| Often (more than 10 times) | 6.1 | 0.0 | 8.5 | 1.7 |
| **Number** | **228** | **52** | **681** | **119** |
| **In the past [4 weeks/30 days] did you or any household member (including children) go to sleep at night hungry because there was not enough food:** |  |  |  |  |
| Yes | 12.6 | 7.0 | 20.8 | 15.4 |
| No | 87.4 | 93.0 | 79.2 | 84.6 |
| **Number** | **792** | **602** | **1206** | **609** |
| **How often did this happen in the past [4 weeks/30 days]:** |  |  |  |  |
| Rarely (1-2 times) | 61.0 | 69.0 | 69.3 | 48.9 |
| Sometimes (3-10 times) | 36.0 | 31.0 | 29.9 | 46.8 |
| Often (more than 10 times) | 3.0 | 0.0 | 0.8 | 4.3 |
| **Number** | **100** | **42** | **251** | **94** |
| **In the past [4 weeks/30 days] did you or any household member (including children) go a whole day without eating anything at all because there was not enough food:** |  |  |  |  |
| Yes | 8.5 | 4.3 | 12.1 | 12.2 |
| No | 91.5 | 95.7 | 87.9 | 87.8 |
| **Number** | **792** | **602** | **1206** | **609** |
| **How often did this happen in the past [4 weeks/30 days]:** |  |  |  |  |
| Rarely (1-2 times) | 68.7 | 80.8 | 65.8 | 50.0 |
| Sometimes (3-10 times) | 29.9 | 19.2 | 32.9 | 43.2 |
| Often (more than 10 times) | 1.5 | 0.0 | 1.4 | 6.8 |
| **Number** | **67** | **26** | **146** | **74** |

**3.6 Women’s Dietary Diversity:**

Women’s Dietary Diversity is a proxy of food security. Minimum dietary diversity is defined as the proportion of the women who receive food from five or more food groups out of nine food groups during the previous day of the survey. As in the baseline survey, 2018 endline survey also asked respondents/women to describe the foods and drinks that they took yesterday or the last normal day (in the last 24 hours) at home or outside the home. The cited foods are categorized into nine food groups: Staples (grains or other starchy roots and tubers), vitamin A-rich fruits and vegetables; other fruits and vegetables; dark green leafy vegetables; organ meat; flesh foods; eggs; legumes, nuts and seeds; and dairy products (milk, yogurt).

Data of the endline survey as presented in Table 3.8 show that almost all the women received cereals, grains or other starchy roots and tubers (100.0 percent both in intervention and control). About 94.7 percent of intervention and 92.5 percent of control women reported to have had yesterday flesh foods that included fish, fresh meat like lamb, beef and chicken and organ meat; and 81.3 percent of intervention and 79.7 percent consumed fruits and vegetables. These estimates are higher than the corresponding baseline estimates. Table 3.8 also gives proportion of women by consumption of various groups of food.

In Figure 3.1 endline survey results also show that 35.5 percent women of intervention against 41.4 percent of control consumed foods from five or more groups. But a comparison with the baseline results show a 12 percentage points rise in this dietary diversity among women of intervention area from 23.6 percent in the 2014 baseline to 35.5 percent in the 2018 endline surveys. The corresponding rise in dietary diversity in control areas was 11 percentage points (30.3 percent in the baseline vs. 41.4 percent in the endline) during the same period.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table 3.8: Women’s Dietary Diversity (mean score based on reported food groups)**  Percent distribution of households by receiving food (from different food groups), according to baseline and endline surveys and by Intervention and Control areas. | | | | |
| **Food Groups** | **Control areas** | | **Intervention areas** | |
|  | BL (%) | EL (%) | BL (%) | EL (%) |
| Cereals, Grains or others starchy roots and tubers | 99.9 | 100.0 | 99.8 | 100.0 |
| Vitamin A rich fruits and vegetables | 24.5 | 24.1 | 14.3 | 20.4 |
| Other fruits and vegetables | 67.2 | 79.7 | 51.1 | 81.3 |
| Dark green leafy vegetables | 35.6 | 32.4 | 41.0 | 30.7 |
| Organ meat | 0.4 | 2.0 | 0.6 | 1.5 |
| Flesh foods | 87.6 | 92.5 | 85.6 | 94.7 |
| Eggs | 14.5 | 20.3 | 10.3 | 18.2 |
| Legumes, nuts and seeds | 41.8 | 51.8 | 45.1 | 49.3 |
| Dairy products | 30.4 | 32.9 | 17.5 | 15.4 |
| **Consume from 5 or more groups** | **30.3** | **41.4** | **23.6** | **35.5** |
| **Number** | **792** | **602** | **1206** | **609** |

**3.7 Maternal Health and Nutrition**

Malnutrition among women and children is a serious health problem in developing countries including Bangladesh. Anemia is a key health status indicator for maternal nutrition. Low body mass index (BMI) is a risk factor for poor maternal health and birth outcomes. BMI is also a measure of nutritional status. It measures thinness or obesity. Antenatal care, delivery care and postnatal care are key components of Maternal Care.

Like baseline survey, 2018 endline survey also collected information on certain maternal care such as use of antenatal care, and post-natal care during or after last pregnancy. The survey measured blood sample, height and weight of non-pregnant women/mothers using appropriate scales (as stated in methodology section). This information was used to assess the status of maternal health both in interventions and control areas. Results of the endline survey are compared with that of the baseline survey.

**3.7.1 Mothers’ anemia**

Anemia among non-pregnant women/mothers was measured in every fourth eligible households (households having non-pregnant mother of a child age 0-35 months). Blood sample could be collected from 197 of intervention and 196 of control women. For assessing prevalence and level of anemia among non-pregnant women/ mothers, three cut-off points of hemoglobin level are used: (a) Mild Anemia (hemoglobin between 11-11.99g/dl), (b) Moderate Anemia (8-10.99g/dl), and (c) Severe Anemia (hemoglobin less than 8g/dl). Tables 3.9a and 3.9b show that after four years of intervention since 2014, anemia among women increased from 30.5 percent in the 2014 baseline to 40.6 percent in intervention area. Most of the anemic women were either mild or moderately anemic. Prevalence of anemia among intervention women was higher than the prevalence of anemia among control women (Table 3.9a, 3.9b and Figure 3.2).

**Table 3.9a: Mother’s Anemia Status: Endline Survey 2018 results by intervention and control area.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Area** | **Not Anemic**  **%** | **Milda**  **%** | **Moderateb**  **%** | **Severec**  **%** | **Don’t know**  **%** | **N** |
| **EL** | **EL** | **EL** | **EL** | **EL** | **EL** |
| Control | 68.3 | 23.5 | 8.2 | 0.0 | 0.5 | 196 |
| Intervention | 59.4 | 27.4 | 12.7 | 0.5 | 0.5 | 197 |

\*Does not include women who self-reported as pregnant at the time of the survey

**a**: (11-11.99g/dl); **b**: (8-10.99g/dl); **c**: < 8 g/dl

**Table 3.9b: Mother’s Anemia Status at 2014 baseline by intervention and control areas.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Area** | **Not Anemic**  **%** | **Milda**  **%** | **Moderateb**  **%** | **Severec**  **%** | **N** |
| **BL** | **BL** | **BL** | **BL** | **BL** |
| Control | 58.8 | 27.8 | 13.4 | 0.0 | 187 |
| Intervention | 69.5 | 21.4 | 9.1 | 0.0 | 187 |

\*Does not include women who self-reported as pregnant at the time of the survey

**a**: (11-11.99g/dl); b: (8-10.99g/dl); c: < 8 g/dl

**3.7.2 Mothers’ BMI**

In the Endline survey, a total of 579 from intervention and 587 non-pregnant women from control were in the sample for estimating body mass index (BMI). The BMI is defined as weight in kilograms divided by height in meters squared (kg/m2). A BMI of less than 18.5 is used to define thinness or acute under nutrition. A BMI of 25 or above usually indicates overweight, and a BMI of 30 or above indicates obesity.

Body Mass Index (BMI) was calculated for non-pregnant women. The endline survey results as presented in Table 3.10a, Table 3.10b and Figure 3.3 shows that mean BMI is somewhat higher for women of intervention area (20.4 kg/m2) compared with the baseline estimate (19.6 kg/m2). The mean BMI among the control women was 21.8 kg/m2) in the endline against 20.6 kg/m2 in the baseline.

Prevalence of chronic energy deficiency (CED) in women, as defined by BMI less than 18.5kg/m2, significantly reduced to 28.3 percent in 2018 compared with 38.5 percent at the 2014 baseline time. Reduction in CED among the control women was almost the same.

**Table 3.10a: Mother’s BMI Status\*: 2018 Endline by intervention and control areas**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Area** | **Mean BMI** | **< 18.5a**  **%** | **(18.5-24.9)b**  **%** | **(> 25-29.9)c**  **%** | **> 30.0d**  **%** | **N** |
| **EL** | **EL** | **EL** | **EL** | **EL** | **EL** |
| Control | 21.8 | 15.5 | 67.3 | 15.3 | 1.9 | 587 |
| Intervention | 20.4 | 28.3 | 61.3 | 9.8 | 0.5 | 579 |

\*Does not include women who self-reported as pregnant at the time of the survey

**a**: Underweight; b: Normal; c: Overweight; d: Obese

**Table 3.10b: Mother’s BMI Status\*: 2014 Baseline by intervention and Control areas**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Area** | **Mean BMI** | **< 18.5a**  **%** | **(18.5-24.9)b**  **%** | **(> 25-29.9)c**  **%** | **> 30.0d**  **%** | **N** |
| **BL** | **BL** | **BL** | **BL** | **BL** | **BL** |
| Control | 20.6 | 25.4 | 65.5 | 7.8 | 1.2 | 733 |
| Intervention | 19.6 | 38.5 | 57.3 | 3.7 | 0.5 | 1082 |

\*Does not include women who self-reported as pregnant at the time of the survey

**a**: Underweight; b: Normal; c: Overweight; d: Obese

**3.7.3 Mothers’ MUAC**

The MUAC is also an indicator of maternal mal-nutritional status in women because of its high correlation with maternal weight and weight for height. Increases of MUAC during pregnancy are generally less than 0.05 cm (WHO 1995). There is no universally accepted cut-off of MUAC for adults. According to WHO (1995), percentage of women with a MUAC below 21.4 cm is severely acute malnourished, women with MUAC between 21.4 cm and 22.1 cm. are considered moderate acute malnourished. Endline survey results based on MUAC of non-pregnant women show that 7.1 percent women of intervention and 4.2 percent of control were moderately malnourished, while 13.3 percent of intervention and 4.0 percent of control women were severely acute malnourished (Table 3.11a & 3.11b).

In the intervention area prevalence of moderate malnourished has reduced to 7.1 percent in the 2018 end-line from 10.2 percent in the 2014 baseline period. Similar reduction in the sever acute malnutrition can also be seen (from 16.0 percent to 13.3 percent). The situation is similar among the women in the control region.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Table 3.11a: Mothers’ MUAC: 2018 Endline by intervention and control areas** | | | | | |
| **Area** | **MUAC** | | | | **N** |
| **Mean**  **(**±SD) | **Severe acute mal nutrition**  **(MUAC<21.4 cm)** | **Moderate acute malnutrition**  **(21.4 cm< MUAC<22.1 cm)** | **≥22.1** |
| Control | 2.88  (± 0.43) | 4.0 | 4.2 | 91.9 | 602 |
|  |  |  |  |  |  |
| Intervention | 2.66  (± 0.70) | 13.3 | 7.1 | 79.6 | 609 |

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| **Table 3.11b: Mothers’ MUAC: 2014 Baseline by intervention and control areas** | | | | | |
| **Area** | **MUAC** | | | | **N** |
| **Mean**  **(**±SD) | **Severe acute mal nutrition**  **(MUAC<21.4 cm)** | **Moderate acute malnutrition**  **(21.4 cm< MUAC<22.1 cm)** | **≥22.1** |
| Control | 25.1  (±2.75) | 5.2 | 6.1 | 88.7 | 788 |
| Intervention | 23.7  (±2.49) | 16.0 | 10.2 | 73.8 | 1195 |

**3.7.4 Maternal Health and Care**

**Antenatal care:**

The reproductive health care services that a mother receives during her pregnancy, delivery, and postnatal period are important for the well-being of the mother and her child. Antenatal checkup facilitates detection and treatment of complications during pregnancy. In the endline survey, antenatal care (ANC) was assessed according to the number of visits made/received, type of service provider, place of receiving ANC, and consumption of iron folic acid tablets and vitamin A supplements.

Table 3.12, Figure 3.4 & 3.5 shows a sharp rise in receiving any ANC visit from 2014 baseline to 2018 endline survey period. About 84.2 percent women of intervention received at least one ANC in 2018 against only 37.9 percent in 2014. Similar changes were recorded in receiving any ANC in control area (75.6 percent in endline vs. 31.2 percent in baseline).

Among the ANC care seekers of intervention area, mostly they received ANC from NGO workers (64.3 percent) and qualified doctor (47.2 percent). Receiving ANC from qualified doctor was the highest in control areas (76.9 percent), followed by NGO workers (32.3 percent).

Prevalence of 4+ANC visits rose significantly in intervention women (49.3 percent in end-line vs. 22.5 percent in baseline) since baseline period. Prevalence of 4+ ANC visits is significantly low in control area (38.5 percent in endline vs. 15.4 percent in baseline) compare with intervention.

Iron folic acid intake during last pregnancy rose to 74.7 percent in intervention and in 2018 end-line from 48.3 percent in 2014 baseline. This prevalence is still low in control area (63.0 percent). Receiving postnatal care (PNC) at the endline survey period was 41.4 percent in the intervention area against 38.7 percent in control area. Significant improvements were noted since the baseline survey.

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| **Table 3.12: Maternal Health**  Percent distribution of women by receiving antenatal Care (ANC) during their most recent pregnancy, according to baseline and endline surveys and by Intervention and Control areas. |

|  | **Control areas** | | **Intervention areas** | |
| --- | --- | --- | --- | --- |
|  | BL (%) | EL (%) | BL (%) | EL (%) |
| **During most recent pregnancy, whether consulted anyone for a medical checkup/ANC:** |  |  |  |  |
| Yes | 31.2 | 75.6 | 37.9 | 84.2 |
| No | 68.8 | 24.4 | 62.1 | 15.8 |
| **Number** | **792** | **602** | **1206** | **609** |
| **Number of times received ANC during last pregnancy:** |  |  |  |  |
| One time | 40.1 | 26.6 | 29.1 | 18.1 |
| Two times | 28.3 | 20.2 | 25.2 | 17.5 |
| Three times | 16.2 | 14.7 | 23.2 | 15.0 |
| Four times (or more) | 15.4 | 38.5 | 22.5 | 49.3 |
| **ANC received from:** |  |  |  |  |
| Qualified Doctor | 44.5 | 76.9 | 37.2 | 47.2 |
| Nurse/Midwife/Paramedic | 28.7 | 10.5 | 7.2 | 6.2 |
| Family Welfare Visitor | 4.0 | 0.7 | 7.4 | 1.6 |
| Community Skilled Birth Attendant | - | 0.4 | - | 8.6 |
| MA/SACMO | 0.0 | - | 1.8 | - |
| Health Assistant | 4.5 | 0.2 | 0.0 | 3.3 |
| Family Welfare Assistant | 6.1 | 4.6 | 4.4 | 5.3 |
| Trained TBA | 0.0 | - | 0.4 | 0.2 |
| Untrained TBA | - | - | - | - |
| Unqualified Doctor | 2.8 | 0.9 | 4.6 | 1.2 |
| NGO Worker | 21.1 | 32.3 | 40.7 | 64.3 |
| **Sources of ANC care received:** |  |  |  |  |
| Home | 26.7 | 35.2 | 44.2 | 73.5 |
| Medical College Hospital | 3.2 | 0.9 | 0.7 | 0.0 |
| Specialized Govt. Hospital | 0.4 | - | 0.0 | - |
| District Hospital | 4.0 | 1.5 | 4.2 | 1.2 |
| MCWC | 0.0 | 0.2 | 3.9 | 0.0 |
| Upazila Health Complex | 10.1 | 7.3 | 12.5 | 8.2 |
| H & Family Welfare Centre | 2.4 | 0.7 | 6.1 | 1.6 |
| Satellite Clinic/EPI outreach | 2.8 | 0.2 | 0.0 | 0.4 |
| Community Clinic | 2.8 | 0.9 | 2.4 | 9.4 |
| NGO Static Clinic | 10.5 | 8.8 | 2.6 | 2.7 |
| NGO Satellite Clinic | 11.3 | 0.7 | 2.0 | 0.0 |
| Private Hospital/Clinic | 20.2 | 59.3 | 16.0 | 21.6 |
| Qualified Doctor’s Chamber | 10.5 | 7.3 | 6.1 | 16.2 |
| Traditional Doctor’s Chamber | 1.2 | 0.4 | 0.4 | 0.4 |
| Pharmacy | 0.4 | 0.9 | 3.5 | 0.6 |
| Private Medical College Hospital | 0.8 | 2.4 | 0.0 | 1.0 |
| **Number** | **247** | **455** | **457** | **513** |
| **Whether take any iron/IFA tablet/syrup during last pregnancy:** |  |  |  |  |
| Yes | 40.7 | 63.0 | 48.3 | 74.7 |
| No | 59.3 | 37.0 | 51.7 | 25.1 |
| Don’t know/remember | - | - | - | 0.2 |
| **Number** | **792** | **602** | **1206** | **609** |
| **For how long take iron/IFA tablets/syrup during last pregnancy:** |  |  |  |  |
| Less than 30 Days | 21.4 | 19.5 | 25.8 | 16.5 |
| 30 to 59 Days | 21.7 | 20.1 | 22.5 | 21.1 |
| 60 to 89 Days | 18.3 | 9.8 | 13.6 | 13.2 |
| 90 Days or more | 38.2 | 50.7 | 38.1 | 49.2 |
| **Number** | **322** | **379** | **582** | **455** |
| **Whether received post-natal care (PNC):** |  |  |  |  |
| Yes | 11.0 | 38.7 | 14.7 | 41.4 |
| No | 89.0 | 61.3 | 85.3 | 58.6 |
| **Whether child received any Vitamin A supplementation:** |  |  |  |  |
| Yes | - | 69.1 | - | 64.2 |
| No | - | 30.9 | - | 35.8 |
| **Number** | **792** | **602** | **1206** | **609** |

**Postnatal Care:**

Women may experience problems in the postpartum/postnatal period, the six weeks or 42 days following delivery. Such problems can be detected and treated through proper follow-up visits for women in the postpartum period. Postnatal care, care or check up during postpartum period, is important for women. The endline survey, asked respondents/women if they received any postnatal checkup/care after the most recent birth, and whether the child received any Vitamin A supplements.

Table 3.12 & Figure 3.6 also presents data on postnatal checkup and receiving vitamin A supplements by child by intervention and control areas and also by baseline and endline surveys. It appears that prevalence of postnatal checkup (PNC) rose sharply in intervention area from 14.7 percent in the 2014 baseline to 41.4 percent in the 2018 endline survey period. Similar rise also occurred in the control area (38.7 percent from 11.0 percent in the baseline).

Prevalence of receiving vitamin A supplements among children is 64.2 percent in the intervention and 69.1 percent in the control areas. The baseline survey did not collect such information.

**3.8 Infant and Young Child Feeding (IYCF) practices**

The IYCF practice provides information on key indicators related to optimal feeding practices. Feeding practices include breastfeeding practices, feeding of solid and semi-solid foods to breastfed and non-breastfed children and micronutrient intake. Feeding practices play a pivotal role in deterring the optimal growth and development of infants. Poor breastfeeding and infant feeding practices have adverse consequences for the health and nutrient status of children.

It is recommended that (UNICEF & WHO) children should be exclusively breastfed (that is, given no other liquid or solid food or plain water) for the first six months of life and that children are given solid or semi-solid complementary food at six completed months. The usual indicator for exclusive breastfeeding is the percentage of children under age 6 month who are exclusively breastfed. The indicator for timely complementary feed is the percentage of children age 6-8 months who receive solid, semi solid or soft food at six completed months. It is also recommended that breastfeeding should continue throughout the second year of life.

**3.8.1 Initiation of Breastfeeding and Exclusive Breastfeeding**

**Initiation of breastfeeding:**

Early initiation of breastfeeding is important for both the mother and the child. The first breast milk contains colostrum, which is highly nutritious and has antibodies that protect the newborn from disease. Parallel to the baseline survey, the 2018 endline survey also collected data on infant and young child feeding (IYCF) for the last-born children age 0-23 months.

Endline survey results on timely initiation of breastfeeding for 0-23 months old children are given in Table 3.13. It can be seen that 45.7 percent of children age 0-23 months in intervention area received breast milk immediately after birth; and another 36.0 percent of children received breast milk in less than an hour of birth. This means 81.7 percent of intervention children were put to the breast within an hour of birth. The corresponding figure was 74.9 percent at the 2014 baseline survey period, showing 6.8 percentage points rise since baseline time.

The proportion of control children age 0-23 months were put to the breast within one hour of birth is 56.3 percent against baseline finding of 66.3 percent, showing a decline of 13 percentage points from 2014 to 2018 period.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table 3.13: Timely initiation of breastfeeding (children 0 -23 months) by intervention and control areas and by baseline and endline surveys** | | | | |
|  | **Control areas** | | **Intervention areas** | |
|  | BL %(n) | EL %(n) | BL %(n) | EL %(n) |
| Immediately | 40.0 (205) | 19.8 (99) | 44.6 (292) | 45.7 (230) |
| In less than 1 hour | 26.3 (135) | 36.5 (182) | 30.3 (198) | 36.0 (181) |
| One hour to less than 24 hours | 28.3 (145) | 41.3 (206) | 22.8 (149) | 16.7 (84) |
| 1 day (24 hours or more) | 5.5 (28) | 2.2 (11) | 2.3 (15) | 1.6 (8) |
| Don’t know | - | 0.2 (1) | - | - |
| **Number** | **513** | **499** | **654** | **503** |

**Early Feeding Practices:**

In the endline survey, mothers were asked what they had given the child in the last 24 hours beside breast milk. Results are presented in Table 3.13a. It is evident that 5.8 percent in the endline against 19.9 percent in the baseline survey in intervention area received some liquid/drink beside breast milk in the last 24 hours preceding the survey (Table 3.13a).

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| **Table 3.13a: Early feeding practices of infants (0-23 months) (Pre-lacteals)** | | | | |
| **Early feeding practices** | **Control areas** | | **Intervention areas** | |
| BL % (n) | EL % (n) | BL % (n) | EL % (n) |
| % of children who received a**ny** other liquid/drink besides breast milk during 24 hours after birth | 23.3 (120) | 7.2 (36) | 19.9 (130) | 5.8 (29) |
| % of children who received animal milk **(C**ow’s/goat’s milk, tinned, powdered milk) | 5.8 (7) | 27.3 (136) | 8.5 (11) | 12.3 (62) |
| % children who received plain water | 14.2 (17) | 71.7 (358) | 10.8 (14) | 71.8 (361) |
| % children who received gripe water | 4.2 (5) | - | 5.4 (7) | - |
| % children who received infant formula (Lactogen, Biomil, Eldobaby, Babycare, Mother’s Smile, Pre-Nan) | 5.8 (7) | 9.4 (47) | 3.8 (5) | 6.0 (30) |
| % children who received thin porridge (Suji, Luta) | - | 3.0 (15) | - | 4.6 (23) |
| **Number** | **515** | **499** | **654** | **503** |

**Exclusive breastfeeding:**

Exclusive breastfeeding is defined as proportion of infants age 0-5 months who received only breast milk during the previous 24 hours. Exclusive breastfeeding allows the inclusion of ORS and Vitamins and/or mineral supplements. Endline survey results as presented in Table 3.13b shows that prevalence of exclusive breastfeeding among 0-5 months’ children in intervention area rose to 61.4 percent in the endline from 48.7 percent in the baseline. In control area, prevalence of exclusive breastfeeding declined by 5 percentage points from 65 percent in the baseline to 60 percent in the endline. However, prevalence of exclusive breastfeeding was found to be higher in the age groups 0-1 and 2-3 months.

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| **Table 3.13b: Exclusive breastfeeding among children age less than 6 months**  Percent distribution of children aged 0-5 months by exclusive breastfeeding based on 24 hours recall, according to intervention and control areas and by baseline and endline surveys | | | | | | | | |
|  | **Control areas** | | | | **Intervention areas** | | | |
| BL | | EL | | BL | | EL | |
| % | n | % | n | % | n | % | n |
| Exclusive breastfeeding given |  |  |  |  |  |  |  |  |
| 0-1 months | 90.9 | 50 | 77.4 | 53 | 72.3 | 34 | 80.4 | 46 |
| 2-3 months | 70.3 | 52 | 74.6 | 71 | 51.9 | 40 | 71.0 | 69 |
| 4-5 months | 31.5 | 17 | 27.9 | 61 | 27.7 | 18 | 39.1 | 69 |
| **0-5 months (below 6 months)** | **65.0** | **119** | **60.0** | **185** | **48.7** | **92** | **61.4** | **184** |

**3.8.2 Timely complementary feeding and continued breastfeeding**

Timely complementary feeding indicator measures the proportion of infants 6-9 months of age who receive breast milk and a solid or semi-solid in the last 24 hours (24-hour dietary recall). Solid and semi solid foods are defined as mushy or solid foods, not fluid. Almost 99 percent of both intervention and control infants aged 6-9 months received breast milk yesterday. About 91.3 percent of intervention in the endline against 85.1 percent in the baseline received solid or semi-solid food yesterday (Table 3.13c). This prevalence was somewhat low among the control children (89.5 percent in endline vs. 76.1 percent in baseline).

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| **Table 3.13c: Timely complementary feeding (Feeding practices During previous 24 hours) of infants 6-9 months, according to control and intervention areas and by baseline and endline surveys** | | | | |
|  | **Control areas** | | **Intervention areas** | |
| BL % (n) | EL % (n) | BL % (n) | EL % (n) |
| % infants age 6-9 months who were breastfed yesterday | 97.0 (65) | 98.5 (66) | 98.6(69) | 98.5 (68) |
| % infants age 6-9 months who received solid or semi-solid food yesterday | 76.1 (51) | 89.5(60) | 85.1(57) | 91.3(63) |
| Number | 67 | 67 | 67 | 69 |

Continued breastfeeding is defined as the proportion of children 12-15 months of age who were fed breast milk as part of continued breastfeeding. Table 3.13d shows almost universal prevalence of continued breastfeeding among children age 12-15 months both in intervention and control areas. This prevalence was 96 percent among intervention and 94 percent among control children aged 16-23 months (Table 3.13d). It is evident that 91.7 percent of intervention and 92.5 percent of control children age 20-23 months continued breastfeeding. The corresponding baseline estimates were approximately the same. These estimates should be taken with caution as these estimates are based on small sample.

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| **Table 3.13d: Continued breastfeeding (Continued breastfeeding at 1 year and at 16 – 23 months, according to control and intervention areas and by baseline and endline surveys** | | | | |
|  | **Control areas** | | **Intervention areas** | |
| BL % (n) | EL % (n) | BL % (n) | EL % (n) |
| % children 12-15 months continued breastfed | 100.0 (63) | 94.6 (70) | 98.2 (55) | 97.4 (75) |
| Number | 65 | 74 | 56 | 77 |
| % children 16 -23 months continued breastfed | 94.8 (164) | 93.6 (127) | 95.3 (302) | 95.7 (132) |
| Number | 173 | 136 | 317 | 138 |
| % children 20 -23 months continued breastfed | 92.2 (59) | 92.5 (62) | 92.9 (131) | 91.7 (44) |
| Number | 64 | 67 | 141 | 48 |

**3.8.3 Introduction of solid, semi-solid or soft food**

The complementary feeding indicator measures the proportion of infants 6-8 months of age who receive solid, semi-solid or soft food along with or without breast milk. Table 3.14 shows that 91.8 percent of intervention infants age 6-8 months in the 2018 endline against 80.0 percent in the 2014 baseline received solid, semi-solid or soft food during the last 24 hours and the corresponding figure for control area was found to be 89.7 percent in the endline against 73.5 percent in baseline. These results should also be taken with some caution as the sample size was not large enough.

Prevalence of complementary feeding among breastfed infants (6-8 months) rose to 91.7 percent in 2018 from 80.0 percent in 2014 in intervention and from 72.9 percent to 89.5 percent in control (Table 3.14). This means, among breastfed infants age 6-8 months, receiving solid, semi-solid or soft food during the previous 24 hours has increased considerably both in intervention and control area.

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| **Table 3.14: Introduction of solid, semi-solid or soft food**  Proportion of infants and young children who received solid, semi-solid or soft foods during previous day by breastfeeding children, according to Control and intervention areas and by baseline and endline surveys | | | | |
|  | **Control areas** | | **Intervention areas** | |
| BL % (n) | EL % (n) | BL % (n) | EL % (n) |
| % all infants 6 – 8 months who received solid, semi-solid or soft foods during previous day | 73.5 (36) | 89.7 (52) | 80.0 (48) | 91.8 (56) |
| Number | 49 | 58 | 60 | 61 |
| % infants 6 – 8 months who were breastfed and received solid, semi-solid or soft foods during previous day | 72.9 (35) | 89.5 (51) | 80.0 (48) | 91.7 (60) |
| Number | 48 | 57 | 60 | 55 |
| % infants 6 – 8 months who were non-breastfed and received solid, semi-solid or soft foods during previous day | 100.0 (1) | 100.0 (1) | - | 100.0 (1) |
| Number | 1 | 1 | - | 1 |

**3.8.4 Minimum dietary diversity**

Infant and young child feeding (IYFC) practices include initiating timely feeding of solid or semisolid foods at age 6 completed months and increasing the amount and variety of foods and frequency of feeding as the child gets older, while maintaining frequent breastfeeding.

Minimum dietary diversity means feeding the child food from at least four food groups (of 7 groups). This cut-off was selected because it is associated with better-quality diets for both breastfed and non-breastfeed children. It is recommended that meat, poultry, fish, or eggs be eaten daily or as often as possible. Vegetarian diets may not meet children’s nutrient requirements unless supplements or fortified products are used. Vitamin A-rich fruits and vegetables should be consumed daily. Children’s diets should include an adequate fat content, including fats that provide essential fatty acids. Fat facilitates absorption of fat-soluble vitamins (such as vitamin A) and enhances dietary energy density and palatability. Consumption of food from at least four food groups means that the child has a high likelihood of consuming at least one animal source of food and at least one fruit or vegetable in addition to a staple food (grains, roots, or tubers) (WHO, 2008). The four food groups should come from a list of seven food groups: grains, roots, and tubers; legumes and nuts; dairy products (milk, yogurt, cheese), flesh food (meat, fish, poultry, and liver/organ meat); eggs; vitamin-A rich fruits and vegetables.

Minimum dietary diversity is defined as the proportion of children age 6-23 months who receive foods from 4 or more food groups. Table 3.15 presents proportion of children aged 6-23 months who ate complementary food in the last 24 hours by food groups, according to intervention and control and also by baseline and endline surveys.

Data presented in Table 3.15 show that prevalence of receiving/consuming foods from at least four groups (minimum dietary diversity) by intervention children age 6-23 months rose to 53.3 percent in the endline from 32.6 percent in the baseline, showing an improvement of approximately 21 percent points. Similar rise was also noted in the control.

This proportion was almost identical amongst breastfed children age 6-23 months.

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| **Table 3.15: Minimum dietary diversity**  Proportion of infants who received minimum dietary diversity (food from 4 or more food groups) out of 7 by breastfeeding practice, according to Control and Intervention areas and by baseline and endline surveys | | | | |
|  | **Control areas** | | **Intervention areas** | |
| BL % (n) | EL % (n) | BL % (n) | EL % (n) |
| % all children 6 – 23 months who received minimum dietary diversity | 32.9 (109) | 52.2 (164) | 32.6 (153) | 53.3 (170) |
| Number | 331 | 314 | 469 | 319 |
| % breastfed children 6 – 23 months who received minimum dietary diversity | 32.5 (104) | 52.2 (164) | 31.9 (144) | 53.3 (170) |
| Number | 320 | 314 | 451 | 319 |
| % non- breastfed children 6 – 23 months who received minimum dietary diversity | 45.5 (5) | - | 50.0 (9) | - |
| Number | 11 | - | 18 | - |

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| --- | --- | --- |
| **Table 3.15a: Complementary feeding by food groups**  Proportion of complementary foods eaten by children 6-23 months by food groups yesterday, according to control and intervention areas | | |
| % children who ate | **Control areas** | **Intervention areas** |
| Grains or other starchy roots and tubers (staples) | 97.5 | 95.9 |
| Legumes and nuts | 43.3 | 40.1 |
| Dairy products (milk, yogurt, cheese) | 51.9 | 30.7 |
| Flesh foods | 60.8 | 66.1 |
| Eggs | 25.5 | 25.4 |
| Vitamin A rich fruits and vegetables | 33.4 | 29.5 |
| Other fruits and vegetables | 56.7 | 62.1 |
| **Number** | **314** | **319** |

**3.8.5 Minimum meal frequency, minimum acceptable diet and consumption of iron-rich food**

**Minimum meal frequency:**

The minimum meal frequency or the minimum number of meals taken by a child during the last 24 hours is a proxy for adequate energy from complementary food. The recommended minimum feeding frequencies are:

1. times for breastfed infants 6-8 months
2. times for breastfed infants 9-23 months
3. times for non-breastfed infants 6-23 months.

Table 3.16 gives proportion of children aged 6-23 months (both breastfed and non-breastfed) by minimum meal frequency, according to intervention and control areas and also by endline and baseline surveys. Receiving minimum number of meals is relatively higher in intervention than control areas and a substantial positive change occurred since the baseline survey. It can be seen that (Table 3.16), although receiving minimum meal frequency rose from baseline to endline period, but it is still low among breastfed children age 6-8 months of both intervention and control areas.

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| --- | --- | --- | --- | --- |
| **Table 3.16: Minimum meal frequency**  Percent of children 6 – 23 months with minimal meal frequency by breastfeeding practice and intervention site | | | | |
|  | **Control areas** | | **Intervention areas** | |
| BL % (n) | EL % (n) | BL % (n) | EL % (n) |
| % all children 6 – 23 months who received minimum meal frequency | 75.8(251) | 96.2 (302) | 81.7(383) | 97.2 (310) |
| Number | 331 | 314 | 469 | 319 |
| % breastfed children 6 – 23 months who received minimum meal frequency | 75.6(242) | 96.2 (302) | 82.8(371) | 97.2 (310) |
| Number | 320 | 314 | 451 | 319 |
| % breastfed children 6 – 8 months who received minimum meal frequency | 60.4(29) | 82.8 (48) | 71.2(42) | 86.9 (53) |
| Number | 48 | 58 | 59 | 61 |
| % breastfed children 9 – 11 months who received minimum meal frequency | 82.2(37) | 97.8 (47) | 69.4(25) | 100.0 (43) |
| Number | 45 | 46 | 36 | 43 |
| % breastfed children 12 – 17 months who received minimum meal frequency | 77.7(73) | 99.0 (104) | 73.7(70) | 99.1 (110) |
| Number | 94 | 105 | 95 | 111 |
| % breastfed children 18 – 23 months who received minimum meal frequency | 78.2(104) | 100.0 (105) | 88.9(233) | 100.0 (104) |
| Number | 133 | 105 | 262 | 104 |
| % non- breastfed children 6 – 23 months who received minimum meal frequency | 81.8(9) | 100.0 (14) | 66.7(12) | 100.0 (12) |
| Number | 11 | 14 | 18 | 12 |

**Minimum acceptable diet:**

Minimum acceptable diet is a composite indicator. It is defined as the proportion of 6-23 months breastfed children who had at least minimum dietary diversity and minimum meal frequency during the previous day breastfed children 6-23 months, AND 6-23 months non-breastfed children who received at least two milk feedings AND had at least the minimum dietary diversity not including milk feeds AND the minimum meal frequency during the previous day/non-breastfed children 6-23 months of age.

Table 3.17 gives proportion of children age 6-23 months with minimum acceptable diet by breastfed and non-breastfed children, according to baseline and endline surveys for both intervention and control children.

Results in Table 3.17 show that receiving minimum acceptable diet rose to 51.1 percent in 2018 from 28.4 percent in 2014 baseline time in intervention area. Similar rise can also be seen in the control area. Coverage with minimum acceptable diet among breastfed 6-23 months children is almost identical, but this could not be estimated for non-breastfed children for negligible sample size.

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| --- | --- | --- | --- | --- |
| **Table 3.17: Minimum acceptable diet**  Proportion of children 6 – 23 months with minimal acceptable diet by breastfeed and non-breastfeed children, according to control and intervention areas and by baseline and endline surveys | | | | |
|  | **Control areas** | | **Intervention areas** | |
| BL % (n) | EL % (n) | BL % (n) | EL% (n) |
| % all children 6 – 23 months who received minimum acceptable diet | 27.5 (91) | 51.3 (161) | 28.4 (133) | 51.1 (163) |
| % breastfed children 6 – 23 months who received minimum acceptable diet | 27.8 (89) | 52.3 (157) | 29.3 (132) | 52.8 (162) |
| % non- breastfed children 6 – 23 months who received minimum meal frequency | 18.2 (2) | 28.6 (4) | 5.6 (1) | 8.3 (1) |

**Consumption of iron-rich or iron fortified food and bottle feeding:**

Table 3.18 shows that proportion of children aged 6-23 months who consumed iron-rich or iron fortified foods and meat during last 24 hours preceding the survey. Consumption of iron-fortified food other than infant formula was negligible (1.9 percent in intervention vs. 0.6 percent in control). Similar was the situation with consumption of iron fortified formula. Proportion presented in Table 3.18 is subject to sampling fluctuations because of very small sample and therefore are not reliable.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table 3.18: Consumption of iron-rich or iron fortified food**  Proportion of children 6-23 months consuming iron-rich, iron fortified foods and meat during previous day, according to control and intervention areas and by baseline and endline surveys | | | | |
|  | **Control areas** | | **Intervention areas** | |
| BL % (n) | EL % (n) | BL % (n) | EL % (n) |
| % children 6 – 23 months who consumed iron-rich foods (*Cerelac, mother’s smile cereal, Babyvit, serimeal, baby lac, lactozen, biomeal)* | 2.4 (8) | 7.6 (24) | 1.3 (6) | 5.0 (16) |
| % children 6 – 23 months who consumed iron fortified foods (*local baby foods)* | 2.1 (7) | 0.6 (2) | 2.8 (13) | 1.9 (6) |
| % children 6 – 23 months who consumed meat | 46.8(155) | 7.0 (22) | 52.7(247) | 3.4 (11) |
| **Total** | **331** | **314** | **469** | **319** |

**Bottle Feeding:**

Bottle feeding declines with the age of children. About 9.2 percent of intervention children age 0-5 months was bottle fed against 3.8 percent among 12-23 months children. Similar was the pattern among control children. Again, reliable comparison by endline and baseline was not permissible because of small sample size.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table 3.19: Bottle feeding**  Proportion of children 0 – 23 months who were fed with a feeding bottle by age, according to control and intervention areas and by baseline and endline surveys | | | | |
|  | **Control** | | **Intervention areas** | |
| BL % (n) | EL % (n) | BL % (n) | EL % (n) |
| % children 0 – 5 months who were fed with a feeding bottle | 13.0 (24) | 17.8 (33) | 9.7 (18) | 9.2 (17) |
| % children 6 - 11 months who were fed with a feeding bottle | 21.6 (21) | 23.1 (24) | 8.8 (8) | 13.5 (14) |
| % children 12 – 23 months who were fed with a feeding bottle | 8.1 (19) | 16.2 (34) | 2.6 (10) | 3.7 (8) |

**3.8.6 Infant and Young Child Feeding (IYCF) indicators**

The 10 WHO recommended IYCF indicators as discussed in the methodology section 3.4.6 are given in Tables3.20, 3.20a and Figure 3.7, 3.7a. Prevalence with changes are provided in the table.

**Table 3.20: WHO IYCF indicators: Intervention area**

|  |  |  |  |
| --- | --- | --- | --- |
| **Key IYCF Practices by indicators** |  | | |
|  | **BL** | **EL** | **Difference** |
|  | % (n) | % (n) | **(EL-BL)** |
| IYCF 1: Timely Initiation of Breast Feeding (0-23) months | 74.8 (492) | 81.7(411) | 6.9 |
| IYCF 2: Exclusive Breast Feeding (0-5) months | 48.7 (92) | 61.4(113) | 12.7 |
| IYCF 3: Timely Complementary Feeding (6-9) months | 82.1(55) | 91.3(69) | 9.2 |
| IYCF 4: Introduction of Solid/Semi-solid or soft food (6-8) months | 82.5 (47) | 91.8(61) | 9.3 |
| IYCF 5: Continued BF at (12-15) months | 98.2 (56) | 97.4(77) | -0.8 |
| IYCF 6: Minimum Dietary Diversity (6-23) months | 32.6 (153) | 52.0(166) | 19.4 |
| IYCF 7: Minimum Meal Frequency (6-23) months | 81.7 (383) | 97.2(310) | 15.5 |
| IYCF 8: Minimum Acceptable Diet (6-23) months | 28.4 (133) | 51.1(163) | 22.7 |
| IYCF 9: Iron-Rich or Fortified Solid/Semi-solid Foods (6-23) months | 54.6 (256) | 98.4(314) | 43.8 |
| IYCF 10: Bottle Feeding (0-23) months | 5.5(36) | 7.8(39) | 2.3 |

**Table 3.20a: WHO IYCF indicators: Control area**

|  |  |  |  |
| --- | --- | --- | --- |
| **Key IYCF Practices by indicators** |  | | |
|  | **BL** | **EL** | **Difference** |
|  | % (n) | % (n) | **(EL-BL)** |
| IYCF 1: Timely Initiation of Breast Feeding (0-23) months | 66.1 (340) | 56.3 (111) | -9.8 |
| IYCF 2: Exclusive Breast Feeding (0-5) months | 65.0 (119) | 60.0 (111) | -5.0 |
| IYCF 3: Timely Complementary Feeding (6-9) months | 73.1 (49) | 89.5 (67) | 16.4 |
| IYCF 4: Introduction of Solid/Semi-solid or soft food (6-8) months | 73.5 (36) | 89.7 (58) | 16.2 |
| IYCF 5: Continued BF at (12-15) months | 100.0 (61) | 94.6 (74) | -5.4 |
| IYCF 6: Minimum Dietary Diversity (6-23) months | 32.9 (109) | 51.3 (161) | 18.4 |
| IYCF 7: Minimum Meal Frequency (6-23) months | 75.8 (251) | 96.2 (302) | 20.4 |
| IYCF 8: Minimum Acceptable Diet (6-23) months | 27.5 (91) | 51.3 (161) | 23.8 |
| IYCF 9: Iron-Rich or Fortified Solid/Semi-solid Foods (6-23) months | 48.0 (159) | 98.1(308) | 50.1 |
| IYCF 10: Bottle Feeding (0-23) months | 12.3 (63) | 18.2 (91) | 5.9 |

**3.9 Nutritional Status of Children**

**3.9.1 Child Anthropometrics**

For assessing nutritional status of children age 0-35 months, the endline survey collected anthropometric data of children aged 0-35 months following the same methodology that was applied in the baseline survey. Height and weight were measured using appropriate scales. In addition, blood sample was collected from a subsample of children age 6-23 months.

Height and weight of 0-35 month’s children were measured for 478 children from intervention and 484 children from control areas. Blood sample of sub-sample of 6-23 month’s children were taken using the procedure as discussed in the methodology section. The standard indices of physical growth that describes the nutritional status of children are:

* Height-for-age (Stunting)
* Weight-for-height (Wasting)
* Weight-for-age (underweight).

Using height and weight data of children aged 0-35 months, nutritional status were assessed and the results are presented in Tables 3.21, 3.21a and Tables 3.22, 3.22a for intervention and control children by endline and baseline surveys. The definition and cut-off points are used as described in the methodology section 2.3.5.

**Stunting (Height-for-age):**

Height-for-age measures linear growth. A child who is more than two standard divisions below the median (-2SD) of the WHO reference population in terms of height-for-age is considered short for his/her age or stunted. This reflects the effect of chronic malnutrition. If a child is below three standard durations (-3SD) from the reference median, then he/she is considered to be severely stunted.

The 2018 endline survey results presented in the Table 3.21 and Table 3.21a show that prevalence of stunting is very high both in intervention and control children. According to endline survey results, among intervention children, 32.8 percent were stunted, while 13.8 percent were severely stunted (shorter for age). The corresponding prevalence in the 2014 baseline survey was 47.2 percent and 18.2 percent respectively. This shows as improvement or decrease in stunting by 14.4 percentage points from 2014 baseline to 2018 endline period. Stunting was higher among children age 12-35 months.

Prevalence of stunting and severely stunting among control children were 26.2 percent and 9.9 percent respectively. The baseline estimate of stunting was 39.6 percent, which shows a decline by 13.4 percentage points from baseline to the endline time. Pattern of stunting by age group was similar to that among intervention children.

As found in the baseline survey, endline survey results also show a positive association between stunting and age of children.

**Wasting (Weight-for-height):**

Weight-for-height describes current nutritional status. A child who is more than two standard deviations below (-2SD) the reference median for weight-for-height is considered to be too thin for his/her height or wasted. This condition reflects acute or recent nutritional deficit. As with stunting, wasting is considered severe if the child is more than three standard deviations below the reference median.

According to the 2018 endline survey results, among the intervention children age 0-35 months 10.3 percent were either wasted or severely wasted (too thin for height). This prevalence was slightly higher at the baseline at 10.5 percent. Prevalence of wasting in the control areas was found at 9.2 percent (wasting or severely wasting) which was almost identical to the baseline estimate (9.3 percent) among the control children. Wasting by age group and sex of children can also be seen in the Tables 3.21. 3.21a, Table 3.22, 3.22a, Figure 3.8.

**Underweight (Weight-for-age):**

Weight for age is a composite index of weight-for-height and height-for-age. It does not distinguish between acute malnutrition (wasting) and chronic malnutrition (stunting). A child can be underweight for his/her age because he/she is stunted, because he/she is wasted, or both. Underweight indicates severe presence of malnutrition. Endline survey results show that 23.8 percent of intervention children age 0-35 months was either underweight or severely underweight. This shows a significant decline of 11.8 percentage points in the prevalence of underweight among intervention children.

Prevalence of underweight was recorded at 23.0 percent (underweight or severely underweight) among control children, which show only 2.7 percentage points decline from baseline period.

**Table 3.21: Child Anthropometrics for intervention area – Endline Survey, 2018**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Age in month** | **Stunted**  **Height-for-age** | | | | **Wasted**  **Weight-for-height** | | | | **Underweight**  **Weight-for-age** | | | | N **(**#) |
| % <  -3SD | % <  -2SD | Mean  Z-Score  (SD) | | % <  -3SD | % <  -2SD | % above +2SD | Mean  Z-Score  (SD) | % <  -3SD | % <  -2SD | % above +2SD | Mean  Z-Score  (SD) |
| 0-35 | 13.8 | 32.8 | -1.48 | | 2.5 | 10.3 | 3.3 | -.49 | 6.7 | 23.8 | .2 | -1.23 | 478 |
| 0 - 5 | 1.1 | 13.5 | -.79 | | 1.1 | 6.7 | 5.6 | -.16 | .6 | 13.5 | .6 | -.76 | 178 |
| 6– 11 | 9.0 | 26.0 | -1.26 | | 4.0 | 9.0 | 4.0 | -.32 | 6.0 | 20.0 | 0.0 | -1.04 | 100 |
| 12-23 | 20.0 | 47.6 | -2.03 | | 1.8 | 10.0 | 1.2 | -.76 | 8.2 | 26.5 | 0.0 | -1.57 | 170 |
| 24-35 | 70.0 | 86.7 | -3.20 | | 10.0 | 36.7 | 0.0 | -1.49 | 36.7 | 83.3 | 0.0 | -2.80 | 30 |
|  | | | | | | | | | | | | | |
| 0-35 Male | 16.2 | 36.2 | -1.58 | 2.1 | | 11.9 | 4.3 | -.46 | 6.0 | 25.5 | 0.0 | -1.26 | 235 |
| 0-35 Female | 11.5 | 29.6 | -1.39 | 2.9 | | 8.6 | 2.5 | -.52 | 7.4 | 22.2 | .4 | -1.21 | 243 |

\*Nutritional status Z-scores using WHO 2006 standards

**Table 3.21a: Child Anthropometrics for control area – Endline Survey, 2018**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Age in month** | **Stunted**  **Height-for-age** | | | **Wasted**  **Weight-for-height** | | | | **Underweight**  **Weight-for-age** | | | | N(#) |
| % <  -3SD | % <  -2SD | Mean  Z-Score  (SD) | % <  -3SD | % <  -2SD | % above +2SD | Mean  Z-Score  (SD) | % <  -3SD | % <  -2SD | % above +2SD | Mean  Z-Score  (SD) |
| 0-35 | 9.9 | 26.2 | -1.22 | 3.4 | 9.2 | 3.0 | -.44 | 4.5 | 23.0 | .6 | -1.04 | 466 |
| 0-5 | 3.8 | 9.8 | -.59 | 2.2 | 7.7 | 6.6 | -.02 | 3.3 | 9.8 | 1.6 | -.52 | 183 |
| 6-11 | 7.0 | 20.0 | -1.03 | 5.0 | 7.0 | 2.0 | -.25 | 4.0 | 18.0 | 0.0 | -.82 | 100 |
| 12-23 | 17.0 | 41.2 | -1.86 | 3.9 | 9.2 | 0.0 | -.84 | 4.6 | 30.7 | 0.0 | -1.52 | 153 |
| 24-35 | 20.0 | 70.0 | -2.48 | 3.3 | 26.7 | 0.0 | -1.63 | 13.3 | 80.0 | 0.0 | -2.52 | 30 |
|  | | | | | | | | | | | | |
| 0-35 Male | 11.6 | 27.2 | -1.26 | 3.6 | 11.6 | 4.0 | -.50 | 6.3 | 26.3 | .4 | -1.10 | 224 |
| 0-35 Female | 8.3 | 25.2 | -1.19 | 3.3 | 7.0 | 2.1 | -.39 | 2.9 | 19.8 | .8 | -.99 | 242 |

\*Nutritional status Z-scores using WHO 2006 standards

**Table 3.22: Child Anthropometrics for intervention area – Baseline Survey, 2014**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Age in month | **Height-for-age** | | | | **Weight-for-height** | | | | **Weight-for-age** | | | | | N **(**#) |
| % <  -3 Z | % <  -2 Z | Mean Z | | % <  -3 Z | % <  -2 Z | % above +2 Z | Mean Z | % <  -3 Z | % <  -2 Z | % above +2 Z | | Mean Z |
| 0-35 | 18.2 | 47.2 | 1.29 | | 2.4 | 10.5 | 1.1 | 1.11 | 9.3 | 35.6 | 0.8 | | 1.12 | 1206 |
| 0-5 | 5.6 | 15.7 | 1.35 | | 1.7 | 8.5 | 2.3 | 1.21 | 7.0 | 18.3 | 0.5 | | 1.32 | 189 |
| 6-11 | 14.4 | 31.1 | 1.41 | | 3.4 | 7.9 | 3.4 | 1.29 | 6.6 | 30.8 | 1.0 | | 1.28 | 91 |
| 12-23 | 21.6 | 55.7 | 1.16 | | 2.5 | 12.2 | 1.4 | 1.08 | 11.3 | 38.9 | 1.3 | | 1.07 | 378 |
| 24-35 | 20.9 | 54.8 | 1.13 | | 2.5 | 10.5 | 0.2 | 1.03 | 9.2 | 40.1 | 0.5 | | 0.97 | 548 |
|  | | | | | | | | | | | | | | |
| 0-35 Male | 18.4 | 47.2 | 1.32 | 3.7 | | 11.3 | 1.2 | 1.15 | 9.2 | 37.1 | | 0.8 | 1.15 | 625 |
| 0-35 Female | 18.0 | 47.1 | 1.27 | 1.1 | | 9.6 | 1.1 | 1.07 | 9.4 | 34.0 | | 0.9 | 1.09 | 581 |

\*Nutritional status Z-scores using WHO 2006 standards

**Table 3.22a: Child Anthropometrics for control area – Baseline Survey, 2014**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Age in month | Stunted  Height-for-age | | | Wasted  Weight-for-height | | | | Underweight  Weight-for-age | | | | N |
| % <  -3 Z | % <  -2 Z | Mean Z | % <  -3 Z | % <  -2 Z | % above +2 Z | Mean Z | % <  -3 Z | % <  -2 Z | % above +2 Z | Mean Z |
| 0-35 | 13.1 | 39.6 | 1.37 | 2.5 | 9.3 | 2.3 | 1.13 | 6.1 | 25.7 | 1.3 | 1.19 | 792 |
| 0-5 | 3.3 | 13.3 | 1.29 | 2.8 | 8.8 | 3.9 | 1.26 | 4.4 | 13.2 | 1.6 | 1.33 | 183 |
| 6-11 | 6.3 | 26.3 | 1.12 | 2.1 | 8.5 | 3.2 | 1.15 | 3.1 | 22.9 | 2.1 | 1.19 | 97 |
| 12-23 | 17.9 | 50.7 | 1.22 | 3.1 | 10.9 | 2.2 | 1.11 | 9.9 | 28.9 | 1.3 | 1.13 | 234 |
| 24-35 | 17.9 | 52.4 | 1.23 | 1.8 | 8.5 | 1.1 | 1.03 | 5.1 | 32.4 | 0.7 | 0.98 | 277 |
|  | | | | | | | | | | | | |
| 6-35 Male | 11.8 | 38.0 | 1.42 | 2.0 | 10.3 | 1.5 | 1.10 | 7.2 | 25.6 | 1.0 | 1.19 | 407 |
| 6-35 Female | 14.6 | 41.3 | 1.31 | 2.9 | 8.2 | 3.2 | 1.15 | 5.0 | 25.8 | 1.6 | 1.20 | 385 |

\*Nutritional status Z-scores using WHO 2006 standards

**3.9.2 Child Anemia**

Anemia, characterized by low level of hemoglobin in the blood is a major health problem in developing countries including Bangladesh. Most common cause of anemia is inadequate dietary intake of nutrients.

For assessing anemia among children aged 6-23 months, two cut-offs were used: i. hemoglobin less than 10.5g/dl and ii. Hemoglobin less than 11.0g/dl. Table 3.23 presents prevalence of anemia according to two cut-offs for both intervention and control by baseline and endline surveys. According to endline survey results and cut offs 11g/dl, prevalence of anemia among children aged 6-23 months has remained high both in intervention (81.2 percent) and control areas (77.4 percent), but somewhat low compared with the baseline prevalence of 85.3 percent in intervention and 88.8 percent in control areas. According to cut off 10.5g/dl, result can also be seen in Table 3.23a.

**Table 3.23: Anemia Status 2 (Cut off <110g/L or 11.0g/dl), by 2014 baseline and 2018 End-line Surveys, according to intervention and control areas.**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Area** | **Anemic**  **% n** | **Not Anemic**  **% n** | **N** | **Anemic**  **% n** | **Not Anemic**  **% n** | **Dk**  **% n** | **N** | **Difference**  **Anemic %** |
| **BL** | **BL** | **BL** | **EL** | **EL** | **EL** | **EL** |  |
| Control | 88.8 | 11.2 | 214 | 77.4 | 22.6 | - | 217 |  |
| Intervention | 85.3 | 14.7 | 218 | 81.2 | 18.8 | - | 213 |  |

**Table 3.23a: Anemia Status 1 (Cut off <105g/L or 10.5g/dl), Endline Survey, 2018 by Intervention & Control areas**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Area** | **Anemic**  **% n** | **Not Anemic**  **% n** | **N** | **Anemic**  **% n** | **Not Anemic**  **% n** | **Dk**  **% n** | **N** | **Difference**  **Anemic %** |
| **BL** | **BL** | **BL** | **EL** | **EL** | **EL** | **EL** |  |
| Control | 75.2 | 24.8 | 214 | 62.2 | 37.8 | - | 217 |  |
| Intervention | 76.6 | 23.4 | 218 | 67.1 | 32.9 | - | 213 |  |

**Table 3.23b: Anemia status among children 6-23 months: Endline Survey 2018 results by intervention and control area.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Area** | **Any anemia** (<11.0 g/dl) | **Milda**  (10.0-10.99 g/dl) | **Moderateb** (7.0-9.99 g/dl) | **Severec**  (<7.0 g/dl) | **N** |
| **EL** | **EL** | **EL** | **EL** | **EL** |
| Control | 77.4 (168) | 31.3 (68) | 45.2 (98) | 0.9 (2) | 217 |
| Intervention | 81.2 (173) | 30.5 (65) | 49.8 (106) | 0.9 (2) | 213 |

**a**: (10.0 - 10.99 g/dl) ; **b**: (7.0 - 9.99 g/dl) ; **c**: (< 7.0 g/dl)

**Table 3.23c: Anemia status among children 6-23 months: 2014 baseline by intervention and control areas.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Area** | **Any anemia** (<11.0 g/dl) | **Milda**  (10.0-10.99 g/dl) | **Moderateb** (7.0-9.99 g/dl) | **Severec**  (<7.0 g/dl) | **N** |
| **BL** | **BL** | **BL** | **BL** | **BL** |
| Control | 88.8 (190) | 28.0 (60) | 55.1 (118) | 5.6 (12) | 214 |
| Intervention | 85.3 (186) | 20.6 (45) | 61.9 (135) | 2.8 (6) | 218 |

**a**: (10.0 - 10.99 g/dl) ; **b**: (7.0 - 9.99 g/dl) ; **c**: (< 7.0 g/dl)

**3.10 Access to water, Hand Washing Practices and Sanitation Facilities**

**3.10.1 Sources of drinking water**

The endline survey collected information on the primary source of drinking water, how long it takes to go and come back with water, whether treat water to make it safe for drinking and methods usually apply to make water safe.

Table 3.24 shows that tube-well water was the primary source of drinking water both for intervention and control households (98.4 percent of intervention vs. 99.5 percent of control). This is exactly similar to the scenario as recorded in the baseline survey. On an average, a woman takes 10.8 minutes in intervention against 6.9 minutes in control to get and come back with water from a primary source.

Currently, only 5.3 percent of intervention households against 4.0 percent in the baseline treat water prior to drinking, which was somewhat higher than the prevalence in control area (1.2 percent). The most commonly used techniques to make drinking water safe were: use of water filter and straining through a cloth and boiling. It appears that intervention household members are more conscious about water treatment to make it safe than those of control.

|  |
| --- |
| **Table 3.24: Access to Water**  Percent distribution of households by Access to Water according to Intervention and Control areas, and by baseline and endline surveys. |

|  | **Control areas** | | **Intervention areas** | |
| --- | --- | --- | --- | --- |
|  | BL (%) | EL (%) | BL (%) | EL (%) |
| **Primary source of drinking water for household members:** |  |  |  |  |
| Piped water into dwelling | 0.1 | 0.3 | 0.5 | 1.0 |
| Piped water into yard/plot | - | 0.0 | - | 0.2 |
| Public tap/standpipe | 0.6 | 0.0 | 0.4 | 0.2 |
| Tube well/Deep Tube well | 71.8 | 99.5 | 74.6 | 98.4 |
| Protected dug well | 0.0 | 0.0 | 0.2 | 0.2 |
| Unprotected dug well | - | - | - | - |
| Unprotected spring | - | - | - | - |
| Cart with small tank/drum | - | 0.2 | - | - |
| Surface water (river, HAOR dam, lake, pond, stream,  canal, irrigation channels) | 27.4 | 0.0 | 23.2 | 0.2 |
| Other | 0.0 | - | 0.2 | - |
| **Number** | **792** | **602** | **1206** | **609** |
| **Mean time (in minutes) to get water:** | 6.9 | 6.0 | 10.8 | 7.1 |
| **Number** | **791** | **600** | **1204** | **602** |
| **Whether treat water to make it safe:** |  |  |  |  |
| Yes | 0.5 | 1.2 | 4.0 | 5.3 |
| No | 99.5 | 98.8 | 96.0 | 94.7 |
| **Number** | **792** | **602** | **1206** | **609** |
| **Ways usually apply to make water safe:** |  |  |  |  |
| Boil water | 25.0 | 57.1 | 18.8 | 12.5 |
| Add bleach/chlorine | - | - | - | - |
| Strain it through a cloth | 50.0 | 14.3 | 54.2 | 25.0 |
| Use water filter (ceramic/sand/composite/etc.) | 25.0 | 14.3 | 41.7 | 59.4 |
| Let it stand and settle | - | 14.3 | 2.1 | 12.5 |
| Use purifying tablets | - | - | 2.1 | - |
| **Number** | **4** | **7** | **48** | **32** |

**3.10.2 Hand-Washing and Hygiene Practices**

Hand washing with soap is essential and hygienic before and after meals, before preparing food and feeding the child, after toilet use, changing a baby and processing of cow dung for fuel (if applicable). The endline survey results, as presented in Table 3.25, show that a high proportion of women do not follow these hygiene practices in most occasions. About 70 percent of intervention women against 76 percent in the baseline never use soap for hand washing before eating; similar proportion (87.7 percent in the endline vs. 80.8 percent in baseline) never use soap before preparing food and before feeding the child (69.1 percent in the endline vs. 86.4 percent in the baseline). Use of soap after toilet use has increased significantly (81.0 percent) since baseline survey (56.1 percent). Eight in ten of intervention women never use soap after processing cow dung for fuel. The scenario of these hygiene practices are almost the same in control areas and the situation has remained more or less the same as of baseline period.

|  |
| --- |
| **Table 3.25: Hand Washing Practices**  Percent distribution of women by practice of hand washing with soap, according to Intervention and Control areas, and by baseline and endline surveys. |

|  | **Control areas** | | **Intervention areas** | |
| --- | --- | --- | --- | --- |
|  | BL (%) | EL (%) | BL (%) | EL (%) |
| **When usually wash hand with soap:** |  |  |  |  |
| **Before eating:** |  |  |  |  |
| Never | 90.7 | 78.7 | 75.6 | 70.3 |
| Always | 4.8 | 8.0 | 17.6 | 15.1 |
| Sometimes | 4.5 | 13.3 | 6.8 | 14.6 |
| **Before preparing food:** |  |  |  |  |
| Never | 94.7 | 86.4 | 80.8 | 87.7 |
| Always | 1.5 | 3.2 | 11.9 | 5.1 |
| Sometimes | 3.8 | 10.5 | 7.3 | 7.2 |
| **Before feeding the child:** |  |  |  |  |
| Never | 91.8 | 64.5 | 86.4 | 69.1 |
| Always | 2.1 | 17.1 | 9.1 | 13.0 |
| Sometimes | 6.1 | 18.4 | 4.5 | 17.9 |
| **After toilet use:** |  |  |  |  |
| Never | 46.1 | 11.6 | 26.1 | 8.4 |
| Always | 32.1 | 69.1 | 56.1 | 81.0 |
| Sometimes | 21.8 | 19.3 | 17.8 | 10.7 |
| **After changing a baby:** |  |  |  |  |
| Never | 65.7 | 36.7 | 72.6 | 48.6 |
| Always | 17.0 | 40.4 | 21.0 | 38.9 |
| Sometimes | 17.3 | 22.9 | 6.4 | 12.5 |
| **After processing of cow dung for fuel:** |  |  |  |  |
| Never | 70.2 | 81.6 | 84.9 | 79.1 |
| Always | 16.3 | 10.0 | 11.4 | 14.1 |
| Sometimes | 13.5 | 8.5 | 3.7 | 6.7 |
| **Number** | **792** | **602** | **1206** | **609** |

Observation was done to see how they store water; and if water, soap or locally sourced cleansing agents (Ash, Mud, etc.) were present at the specific places. The endline survey results show that about 61 percent of both intervention and control households keep water covered before drinking; higher proportion of households had water available in specific places for hand washing. Specifically, in intervention area. 83.1 percent households now (in 2018) against 62.0 percent in the baseline, and 91.9 percent of control households vs. 88.4 percent in the baseline had water available in specific places for hand washing.

**3.10.3 Sanitation Facilities**

Table 3.26 gives percent distribution of households by type of toilet use, by intervention and control areas, according to endline and baseline surveys. Results show that the commonly used toilets/latrines were pit latrine with slab/water-sealed in the both the areas (69.8 percent in intervention vs. 75.4 percent in control), which shows a significant shift or improvement from baseline period (42.0 percent in intervention vs. 35.2 percent in control).

The endline survey also collected information about where the child passed stool last time. The survey results, show that the common places were in house/yard, on towel/bed sheet/oil clothe/kantha. The baseline survey did not collect such information.

|  |
| --- |
| **Table 3.26: Sanitation facilities**  Percent distribution of households by practice of storing water, place of hand washing, use of soap/cleansing agents for hand washing, type of toilet use and disposal of child feces, according to baseline and endline surveys and by Intervention and Control areas. |

|  | **Control areas** | | **Intervention areas** | |
| --- | --- | --- | --- | --- |
|  | BL (%) | EL (%) | BL (%) | EL (%) |
| **How store drinking water:** |  |  |  |  |
| **Before eating:** |  |  |  |  |
| All are covered | 22.5 | 61.8 | 48.2 | 61.1 |
| Some are covered | 12.4 | 14.5 | 20.3 | 12.2 |
| None are covered | 19.9 | 15.1 | 10.0 | 17.2 |
| No permission to see | 0.3 | - | 0.1 | 0.3 |
| Don’t preserve drinking water | 44.9 | 8.6 | 21.5 | 9.2 |
| **Household members most often wash hands:** |  |  |  |  |
| Inside/within 10 paces of the toilet facility | 2.9 | 15.8 | 3.6 | 6.6 |
| Inside/within 10 paces of the kitchen/cooking place | 22.5 | 5.5 | 17.9 | 8.2 |
| Elsewhere in home or yard | 18.7 | 22.4 | 15.4 | 43.8 |
| Outside yard | 3.2 | 1.7 | 6.0 | 10.3 |
| No specific place | 16.0 | 4.7 | 20.9 | 9.5 |
| No permission to see | 0.1 | - | 0.1 | - |
| Near the water source (outside home) | 36.6 | 50.0 | 36.2 | 21.5 |
| **Number** | **792** | **602** | **1206** | **609** |
| **Presence of water at the specific place for hand washing:** |  |  |  |  |
| Yes (Water is available) | 88.4 | 91.9 | 62.0 | 83.1 |
| No (Water is not available) | 11.6 | 8.1 | 38.0 | 16.9 |
| **Number** | **791** | **602** | **1205** | **609** |
| **Soap or detergent present at the specific place for hand washing:** |  |  |  |  |
| Bar soap | 8.2 | 26.9 | 9.2 | 21.2 |
| Detergent (powder/liquid/paste) | 0.3 | 1.8 | 0.2 | 1.3 |
| Liquid soap (including shampoo) | 0.9 | 0.7 | 0.5 | 0.2 |
| None | 90.8 | 72.6 | 90.4 | 78.8 |
| **Presence of locally sourced cleansing agent at the specific place for hand washing:** |  |  |  |  |
| Ash | 4.3 | 27.9 | 3.7 | 6.6 |
| Mud/sand | 25.9 | 20.8 | 7.8 | 2.5 |
| None | 69.8 | 59.3 | 87.6 | 92.6 |
| Other | 0.1 | - | 1.2 | - |
| **Number** | **791** | **602** | **1205** | **609** |
| **Have soap/local sourced cleansing agent in your house:** |  |  |  |  |
| Yes | 88.4 | 96.2 | 62.0 | 96.2 |
| No | 11.6 | 3.8 | 38.0 | 3.8 |
| **Number** | **791** | **263** | **1205** | **446** |
| **Observed soap/locally sourced cleansing agent:** |  |  |  |  |
| Soap present | 76.3 | 99.2 | 95.0 | 99.3 |
| Ash/mud/sand present | 23.1 | 5.9 | 14.0 | 4.0 |
| None available | 1.1 | 0.0 | 0.1 | 0.2 |
| **Number** | **355** | **253** | **719** | **426** |
| **Kind of toilet facility household members usually use:** |  |  |  |  |
| Flush/pour flush to piped sewer system | 0.0 | 0.5 | 0.2 | 0.2 |
| Flush/pour flush to septic tank | 0.1 | 4.2 | 1.2 | 6.7 |
| Flush/pour flush to pit latrine | 0.1 | 1.0 | 0.2 | 1.5 |
| Ventilated improved pit latrine (VIP) | 3.5 | 4.5 | 3.6 | 4.1 |
| Pit latrine with slab/water sealed | 35.2 | 75.4 | 42.0 | 69.8 |
| Composting toilet | - | - | - | - |
| Flush/pour flush to unknown place/DK | - | 0.5 | - | 0.3 |
| Pit latrine without slab/open pit | 37.6 | 13.3 | 44.6 | 17.1 |
| Bucket | 0.3 | - | 0.7 | - |
| Hanging toilet/hanging latrine | 22.6 | 0.3 | 4.9 | 0.3 |
| No facilities/bush/field | 0.5 | 0.3 | 2.6 | - |
| **Where did child last defecate:** |  |  |  |  |
| Used potty | 5.7 | 19.4 | 8.4 | 11.8 |
| Used washable diaper | 0.0 | - | 0.3 | 0.2 |
| Used disposable diaper | - | - | - | 0.3 |
| Used latrine | 4.7 | 4.5 | 5.1 | 6.4 |
| Went in his/her wearing clothes | 9.6 | 12.6 | 9.0 | 16.3 |
| Towel/bed sheet/ oil cloth/KANTHA | 16.9 | 25.9 | 9.3 | 23.5 |
| Went in house/yard | 56.6 | 34.7 | 53.6 | 37.3 |
| Went outside of house/yard | 6.6 | 2.8 | 14.3 | 4.3 |
| **Number** | **792** | **602** | **1206** | **609** |

**3.11 Women Empowerment: Role in Decision Making**

Role of women in important household decision making is an indicator of women empowerment. To assess women’s decision-making autonomy, the survey collected information on women’s role in important decision making.

Table 3.27 presents percent distribution of women by their role in important decision making about household related activities by endline and baseline surveys, according to intervention and control areas. As reported in the baseline survey report, endline survey results also showed that the role of women in household decision making is negligible. For example, only 15.3 percent intervention women in the endline against 9.6 percent in the baseline can take decision about own health care, similar is the situation about child’s health (16.7 percent in the endline vs. 12.4 percent in the baseline), household purchase for daily needs, and visiting parents’ family. The situation was found similar in the control. On large household purchase, women have no freedom to take decision alone. Mainly husbands decide what to do, but about a quarter or so reported that they make decision jointly with husbands. Bangladesh Demographic and Health Surveys (BDHS) and other surveys reported similar situation.

Role of rural women in decision making about spending own money is somewhat more prominent than level of freedom in other activities. Large majority of both intervention and control women have the freedom to spend own money. It is interesting to note that more than two-thirds women are given the freedom to decide how to share food when households do not have enough food for household members.

|  |
| --- |
| **Table 3.27: Women empowerment –Role in decision making**  Percent distribution of women by role in decision making about important household and other activities according to intervention and control areas by endline & baseline surveys |

| Decision about | **Control areas** | | **Intervention areas** | |
| --- | --- | --- | --- | --- |
|  | BL (%) | EL (%) | BL (%) | EL % |
| **Own health:** |  |  |  |  |
| Self | 8.6 | 19.4 | 9. 6 | 15.3 |
| Husband | 67.2 | 58.8 | 62.0 | 64.4 |
| Both | 14.5 | 10.1 | 18.1 | 8.5 |
| Mother/Father In-law | 7.4 | 8.5 | 8.5 | 9.2 |
| Mother/Father | 1.8 | 3.0 | 1.5 | 2.0 |
| Other | 0.5 | 0.2 | 0.2 | 0.7 |
| **Child’s health:** |  |  |  |  |
| Self | 8.3 | 19.8 | 12.4 | 16.7 |
| Husband | 54.5 | 43.9 | 44.1 | 41.7 |
| Both | 27.1 | 25.2 | 33.7 | 30.4 |
| Mother/Father In-law | 8.0 | 8.6 | 8.8 | 9.0 |
| Mother/Father | 1.4 | 2.2 | 1.1 | 1.6 |
| Other | 0.6 | 0.3 | 0.0 | 0.5 |
| **Large household purchases:** |  |  |  |  |
| Self | 1.4 | 4.2 | 2.6 | 1.3 |
| Husband | 59.5 | 52.2 | 54.5 | 50.4 |
| Both | 24.9 | 23.9 | 26.0 | 30.0 |
| Mother/Father In-law | 11.6 | 16.4 | 14.5 | 15.3 |
| Mother/Father | 1.6 | 2.7 | 1.6 | 2.0 |
| Other | 1.0 | 0.7 | 0.8 | 1.0 |
| **HH purchases for daily needs:** |  |  |  |  |
| Self | 12.9 | 15.8 | 14.8 | 9.4 |
| Husband | 49.1 | 38.2 | 44.2 | 43.5 |
| Both | 24.7 | 26.4 | 25.8 | 29.9 |
| Mother/Father In-law | 10.7 | 16.6 | 12.9 | 13.6 |
| Mother/Father | 1.9 | 2.7 | 1.5 | 2.6 |
| Other | 0.6 | 0.3 | 0.9 | 1.0 |
| **Own visit to parent’s family:** |  |  |  |  |
| Self | 15.7 | 15.1 | 13.0 | 10.0 |
| Husband | 45.5 | 41.9 | 46.2 | 52.2 |
| Both | 28.2 | 22.9 | 25.2 | 20.0 |
| Mother/Father In-law | 10.1 | 19.4 | 14.8 | 15.4 |
| Mother/Father | 0.5 | 0.3 | 0.6 | 0.2 |
| Other | 0.1 | 0.3 | 0.2 | 2.1 |
| **Family visit to parent’s family:** |  |  |  |  |
| Self | 4.0 | 7.8 | 4.7 | 4.3 |
| Husband | 51.5 | 39.4 | 45.9 | 46.1 |
| Both | 31.6 | 29.2 | 31.3 | 27.8 |
| Mother/Father In-law | 11.7 | 22.9 | 16.7 | 19.5 |
| Mother/Father | 0.9 | 0.3 | 1.1 | 0.2 |
| Other | 0.3 | 0.3 | 0.3 | 2.1 |
| **Spending own money:** |  |  |  |  |
| Self | 49.7 | 87.5 | 54.3 | 85.4 |
| Husband | 21.1 | 5.3 | 24.1 | 4.9 |
| Both | 26.9 | 6.3 | 20.1 | 8.5 |
| Mother/Father In-law | 1.6 | 0.8 | 1.3 | 0.8 |
| Mother/Father | 0.5 | - | 0.2 | 0.2 |
| Other | 0.1 | - | 0.0 | 0.2 |
| **Spending husband’s money:** |  |  |  |  |
| Self | 2.1 | 4.2 | 2.2 | 3.4 |
| Husband | 71.5 | 68.3 | 58.9 | 76.0 |
| Both | 23.0 | 20.1 | 32.3 | 16.4 |
| Mother/Father In-law | 2.9 | 6.8 | 5.6 | 3.8 |
| Mother/Father | 0.1 | - | 0.1 | - |
| Other | 0.4 | 0.7 | 0.8 | 0.3 |
| **In your household who usually decides when your family will sell a large asset** |  |  |  |  |
| Self | - | 2.3 | - | 1.8 |
| Husband | - | 43.7 | - | 45.8 |
| Both | - | 30.6 | - | 30.7 |
| Mother/Father In-law | - | 20.3 | - | 18.6 |
| Mother/Father | - | 2.7 | - | 2.1 |
| Other | - | 0.5 | - | 1.0 |
| **In your household who usually decides when your family will sell a small asset (like a chicken, duck/goat)?** |  |  |  |  |
| Self | - | 32.6 | - | 34.8 |
| Husband | - | 21.8 | - | 22.5 |
| Both | - | 21.6 | - | 22.2 |
| Mother/Father In-law | - | 21.4 | - | 17.6 |
| Mother/Father | - | 2.7 | - | 2.0 |
| Other | - | - | - | 1.0 |
| **In your household, who usually decides whether you can work to earn money?** |  |  |  |  |
| Self | - | 12.6 | - | 6.9 |
| Husband | - | 57.5 | - | 59.4 |
| Both | - | 18.9 | - | 24.3 |
| Mother/Father In-law | - | 9.8 | - | 7.7 |
| Mother/Father | - | 1.2 | - | 1.3 |
| Other | - | - | - | 0.3 |
| **How food is shared when not have enough food:** |  |  |  |  |
| Self | 70.1 | 70.8 | 70.9 | 79.6 |
| Husband | 1.8 | 1.3 | 1.6 | 0.8 |
| Both | 18.6 | 5.3 | 15.3 | 1.6 |
| Mother/Father In-law | 18.6 | 19.4 | 15.3 | 14.6 |
| Mother/Father | 8.3 | 3.0 | 10.9 | 2.6 |
| Other | 1.1 | 0.2 | 1.2 | 0.7 |
| Number | 792 | 602 | 1206 | 609 |

**3.12 Gender Attitude and Belief**

Table 3.28 depicts a simple picture of women’s attitude towards gender and belief. Results in Table 3.28 show the attitude and belief of women towards intimate partners’ violence such as hitting wife by husbands, if they do not agree with husbands on certain activities. Comparing endline results with the baseline estimates, it is evident that approval rates of hitting wife by husbands for going out without telling husbands, for arguing with husbands or for refusing to have sex, etc. have drastically reduced. This indicates a change in attitude of women and gain in confidence and own rights.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table 3.28:** **Gender Attitude and Belief: Tolerance of Intimate Partner’s Violence**  Percent distribution of women by their attitude and tolerance towards intimate partner’s violence, according to intervention and control areas, and by endline and baseline surveys. | | | | |
| Decision about | **Control areas** | | **Intervention areas** | |
|  | BL (%) | EL (%) | BL (%) | EL % |
| Approve hitting wife by husband if she goes out without telling him | 47.1 | 16.8 | 31.0 | 15.4 |
|  |  |  |  |  |
| Approve hitting wife by husband if she neglects children | 48.4 | 17.1 | 31.5 | 22.2 |
|  |  |  |  |  |
| Approve hitting wife by husband if she argues with him | 58.7 | 13.3 | 36.8 | 22.7 |
|  |  |  |  |  |
| Approve hitting wife by husband if she refuses to have sex/ “MELAMESHA” with him | 14.4 | 2.8 | 11.4 | 3.9 |
|  |  |  |  |  |
| Approve hitting wife by husband if she did not cook food properly | 46.6 | 7.5 | 28.4 | 12.3 |
|  |  |  |  |  |
| **Gender Index:** |  |  |  |  |
| Do not accept hitting | 27.9 |  | 48.2 |  |
| Accepts hitting | 72.1 |  | 51.8 |  |
|  |  |  |  |  |
| Number | 792 | 602 | 1206 | 609 |

**3.13 Mental Depression: Edinburgh Postnatal Depression Scale (EPDS)**

The Edinburg Postnatal Depression Scale (EPDS) is a 10-item questionnaire that was developed to identify women who have postnatal depression development (PDD). This 10 item self-report measure is designed to screen women for symptoms of emotional distress during pregnancy and the postnatal period. Items of the scale correspond to various clinical depression symptoms such as guilty feeling, sleep disturbance, low energy, panicky, and suicidal intention. Overall assessment is done by total score, which is determined by adding together the scores for each of the 10 items. Higher scores indicate more depressive symptoms.

Like in the 2014 baseline survey, the 2018 endline survey also administered the 10 items questionnaires to women/mothers with at least one child age 0-35 months. Results presented in Table 3.29 and Figure 3.10 show that 86.4 percent of intervention women had some symptoms of distress that was perhaps short-lived and were less likely to interfere with day-to-day ability to function at home or at work. This prevalence was among 31.4 percent at the 2014 baseline time. Proportion of women with discomfort (score range 10 to 12) and high depression (scope range 13+) decreased to 8.4 percent from 23.4 percent, and to 5.3 percent from 45.2 percent respectively in 2018 from 2014 baseline period. The trend was same in the control area.

|  |
| --- |
| **Table 2.29: Mental depression (Edinburgh postnatal depression scale (EPDS))**  Percentage distribution of women by mental depression - Edinburgh postnatal depression scale (EPDS), according to control and intervention areas and by baseline and end-line surveys |

|  | **Control** | | **Intervention** | |
| --- | --- | --- | --- | --- |
| BL (%) | EL (%) | BL (%) | EL (%) |
| 1. **I have been able to laugh at the funny side of things** |  |  |  |  |
| 0 As much as I always could | 31.3 | 62.0 | 21.5 | 66.7 |
| 1 Not quite so much now | 42.2 | 25.6 | 41.1 | 24.6 |
| 2 Definitely not so much now | 22.7 | 11.8 | 25.3 | 7.9 |
| 3 Not at all | 3.8 | 0.7 | 12.1 | 0.8 |
| 1. **I have looked forward with enjoyment to things** |  |  |  |  |
| 0 As much as I ever did | 40.0 | 63.1 | 26.4 | 72.4 |
| 1 Rather less than I used to | 31.6 | 25.7 | 33.8 | 17.9 |
| 2 Definitely less than I used to | 24.6 | 10.5 | 25.2 | 8.4 |
| 3 Hardly at all | 3.8 | 0.7 | 14.6 | 1.3 |
| 1. **I have blamed myself unnecessarily when things went wrong** |  |  |  |  |
| 3 Yes, most of the time | 6.6 | 2.8 | 6.0 | 3.3 |
| 2 Yes, some of the time | 36.4 | 19.3 | 40.0 | 15.4 |
| 1 Not very often | 13.4 | 9.0 | 25.1 | 12.3 |
| 0 No, never | 43.7 | 68.9 | 28.9 | 69.0 |
| 1. **I have been anxious or worried for no good reason** |  |  |  |  |
| 0 No, not at all | 13.6 | 53.7 | 9.2 | 62.4 |
| 1 Hardly ever | 11.7 | 9.3 | 15.6 | 12.0 |
| 2 Yes, sometimes | 51.8 | 29.9 | 59.5 | 20.4 |
| 3 Yes, very often | 22.9 | 7.1 | 15.7 | 5.3 |
| 1. **I have felt cared or panicky for no very good reason** |  |  |  |  |
| 3 Yes, quite a lot | 3.3 | 1.8 | 5.6 | 2.3 |
| 2 Yes, sometimes | 26.4 | 8.5 | 34.2 | 4.9 |
| 1 No, not much | 17.4 | 7.3 | 25.3 | 10.3 |
| 0 No, not at all | 52.9 | 82.4 | 34.9 | 82.4 |
| 1. **Things have been getting on top of me** |  |  |  |  |
| 3 Yes, most of the time I haven’t been able to cope at all | 15.4 | 3.3 | 8.5 | 3.3 |
| 2 Yes, sometimes I haven’t been coping as well as usual | 37.5 | 17.8 | 42.5 | 9.2 |
| 1 No, most of the time I have coped quite well | 15.5 | 14.0 | 19.9 | 9.4 |
| 0 No, I have been coping as well as ever | 31.6 | 65.0 | 29.2 | 78.2 |
| 1. **I have been so unhappy that I have had difficulty sleeping** |  |  |  |  |
| 3 Yes, most of the time | 10.0 | 3.2 | 7.7 | 3.6 |
| 2 Yes, sometimes | 38.1 | 23.9 | 34.3 | 14.6 |
| 1 Not very often | 14.1 | 11.3 | 26.9 | 13.5 |
| 0 No, not at all | 37.8 | 61.6 | 31.1 | 68.3 |
| 1. **I have felt sad or miserable** |  |  |  |  |
| 3 Yes, most of the time | 18.2 | 4.8 | 13.6 | 3.1 |
| 2 Yes, quite often | 22.5 | 12.8 | 40.7 | 14.3 |
| 1 Not very often | 16.5 | 12.8 | 20.5 | 10.8 |
| 0 No, not at all | 42.8 | 69.6 | 25.2 | 71.8 |
| 1. **I have been so unhappy that I have been crying** |  |  |  |  |
| 3 Yes, most of the time | 9.7 | 1.8 | 6.3 | 1.5 |
| 2 Yes, quite often | 14.0 | 7.8 | 23.3 | 7.2 |
| 1 Only occasionally | 25.6 | 20.9 | 28.9 | 15.4 |
| 0 No, never | 50.6 | 69.4 | 41.5 | 75.9 |
| 1. **The thought of harming myself has occurred to me** |  |  |  |  |
| 3 Yes, quite often | 0.4 | 0.2 | 1.1 | 0.3 |
| 2 Sometimes | 1.4 | 1.0 | 4.8 | 1.1 |
| 1 Hardly ever | 1.4 | 1.2 | 6.9 | 1.0 |
| 0 Never | 96.8 | 97.7 | 87.2 | 97.5 |
| **Range of EPDS Score** |  |  |  |  |
| 0 - 9 Score | 43.6 | 79.2 | 31.4 | 86.4 |
| 10 - 12 Score | 24 | 12.1 | 23.4 | 8.4 |
| 13+ Score | 32.4 | 8.6 | 45.2 | 5.3 |
| **Number** | **792** | **602** | **1206** | **609** |

**3.14 Key Findings and Conclusions**

According to the 2018 endline survey, the key findings are collated below under the following sub-headings.

**Food preservation and storage:**

* Although preservation of fruits and vegetables at household level is not common, but it has increased by 4 percentage points in the intervention areas from 9.5 percent households in 2014 baseline to 13.5 percent in the 2018 endline period. Opposite trend was noticed in the control area.
* In N@C intervention areas higher proportion of households now (2018 endline) have kitchen gardens (39.7 percent) than 2014 baseline period (33.5 percent). This proportion has remained the same in control area since 2014 baseline period.
* Storing food for future consumption at household level reduced both in intervention and control areas in the last post-harvest period.

**Food security, household hunger and coping strategy:**

* Although household hunger still prevails, but it reduced both in intervention and control households.
* As regards women’s dietary diversity, a 12 percentage points rise in dietary diversity was observed among intervention women from 23.6 percent in 2014 baseline to 35.5 percent in 2018 endline survey. The corresponding rise in control from baseline to endline period was from 30.3 percent to 41.4 percent.

**Maternal health and nutrition:**

* Since 2014 baseline survey, prevalence of anemia among women has increased from 30.5 percent to 41.1 percent. This prevalence is relatively low among non-pregnant control women (32.1 percent).
* The mean BMI was found somewhat higher among non-pregnant intervention (20.4 kg/m2) women compared with the baseline estimate (19.6 kg/m2). The mean BMI of control women is 21.8 kg/m2 against 20.6 kg/m2 in the baseline survey.
* A sharp rise in receiving any ANC among intervention women was recorded at 84.2 percent in 2018 since 2014 baseline time (37.9 percent).
* Prevalence of 4+ ANC also rose significantly in intervention area from 22.5 percent in 2014 to 49.3 percent in 2018. The prevalence is significantly low in control (38.5 percent in endline vs. 15.4 percent in baseline).
* Prevalence of PNC also rose sharply in intervention women from 14.7 percent at baseline to 41.4 percent in the 2018 endline survey.

**IYCF practices:**

* Prevalence of exclusive breastfeeding rose to 61.4 percent in 2018 from 48.7 percent among intervention children age 0-5 months, while this change is negative from 65.0 percent in baseline against 60.0 percent in endline in control children (based on last 24 hours recall).
* Timely initiation of breastfeeding rose to 81.7 percent in the endline from 74.8 percent in the baseline among intervention children. This prevalence declined in intervention area.
* Receiving complementary feeding timely (6-9 months child) rose to 91.3 percent from baseline rate at 82.1 percent in intervention area. Similar change was also noticed in the control areas.
* Nearly 52 percent of intervention and 51.3 percent of control children age 6-23 months consumed foods from at least 4 groups (of 7 groups) during the 24 hours prior to the survey. These estimates are substantially higher than the baseline estimates.
* Receiving minimum acceptable diet among 6-23 months children rose to 51.1 percent in 2018 from 28.4 percent in 2014 in intervention area. The corresponding change in control was in 51.3 percent in 2018 from 27.5 percent in 2014.

**Child anthropometrics:**

* According to 2018 endline survey results, 32.8 percent of intervention children age 0-35 months was stunted, while 13.8 percent were severely stunted. The corresponding baseline estimates were 47.2 percent and 18.2 percent respectively. This shows an overall decrease in stunting by 18.2 percentage points since 2014 baseline. The corresponding decrease in stunting for control was 16.2 percentage points.
* About 12.8 percent of intervention children age 0-35 months and 12.6 percent of control were wasted (too thin for height) or severely wasted. These estimates are similar to those of the baseline estimates.
* A significant decline of 14.4 percent in the prevalence of underweight or severely underweight was recorded among intervention children against only 4.3 percent decline in control.

**Child anemia:**

* Prevalence of iron deficiency anemia among 6-23 months children was found still very high at 81.2 percent in intervention and 77.4 percent in control. This prevalence’s are somewhat low compared with the respective baseline rates.

**Water, sanitation and hygiene:**

* Tube well is the primary source of drinking water both for intervention and control households (98.4 percent in intervention and 99.5 percent in control).
* On an average, a woman takes 7.1 minutes in intervention against 6.0 minutes in control to get and comeback with water from a primary source. Baseline results were similar to these.
* Currently 5.3 percent of intervention households against 4.0 percent in the baseline treat water prior to drinking.
* Hand washing practices with soap before and after eating, before feeding the child, and after defecation are low. Only 15.1 percent of intervention women against 17.6 percent in the baseline use soap for washing hands before eating.
* Use of soap after toilet use has increased significantly (81.0 percent) since baseline (56.1 percent) in intervention area.
* About 69.8 percent in intervention and 75.4 percent in control use pit latrine with slab/water sealed, which showed a significant shift or improvement from baseline period (42.0 percent in intervention vs. 35.2 percent in control).

**Women empowerment, gender attitude and postnatal depression:**

* Role of women in decision making on important household activities. Only 15.3 percent of intervention in the endline against 9.6 percent in the baseline enjoy freedom to take decision about own health care. Mainly husbands decide about important household activities, but about a quarter of women reported that they make decision jointly with husbands on important household activities.
* Large majority of women now than baseline time enjoys freedom of spending own money, but about 60 percent of husbands decides whether wife can work to earn money.
* According to Edinburg Postnatal Depression Scale (EPDS), 86.4 percent of intervention and 79.2 percent of control women suffer from short-lived distress. Proportion of women with discomfort and high depression decreased significantly compared with baseline prevalence.

**CONCLUSION**

Nutrition at the Centre (N@C) program is essentially an important initiative. The N@C put concerted effort in collaboration with Local Government, MOH&FW and other relevant line ministries as well as Civil Society Organizations (CSO) to alleviate maternal and child nutrition and improve related behaviors.

After four years of intervention, improvement occurred in the prevalence of important indicators

related to maternal health and nutrition, such as, ANC, PNC, anemia and low BMI.

Certain IYCF related issues like prevalence of exclusive breastfeeding, minimum dietary diversity, minimum acceptable diet, and consumption of iron-rich and iron-fortified food have also increased. This may be the results of programmatic effort, increase in awareness as well as utilization of nutrition related services.

Along with positive changes in maternal and child nutrition related indicators in N@C intervention areas, similar improvement also occurred in the control areas. This might be the effect of certain new interventions in the control which were not known prior to the endline survey.

**From socio-economic points of view**

The intervention area is relatively a poorer area and highly inaccessible compared with the control area. Without extra programmatic effort the improvement that has occurred in the minimum dietary diversity (both among children and mothers), meal frequency, and hygiene practices could not perhaps have occurred.

Low prevalence in nutrition-related behaviors is definitely due to resource constraints only, but more likely to be due to lack of awareness and gap between perception and practice. It takes time to translate perception into practice, where knowledge and perception are low, resource constraint is high and access to health care and nutrition specific and sensitive services are not easy, improvement in health and nutritional status may not sustain without extra programmatic support.

The positive changes may largely be attributed to the promotion of multisectoral approaches that mobilized both nutrition specific and sensitive services through better local level planning, coordination and accountability.

The multi-factorial determinant of nutritional status and the multi-sectoral response that includes food security, WASH, Positive Gender Norms and livelihoods in addition to health services represents an important area for continued concerted research and programming. As development partner, N@C may design or re-design its activities harnessing the learning and programs of the government and other~~s~~ partners.

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**APPENDIX A**

**FINDINGS OF EXTRA PROGRAMMATIC EFFORTS OF THE CONTROL AREAS AND FLOOD SITUATION AT SHUNAMGONJ**

**FINDINGS OF EXTRA PROGRAMMATIC EFFORTS OF THE CONTROL AREAS AND FLOOD SITUATION AT SHUNAMGONJ**

**A. BRIEF OVERVIEW OF INTERVENTIONS IN CONTROL AREA**

**Background**

Nutrition at the Center (N@C) is an innovative five-year (2013-2017) intervention has been implemented at two sub-districts of Sunamganj (Derai and Biswamberpur). The two sub districts of Kishoreganj (Itna and Nickly) was taken as its control area. A base line was conducted before the inception of N@C intervention. Following the same methodology that was applied in the baseline survey, the end line evaluation survey also collected quantitative information on nutrition related indicators from the intervention and control areas.

The result of the end line survey revealed that, the improvement in control area is comparatively better than intervention areas. In that connection project staffs visited the control area and collected information to mapping out the interventions that had has been implemented since 2013. Why the result in control area better than intervention area and what happened there by this time was the main intention of that data collection.

A brief overview based on data collection has given as below:

1. **The project information in control areas:**

At present 06 different project is being implemented at Nikli and Itna, two upzazilas control area of NAC. Two another project closed their activities after 2013. All the project have strong commitment to improve maternal and child nutrition status as reflected at their goal.

**SOUHARDO-III** is being implemented at both Nikli and Itna Upazila. **BRAC- IDP** program is providing huge support at Itna while **Water Development Board** is implementing a very big input support project at Nikli. **PLAN Bangladesh** recently (March 2018) has closed its activities on WASH from both Upazila with a very visible impact on WASH.

**Department of Agriculture (DAE)** is implementing two special project at Nikli. NHSDP-Smiling Sun project has operational area at both Upazila. **POPI** also implementing Recall project funded by Oxfam.

| **Sl #** | **Name of project & Donor** | **Management agency** | **Operational Area** | | **Implemented by** | **Contact person** |
| --- | --- | --- | --- | --- | --- | --- |
| **Itna** | **Nikli** |
| 1 | WASH result project - DFID | Plan Bangladesh | Y | Y | Plan Bangladesh | Ikbal – 01731197241 |
| 2 | Recall 2021 | Oxfam |  | Y | POPI | Aditto – 01996674156 |
| 3 | SHU – III - USAID | CARE Bangladesh | Y | Y | POPI | Tarun – 01755653224 |
| 4 | Essential Health Care | BRAC |  | Y | BRAC | Zillur – 01925739918 |
|  | Integrated Development Program (IDP)  HNPP | BRAC | Y |  | BRAC | Shahidulllah01730-350082 |
| 5 | Smiling Sun | NHSDP | Y | Y | Sonirvor |  |
| 6 | Haor Flood management and livelihood improvement project – JAIKA & GoB | Water Development Board |  | Y | Water Development Board | Monoranjon Mollik – 01720510879 |
| 7 | Ensuring nutrition and food security through integrated agriculture development | DAE |  | Y | DAE | Mohammad Harun – Ar – Rashid – 01916428166 |
| 8 | IFMC: Integrated Farm Management | DAE |  | Y | DAE | Mohammad Harun – Ar – Rashid – 01916428166 |

1. **The interventions covered by the projects in control areas**

NAC project implemented at Derai and Biswamvarpur focusing on 04 thematic area IYCF, FS, WASH and WE. The projects mentioned above are working at control area (Itna & Nikli) either with any of the component or more than one or with all components of NAC

**IYCF:**

Beside MoHFW SHU-III, BRAC-EHC&IDP, NHSDP-Smiling sun project is working to improve IYCF practice. GMP, MUAC, MNP distribution is common among them with counseling and refer. BARC and SHU-III also do cooking and feeding demonstration.

**Maternal Health:**

SHU-III, BRAC-EHC & IDP and Smiling Sun clinics are working for maternal health in this area. BARC provide ANC, PNC, save delivery, general health service, NCD and adolescent service through household visit and through health camp. BRAC has it’s own service delivery point also. Smiling sun clinic provide services through static and satellite clinic. It conducts 39 satellite session per month at different villages. BARC and Smiling sun clinic also conduct some pathological tests. All NGOs have BCC activities on maternal health.

**Food Security:**

A remarkable number of activities are going in the control area on food security. SHU-III is mainly food security project distribute food ration like wheat, dal, oil per month per family and also some cash support along with this among 8283 family. Under Recall project POPI provided duck, chicken and cash to 8500 HH.

Water Development Board providing incredible livelihood support at Nikli Upazila, it provided 20 ducks/HH for 1984 HH, 02 goats/HH for 970 HH, bandhu chula, seds, fruit sapling, solar, cash for demo plot and so many else, and monitoring system is comparatively better.

IDP program BRAC is providing a good amount of livelihood support at Itna Upazila. It provided animal feed, cow, goat, duck, chicken for 5400 HH, distributed 19000 pac vegetable seed, distributed fruit tree, cash for small business, open fingerlings at water body, established 04 sanctuaries. This program also provided training on vaccination, duck rearing, vatenary treatment etc.

Under 02 unique project DAE provides agriculture logistics, irrigation pump and vegetable seeds for homestead food production, they also provided training on fish culture, poultry, goat rearing, cow fattening, organic vegetable production, Season long training, nutrition etc.

**WASH:**

Huge worked done on WASH by PLAN Bangladesh at Nikli Upazila. – It provided Toilet, Tubewell, Community latrine, Hand washing Station- aprox. 5000 PEP HH along with huge BCC activities covering whole Upazaila. POPI Recall project provided Toilet, Tubewell, bathroom for female and BCC activities for 8500 HHAt Itna Upazila BRAC-IDP program did latrine distribution and maintenance-6000 latrine and 10 Community latrine, female bath room, tube well – 72, distributed health hygiene kids (Bucket, soap, sandal etc.) with BCC activities.

**Women Empowerment:**

SHU-III and POPI Recall project working for women empowerment at both Upazila. Mainly focusing early marriage, women economic empowerment and so on.

| **Sl #** | **Area of intervention** | **Major activities and input support** | **Coverage** | **Implemented by** | **Project Duration** |
| --- | --- | --- | --- | --- | --- |
| 1 | IYCF | GMP, Counseling, Cooking and feeding demonstration, MUAC | 3931 HH | POPI (SHU – III) | 2015 – 2020 |
| MNP (Pusti kona), Feeding quality, Counseling | All population | BRAC (EHC) | Continue |
| MUAC, GMP, MNP at static and satellite session | All population | Sonirvor-Smiling Sun | Continue |
| MNP (Pusti kona), Feeding quality, Counseling | All population | BRAC (IDP/HNPP) | 2015-2018 |
|  |  |  |  |
| 2 | Maternal Health | Link with Community Clinic, Referral | 3931 HH | POPI (SHU – III) | 2015 – 2020 |
| Household visit, PW identification, ANC, PNC, IFA, Height, Weight, Blood pressure, adult service, Diabetic, Adolescent service (Calcium, Sanitary napkin, IFA), FP, Courtyard Session, refer etc | All population | BRAC (EHC) | Continue |
| 39 satellite session per month at community.  Static clinic 6 days in week  ANC, PNC, FP, RH, CH and GH | All population | Sonirvor-Smiling Sun | Continue |
| Household visit, PW identification, ANC, PNC, IFA, Height, Weight, Blood pressure, adult service, Diabetic, Adolescent service (Calcium, Sanitary napkin, IFA), FP, Courtyard Session, refer  Health Center, save delivery, health camp, free medicine supply, pathology test. | All population | BRAC (IDP/HNPP) | 2015-2018 |
| 3 | Food security  (Agriculture/Livelihood/IGA/Direct cash) | Input Support-support for IGA, Duck, chicken, cash  Target Group: PEP | Nikli-2 Union, 8500 HH | POPI-Recall 2021 | 2010-Contnue (2ndn Phase) |
| Food distribution (Wheat – 6.675 kg, Dal – 1.5 kg, Oil – 1 kg) per month  Field crop, Cash – 4000 for Poor and 6000 for extreme poor) | 3931 HH-Nikli  4351 HH-Itna | POPI (SH – III) | 2015 – 2020 |
| Input support: 20 Ducks per participants – 1984 participants, 2 goats per participants – 970 participants, Bondhu chula – 578 participants, Vegetable seeds for homestead production – 800 participants, Fruit sapling (Mango, Lichi, Coconut, Guava, Palm) – 400 participants, Solar – 82 HH, Fertilizer, Demonstration plot (Mastered oil seed, Rice, Corn, Potato)  20 days ToT to 48 FFS – 1440 participants | All population near haor | Water Development Board (Haor Flood management and Livelihood improvement project) | 2015 – 2022 |
| Seed and fertilizer input support for demo plot, homestead food production  Agriculture logistics, irrigation pump, training for target group.  7 groups in 7 union, 40 persons per group M: F (3:1) | Demo plot all upazila  Input for 280 HH | DAE | 2013 – 2019 |
| FFS (25+25), female headed group, homestead vegetable food production, provide training jointly with LS on fish culture, poultry, goat rearing, cow fattening, organic vegetable production, Season long training, nutrition session | All Upazila | DAE | Continue |
|  |  | Input support: Animal feed, cow, goat, duck & chicken-5400 HH, vegetable seed-19000 pack for homestead production, fruit tree – 2700 HH, maeket linkage, duck value chain, vaccination.  Cash for small business, pigeon,  Training on vaccination, vatenary treatment, duck rearing, LSP  Released fingerling at open waterbody, sanctuaries-4 | All Itna Upazila | BRAC-IDP | 2015-2018 |
| 4 | WASH | Input support for 1st two years – Toilet, Tubewell, Community latrine, Hand washing Station- aprox. 5000 PEP HH for input support  Last two year – BCC activity for all population | Nikli total Upazila | Plan (WASH Result project) | 2014-2018  (Closed) |
| Input support: Toilet, Tubewell, bathroom for female,  BCC activities | Nikli-2 Union, 8500 HH | POPI-Recall 2021 | 2010-Contnue (2ndn Phase) |
| WASH  Awareness program BCC | 3931 HH | POPI (SH – III) | 2015 – 2020 |
| Latrine distribution and maintenance-6000 latrine and 10 Community latrine, female bath room, tube well – 72, health hygiene kids distribution (Bucket, soap, sandal etc.) | Total Itna Upazila | BRAC-IDP | 2015-2018 |
|  |  |  |  |
|  | Women Empowerment | Cash support for Women | Nikli-2 Union, 8500 HH | POPI-Recall 2021 | 2010-Contnue (2ndn Phase) |
| EKATA model, Early marriage, Disaster response, Adolescent listing (7 – 13 year) | 29 villages at Nikli | POPI (SH – III) | 2015 – 2020 |
|
|
|  |  |  |  |
| 6 | Others | Disaster, Youth development, Information | Nikli-2 Union, 8500 HH | POPI-Recall 2021 | 2010-Contnue (2nd Phase) |

1. **Stakeholder Perception**

**UFPA- Ripon Acharjo, 01712-986039 & HI-In charge, Abdur Rahim 01716-800505**

* FP department have only linkage with Sonirvor Bangladesh NHSDP-Smiling sun project. BRAC don’t maintain any linkage. POPI implemented SHU-3 is working well on Nutrition.
* There is close linkage and collaboration between SHU-3, WDB, LGED
* MNP available at hospital. POPI is doing well

**Mr. Nasir, Secretary Itna Union Parishad-01716278674**

* Concern worldwide worked for ling time but not now and had all sorts of development program
* Supervision and monitoring by HU&FPO is very strong at Itna
* Only BRAC and POPI SHU-3 is working for health and nutrition.
* Union parishad contributed a lot for CC as solar panel, approach road, sitting arrangement, almirah etcs

**Mr. Sofir Uddin, Secretary Dampara Union Parishad, Nikli-01712367355**

* Currently POPI – SHU-III is working for Health and Nutrition,
* PLAN worked for sanitation and recently closed out the project.
* Most of the stakeholders come at UDCC meeting and SHU-III program is supporting the event.
* SHU-III provided training for UP bodies.
* Water Development Board is working but no coordination with UP
* BP machine, medicine and furniture provided to CC from UP and soil filling done at UH&FWC

**Conclusion**

The positive changes in maternal and child nutrition related indicators in N@C intervention areas, similar improvement also occurred in the control areas. This is because of two to threefold efforts both by GoB and NGOs in the control areas which were not known prior to the end line survey.

**B. FLASH FLOOD SITUATION AT SHUNAMGONJ DATED 27TH APRIL, 2017**

**A quick overview**

Heavy rainfallssince last week of March, 2017 and onrush of water from the upstream Meghalaya hills led early flash flood at Shunamgonj. The flood caused huge damaged to crop production. Furthermore, the live and livelihood status of Sunamganj is getting worst within many years. Data from Ministry of Agriculture shows that, almost 100,000 hectares of Boro has gone under water of two Upazilas. Huge loss took place for fish and livestock. The most vulnerable are mother and child and geriatric population are suffering mostly. As the water is contaminated so most common earning source fish catching is stopped as per GoB instruction. Referring local authority, it has been observed that, huge number of people are migrating specially from Derai. GoB is responding in a different way but the demand is immediate, more and diversified.

**Situation analysis at project area**

NAC:Home grown covering 3000 extreme poor household having pregnant women or children of under 2 age covering 60 village. Though all working area is more or less affected but one third village is seriously affected. Getting adversely affected from early flash flood and heavy rain the project participants are struggling with sanitation, pure drinking water, access to health and nutrition services. They lost their resources in a different scale. Now community suffering from tripartite difficulties as water logging, loss of resources and high price of food.

**Conduct a quick assessment**: A quick assessment has been done to understand the overall situation of beneficiaries at N@C:H project area stated in table put forth below.

**Table: Overall damages of N@C:H project area during flash flood**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Upazila | # of HH visited | Damage HH during last heavy rain time (BDT) | Child's sickness | Mother's sickness |
|
| Bishwambaarpur | 1647 | 7958315 | 42% | 28% |
| Derai | 1297 | 8613679 | 48% | 38% |
| Total | **2944** | **16571994** | **45%** | **32%** |

The data of above table shows that among 3000HH 2944 were visited. Forty five percent (45%) children suffered from cough and cold and diarrhea reported by their mother. Most of the mother (32%) also reported that they are sufferings from bloating sensation (dyspepsia), diarrhea and abdominal pain.

It is found that, most of the homestead garden (90%) are affected by heavy rain and flash flood. Almost eighty percent pit garden damaged. A noticeable number of duck are sold, lost and died. *Project participants are complaining for not having enough food for duck, they can’t let duck to go to the open water body as water is contaminated. They even can’t manage food for duck at household level and this situation reduces the egg production. Few participants are asking for selling duck to avoid further loss.*

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Upazila | # of HH visited | Status of garden | | | Overall Status of duck | | | |
| **Destroy Homestead garden  (% of HH)** | **Destroy pit garden (% of HH)** | **Destroy Sack garden (% of HH)** | **# of duck have in HH** | **# of duck sold during last heavy rain time** | **# of duck lost during last heavy rain time** | **# of duck died during last heavy rain time and poisonous water** |
| Bishwambaarpur | 1647 | 89% | 78% | 40% | 8265 | 825 | 410 | 552 |
| Derai | 1297 | 91% | 81% | 44% | 7580 | 131 | 1145 | 1447 |
| Total | **2944** | **90%** | **79%** | **42%** | **15845** | **956** | **1555** | **1999** |

**The overall situation by observation:** Some Information were collected by observation and one to one discussion with the beneficiaries are stated below

**Sanitation condition:** Most of community are water logged. The minimum number of sanitary latrine that, they have gone under water and now no ways but open defecation. The expert are assuming for possible health outburst like diarrhea and skin disease. Observation shows that fencing and roof of toilets are damaged and make those unusable.

**Drinking water condition:** Drinking condition status is not so worst. Maximum people still have access to safe drinking water. Few are complaining that their tube-well are damaged due to overflow of water, they are consuming water from river after boiling.

**Health and Nutrition service uptake:** Services are available at CC as GoB has a special attention but the problem is that the mothers and child can’t reach service center easily due rain and muddy road. Community are more concern about managing basic food from different sources of GOB and other agencies. They do overlook routine visit to the service center. Need special camp for mother and child at community level otherwise this service gap might cause great health problem in coming days. Supply of ORS and Zink is must with health education on specific issue.

Health Hazard: Maximum mother and child are complaining different types of health problem like fever, coughing, snoozing and diarrhoea also. Bad smell from water make environment unhealthy. Specially the children are suffering. Mothers and male members are busy to collect food from GoB supported program so take care for children is not happening properly. Risk of drowning is one of the major concern now.

**Food consumption:** Availability of food is a great challenge now. Household are getting only rice from GoB supported program but no other item of food is available. Almost each and every homestead garden is damaged and price of vegetable is very high at local market; cost of no item is less than BDT 80/kg. On the other hand, due to contaminated water fish catching and consuming is restricted. So earning from fish catching is stopped. No food at home, no income at hand. The situation is going beyond the expectation. The most sufferer are mother and child. The PLW need diversified food but they can’t even think of this. No special food item is for children. While they need four types of food but nothing is available at home unless rice or flower.

**Possible Impact of flash flood**

Possibility of food scarcity for next 6-8 month is very high and food price is presuming to get high as well. As an impact of this early flash flood; malnourished child especially SAM, MAM and the number of anemic mother will be increased in upcoming days unfortunately.

**GoB responses in flash flood**

The GoB is providing different assistances to the flood affected people that include cash grant, food aid and other materials.

**Challenges for project implementation**

* Due to communication problem EPI and satellite session are not holding properly and the presence of child and mother is less. Patient flow at CC also decreased.
* GoB service providers and filed staffs can’t move as usually as transportation require huge time and cost.
* Staff movement is difficult and more time consuming for heavy rain fall, thunderstorm and unavailability of transport like boat.
* Community people show less interest for any community based activities like CSG, FNG meeting, ANNOPRASON etc. They deadly busy to manage their daily food.
* A remarkable number of people are migrating as reported from Derai to other parts of country, even crossing near border.
* Sanitation is a persistent problem of haor area but now a days it worsen a lot.
* Attendance at school decreased remarkably so school based IFA distribution and other activities can’t be done perfectly.
* Homestead garden are damaged at most of project participants of NAC:H (pictures attached)
* Lot of Ducks are dead and lost. And they have tendency to sell to avoid possible further loss.
* Due to water logging and damage of roads people can’t move frequently to service center or market.

**Recommended steps in order to continue the Nutrition focused services**

1. **Activities being undertaken from District level:**

N@C is attending meeting of Disaster Management Committee as a District level representative from CARE Bangladesh and trying to influence in positive decision in favor of nutrition.

1. **Activities being undertaken from sub district authorities with the support from N@C team:**

* Support GoB staff to reach at service center.
* Special movement at community to aware them to go to service facilities.
* Awareness activities about health risk during and after flood during monthly meeting of CSG and Farmer Nutrition Group (FNG).
* Close communication with CSG and FNG to update the overall situation.
* Frequent visit with GoB staffs to notify any outburst of negative health situation like diarrhea and perusing sufficient supply of ORS, water purifying tablets from CC.
* Give continues assistances with GoB agencies like health, agriculture, and livestock and especially with upazila administration and ensuring collecting effective data on damages.
* Conduct more Health education session on WASH, PHC, safer child from water and snakes.
* Facilitating more multispectral response through UNCC, UDCC and District level platforms
* Using media for disseminate Health information with support of CS office.
* Attending the meeting of Disaster Management Committee from upazila level.

1. **Activities can be taken from subdistrict level:**

* A quick assessment of damages among the N@C:H beneficiaries
* Arrange meeting with CSG on emergency basis and try to collect CSG wise data on damages.
* Special service camp with the support from P-CSBA, FWV, and SK of BRAC spec at N@C:H area
* Established linkage with Union parishad and other agencies so that the extreme poor household with PLW and Under 2 child can get more support.
* Collect data on CC performance on current month (Diarrhea case, number of client), that can we compare with previous month.

1. **Initiatives; can be taken from central level:**

* Nutrition enriched food package for ultra-poor mothers and children.
* Guideline and technical support for nutrition in emergency situation for project staff.

**Note:** Dhaka based N@C team closely coordination with CARE Bangladesh Disaster Response unit and other project/stake holders to implement above recommendation.

**C. UPDATES ON FLOOD IN SHUNAMGONJ DATED 17th August 2017**

**Flood situation in Shunamgonj**

The overall flood situation has worsens further in Shunamgonj as onrush of water from upstream and continuous heavy rainfalls. Just after four months of flash flood (March-April, 17) again flood led to the inundation of a vast areas of croplands of haors, Shunamgonj. Sudden increased water flow on 10th August 2017 affected Sunamganj over the night. The overall flood situation in Nutrition at the Centre’s and Homegrown’ s (N@C, N@CH) working areas stated briefly as below;

* As per GOB and our team observation Derai upazila is less affected by flood than Biswambarpur. However, in some houses; homestead garden and assets were damages due to heavy rainfall in Derai indeed. But rising water overflowed Biswambarpur; submersed houses, health facilities, road & crops, seed plot, homestead gardens. Damaged embankment in many places and flooded vast areas of croplands. According to the Upazila Agriculture Office, now on about 1950 hectors crop lands of Rupa Amon and about 75 hectors areas of seed plots has washed away because of current flood. As per information of PIO, meanwhile thousands (50,000) of people have been marooned across many flooded unions at Biswambarpur, Shunamgonj. Normal communication in many places has been disconnected due to submersed of main road.
* People are sufferings from lack of food, safe water and sanitation. The day labor are struggling most as they are daily wage earner and lack of work available at now.
* Two boats has drown on 10th August 2017. Due to this tragedy four (4) persons died and 12 persons injured.

**Overall status of N@CH beneficiaries**

* Out of 2905, about 1863 homestead gardens are fully damaged and 718 partially damaged.
* Sac garden were considered climate smart method for homestead garden but unfortunately, out of 4520, about 1875 sack gardens have been affected by this current flood and damaged completely. 868 sac gardens found partially damaged.
* Out of 13672 ducks; total 534 ducks has died and 295 floated away.
* Total 437 hhs are struggling with difficulties to reach service center, market to purchase food as well.
* As per beneficiaries opinion; 5790kg vegetables has been damaged due to flood.
* Sanitation hampered badly; 994 latrines need to be reconstructed completely and 588 latrines affected partially.
* 49 families has shifted and living in flood shelter centers.
* With the support from CAV and CSG 42 affected families has received rice, oil, match as relief from local administrations.
* Water supply and sanitation condition become severely disrupted during current flood. During recent flood about two third of the tube-wells become unusable.
* 80% of our beneficiaries claimed that their seed bed has submerged totally.

**Table1: Overall status of homestead gardens and ducks in N@C homegrown areas**.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Upazila | Vegetable Gardens | | | | Ducks | | |
| Bishwambarpur  and Derai | **Destroyed vegetable gardens completely** | **Destroyed vegetable gardens partially** | **Damaged Sac gardens**  **completely** | **Damaged Sac gardens**  **partially** | **# of ducks currently in HH** | **# of ducks lost during current flood** | **# of ducks died during current flood** |
| **1864** | **718** | **1875** | **868** | **13672** | **295** | **534** |

**Table2: Other affected areas among the beneficiaries in N@C homegrown areas.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Upazila | Other affected areas | | | | |
| Bishwambarpur  and Derai | Vegetables has been damaged due to flood | Sanitary latrine destroyed completely | Sanitary latrine destroyed partially | Families shifted and living in flood shelter centers | HHs struggling with difficulties to reach service center, market to purchase food as well. |
| **5790 (kg)** | **994** | **588** | **49** | **437** |

**Table 3: The status of health services, school and other activities affected by flood.**

|  |  |  |
| --- | --- | --- |
| Upazila | Areas affected by flood | Source of information |
| Bishwambarpur | 9 Community Clinics (CC) | CDO |
| 2 Family Welfare Centers (FWC) | CDO |
| Demo garden in 17 CCs & 3 FWCs of five unions at Bishwambarpur | CDO |
| EPI session hampered | UH&FPO |
| Several satellite Clinic of FP not held effectively | CDO |
| 12 High school/Madrasa close | CDO |
| Maximum Primary school Close | CDO |

**Reflection of flood devastation from community**

* The FNG member Monowara Begum,Baggaon village, South Badhaghat union of Biswambarpur said that, *“We are in trouble, completely helpless, four of my duck has missed due to this sudden flood’*’. She was crying while talking with. She also informed that, she has lost her house and her whole family are now staying in shelter center.
* Another FNG member, Aklima Begum, Katakhali village of fatepur union of Biswambarpur replied that, *“My homestead garden was vegetable source of my family. Now recent flood has totally damaged it and furthermore I have also lost all of my ducks. Due to high wave in hoar my house has destroyed totally. I am looking for any kind of support from anywhere”*.
* As per local UP members of Fotepur, this is the biggest flood after 2004. He stated as, *“This is the beigest flood after 2004 I have ever seen”.*

**Common coping strategies**

Some of farmers stated that, they are now using their savings in addition taking low interest loans, sell assists, product such as hen, duck, cows and cattle at lower price and reduce their daily food consumption. Besides some of day labor informed that, they are taking support from neighbors and friends and even depended on high interest loans.

**Status of regular activities of N@C and N@CH**

All CARE and partner staff are safe but facing difficulty with the flooding and disruption of communication. Our regular project activities in the affected areas are hampered due to the flooding. We are facing challenges in every moment to implement ANNOPRASON, visit EPI session, Satellite Clinics to observe counselling, SSMM, HH visit, Mother Gathering event, CSG meeting due flood and heavy rain. Activities of school intervention in schools are stopped due to current situation. Conducting regular FNG meeting is challenging also. Out of 15 FNG meeting within last couple of days only seven meeting has held. Eight FNG meeting stopped because the attendants are remarkably less even if we could arrange FNG meeting.

Field staffs could not move anywhere by motorcycle due to recent flood, some of the road are severely broken and went under water.

The field offices have been advised to monitor the situation closely and share update with Dhaka Office.

**Reflection of the recommendation from community**

**(Areas of advocacy by N@C)**

* Government should ensure supply through open market or available of Fair Price Rice (BDT 10/- per kg) in the affected area and continue the assistance till the next rice harvest.
* Find out alternative income source or IGA for haor people even government can start provision of cash for work.
* Instalment of loan (GO/NGO) should be flexible for haor area or increase duration in between two installments.
* Local GoB could open the flooded haor for general fisher man for fishing.
* Supply dry food and rice in affected families.

**Government responses**

**Table 3: Government support in affected areas at Biswambarpur**

|  |  |  |
| --- | --- | --- |
| Upazila | Types of aids | Department |
| Bishwambarpur | 10 ton Rice | DC Office |
| BDT 20000/- (Beaten Rice, Sugar) | Upazila Porishad |
| 200 Bag (Rice, Muri, Beaten Rice, Pulse, Sugar, Salt, Oil, Candle, Fire Box) | Disaster ministry |
| Medical Team | MoHFW |

**Responses from N@C**

* Planning to increase input support such as seed, sack, IGA Training, duck food if possible.
* Try to linkage affected inhabitants with government support through CSG and FNG.
* Initiate to link P-CSBA with service providers of MoHFW to provide more services to the community.
* Assist to “Medical Team” temporarily formed by MoHFW for during flood and after flood.

**Conclusion**

Floods in these haor areas caused huge damage to Ropa Amon crop, sack garden, homestead food production especially vegetables, duck and other animal rearing and fisheries. The representatives of N@C at both district and upazila level are continuously negotiating for relief with Upazila Parishad and UNO office. Already Upazila Parishad has offered N@C staffs to receive water purifying tablet. They also asked for submit the list of CSGs where they didn’t receive any supports from GoB.

**Link of media coverage**

**http://www.purboposhchimbd.news/lead-news/9277/%E0%A6%B8%E0%A7%81%E0%A6%A8%E0%A6%BE%E0%A6%AE%E0%A6%97%E0%A6%9E%E0%A7%8D%E0%A6%9C-%E0%A6%AC%E0%A6%A8%E0%A7%8D%E0%A6%AF%E0%A6%BE%E0%A6%AF%E0%A6%BC-%E0%A6%AA%E0%A7%8D%E0%A6%B2%E0%A6%BE%E0%A6%AC%E0%A6%BF%E0%A6%A4-%E0%A6%9C%E0%A6%B0%E0%A7%81%E0%A6%B0%E0%A6%BF-%E0%A6%AC%E0%A7%88%E0%A6%A0%E0%A6%95**

**http://sunamganjerkhobor.com/%e0%a6%a4%e0%a6%be%e0%a6%b9%e0%a6%bf%e0%a6%b0%e0%a6%aa%e0%a7%81%e0%a6%b0-%e0%a6%ac%e0%a6%bf%e0%a6%b6%e0%a7%8d%e0%a6%ac%e0%a6%ae%e0%a7%8d%e0%a6%ad%e0%a6%b0%e0%a6%aa%e0%a7%81%e0%a6%b0-%e0%a6%93/**

<http://sunamkantha.com/2017/08/14/%e0%a6%a6%e0%a7%81%e0%a6%b0%e0%a7%8d%e0%a6%af%e0%a7%87%e0%a6%be%e0%a6%97-%e0%a6%aa%e0%a6%bf%e0%a6%9b%e0%a7%81-%e0%a6%9b%e0%a6%be%e0%a7%9c%e0%a6%9b%e0%a7%87-%e0%a6%a8%e0%a6%be-%e0%a6%b9%e0%a6%be-2/>

<http://sunamkantha.com/2017/08/14/%e0%a6%a6%e0%a7%81%e0%a6%b0%e0%a7%8d%e0%a6%af%e0%a7%87%e0%a6%be%e0%a6%97-%e0%a6%aa%e0%a6%bf%e0%a6%9b%e0%a7%81-%e0%a6%9b%e0%a6%be%e0%a7%9c%e0%a6%9b%e0%a7%87-%e0%a6%a8%e0%a6%be-%e0%a6%b9%e0%a6%be-2/>

<http://sunamkantha.com/2017/08/14/%e0%a6%86%e0%a6%97%e0%a6%b8%e0%a7%8d%e0%a6%9f%e0%a7%87-%e0%a6%b9%e0%a6%9a%e0%a7%8d%e0%a6%9b%e0%a7%87-%e0%a6%b0%e0%a7%87%e0%a6%95%e0%a6%b0%e0%a7%8d%e0%a6%a1-%e0%a6%ac%e0%a7%83%e0%a6%b7%e0%a7%8d/>

**http://sunamganjerkhobor.com/%e0%a6%a6%e0%a7%81%e0%a6%b0%e0%a7%8d%e0%a6%af%e0%a7%87%e0%a6%be%e0%a6%97-%e0%a6%ac%e0%a7%8d%e0%a6%af%e0%a6%ac%e0%a6%b8%e0%a7%8d%e0%a6%a5%e0%a6%be%e0%a6%aa%e0%a6%a8%e0%a6%be-%e0%a6%95%e0%a6%ae%e0%a6%bf/**

**APPENDIX B**

**DATA COLLECTION INSTRUMENT**

CARE **BANGLADESH**

NUTRITION AT THE CENTER PROGRAM ENDLINE HOUSEHOLD SURVEY 2018

# **A. Household identification and summary**

**Household Identification**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Identification** | | | | | | | | | | | | | | | |
| COUNTRY: 01=Benin, 02=Ethiopia, 03=Bangladesh, 04=Zambia  DIVISION *(Region)*: 3=Dhaka, 7=Sylhet  DISTRICT: 1=Sunamganj, 2=Kishoreganj  SUBDISTRICT/UPAZILA: 1=Bishwambarpur, 2=Derai, 3=Itna, 4=Nikli  Program: 1=N@C 2=N@C:H 3=Control  UNION *(Municipality)*\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  VILLAGE *(Ward)*\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  HOUSEHOLD NUMBER  RESPONDENT’S NAME: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  HUSBAND’S/FATHER’S NAME: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  CHILD’S NAME: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | |  | | | | | | | | | |
| *INTERVIEWER VISITS* | | | | | | | | | | | | | | |
|  | 1 | | 2 | 3 | | | FINAL VISIT | | | | | | | |
| DATE OF INVERVIEW |  | |  |  | | |  |  |  |  |  |  |  |  |
| INTERVIEWER’S NAME & CODE |  | |  |  | | | Day Month Year  CODE | | | | | | | |
| RESULT CODE\* |  | |  |  | | | RESULT CODE | | | | | | | |
| NEXT VISIT: DATE |  | |  |  | | | TOTAL NO. OF VISITS | | | | | | | |
| TIME |  | |  |  | | |
| **\*RESULT CODES:**  1 COMPLETED 4 REFUSED  2 NOT AT HOME 6 OTHER\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  3 POSTPONED (SPECIFY) | | | | | | | | | | | | | | |
| SUPERVISOR | | OFFICE EDITOR | | | KEYED BY | | | | | | | | | | |
| NAME\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  DATE \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | NAME\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  DATE \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | NAME\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  DATE \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | | | | |

**SCREENING QUESTION AND CONSENT**

|  |  |  |
| --- | --- | --- |
| **CONSENT** | Hello. My name is \_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_ and I work with ACPR, a private organization. What is your name? Nice to meet you.  Our team is in your village today and we would like to ask you questions from our survey. The information we collect will be used for planning, implementation and evaluation of a program. We are interviewing the mothers who have children less than 3 years of age. | |
| **A1** | Do you have any living child | Yes 1  No 2----STOP |
| **A2** | How old is your youngest living child? | <36 MONTH 1  >36 month **2----STOP** |
| A3 | **SELECTED CHILD AGE** |  **0 to <6**   **6 to <12**   **12 to <18**   **18 to <24**   **24 to <36** |

|  |
| --- |
| **Informed Consent for Interview**  FORM 1: If the mother and child has been selected for Interview  **Title of Research:** Baseline Evaluation for Assessing Status of Nutrition Related Topics in Designated Areas  **Principal Investigator:** Prof. Dr. M Sekander Hayat Khan  **Participating Institution:** Associates for Community and Population Research (ACPR)  **Introductory statement:**  My name is .........................…….. I am from Associates for Community and Population Research (ACPR), 3/10, Block A, Lalmatia, Dhaka. To assist in the implementation of socio-development programs in the country, we conduct different types of surveys. We are now conducting a survey about nutritional status of women and children for the CARE. The survey is funded CARE. The data will be examined by institutions named CARE & Associates for Community and Population Research (ACPR). Your opinion is very important to us.  **Why the study Being done:**  The study will help to understand the state and determinants of health in rural Bangladesh.  **Who is involved in the study:**  You have been selected as a respondent in this study. As part of the survey we would first like to ask some questions about your household which will help us to plan health services.  **What you have to do if you agree to participate:**  If you agree to participate, we will ask you some questions related to physical, demographic, and socio-economic characteristics of the household. The interview will take around 30 to 40 minutes of your time.  **What are the risks & benefits of this study:**  There is no risk involved in your participation in this interview, rather it will help Government particularly Ministry of Health and Family Welfare (MOHFW) and private and NGO sector health providing agencies to formulate policy plans and develop programs.  **Confidentiality:**  The interview will be conducted in a private setting. Your responses will be kept strictly confidential. Your name will not appear in any reports. No identifying information will be reported with the data. Only the designated researchers will have access to your responses, which they will utilize to prepare the report. All the data will be stored in a locked and secured place.  **Is there any compensation for participating in the study:**  Your participation is voluntary and will not be paid any monetary compensation for your participation in this survey.  **Right to refuge or withdraw:**  Your participation in this interview is completely voluntary. You can refuse to respond to any question if you wish. You can also stop the interview at any time. However, we hope that you will participate in this survey since your views are important.  **Who do I contact if I have questions of problem:**  If you wish to know more about your rights as a participant in this study you may contact the Bangladesh Medical Research Council (BMRC), Mohakhali, Dhaka, Phone: 8819311, 8828396. You may ask any questions or clarifications before giving your consent for interview regarding the nature of the study. You may also contact to Prof. Dr. M Sekander Hayat Khan, Advisor, Associates for Community and Population Research (ACPR), 3/10, Block A, Lalmatia, Dhaka-1207, Bangladesh. Phone: 9114784, 8117926  If you do not have any question, do I have your permission to continue?  22  1  Respondent agreed Respondent not agreed **End**  Respondent Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Signature/Thumb Print:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_\_  (If the respondent is under 18 years, guardian will sign)  Name of Witness :\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Signature/Thumb Print:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_\_    Name of Interviewer:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Signature\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_\_ |

|  |  |  |
| --- | --- | --- |
| Record time the interview started in 24 hour format | HOUR | |\_\_|\_\_| |
| MINUTES | |\_\_|\_\_| |

# **B. Child Information**

The information below is collected for the living child of the women being interviewed. This child should be less than three years of age: between 0 and 36 months of age.

|  |  |  |  |
| --- | --- | --- | --- |
| NO. | QUESTIONS AND FILTERS | RESPONSE CODE | SKIP TO |
| B0 | What is the name of your youngestchild?  *Enumerator instruction: Identify the target child and write name* | Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |
| B1 | Is (child’s name) male or female? | Male 1  Female 2 |  |
| B2 | Does (child’s name) have a health passport/child card/immunization card? | Yes 1  No 2 |  |
| B3 | When is the child’s birthdate (actual age of child)  Enumerator: Tell mother to show the birth certificate, Health card/ Vaccination/EPI card or other health related card and record date of birth from any of the document | Birthdate |\_\_|\_\_| |\_\_|\_\_| 20|\_\_|\_\_|  DD MM YY  Don’t know 98 98 98 |  |
| B4 | How old is (child’s name)?  *NOTE: Write actual age of child*  *(Refer to month conversion/seasonal or event calendar)* | Age in completed months |\_\_|\_\_|  Less than 30 days 00  Don’t know 98 |  |
| B5 | Enumerator: Please circle the source of date of birth | Health card,EPI Card, Birth Certificate, other health related documents 1  Mother’s recall 2  Other document 3  Not verified/No certificate 4  Calendar of remarkable incidence 5 |  |
| B6. | Birth weight of child’s name | Kg |\_\_|\_\_|.|\_\_|  Not took weight 97.9  Don’t know 98.8 | Go to C1 |
| B7. | Enumerator: Please circle the source of birth weight of child | Health card,EPI Card, Birth Certificate, other health related documents 1  Mother’s recall 2  Other document 3  Not verified/No certificate 4  Calendar of remarkable incidence 5 |  |
|  |  |  |  |

# **C. Mother’s Information**

*INSTRUCTIONS: Ensure that this is administered to the mother of the target child identified (less than 36 months of age). If this mother was not the respondent to a previous module, re-introduce the survey and obtain verbal consent.*

**Read: I would like to start by asking you a couple questions about you and your children.**

| NO. | QUESTIONS AND FILTERS | RESPONSE CODE | SKIP TO |
| --- | --- | --- | --- |
| C1 | What is your date of birth?  *Respondent is not eligible if birthdate is before current date 1970 or after2005* | Birthdate |\_\_|\_\_| |\_\_|\_\_| 19|\_\_|\_\_|  DD MM YY  Don’t know 98 98 98 |  |
| C2 | How old are you?  *ENUMERATOR: Verify the age at last birthday. Verify with C1* | Age in completed years |\_\_|\_\_|  Don’t know…………………………………………98 |  |
| C3 | Who is the head of your household? | Male-headed household 1  Female-headed household 2  Joint (male and female) headed household 3 |  |
| C4 | Have you ever received (formal) education from school/madrasa? | Yes 1  No …………………………………………………………………..2 | 🡪 C6 |
| C5 | What is the highest level of education that you have completed? | Some primary………………………………………….…………01  Completed primary…………………………………………….02  Some secondary…………………………………………………03  Completed secondary…………………………………………04  Some higher education………………………………………05  Completed higher education……………………………..06  Adult education………………………………………………...07  Vocational school……………………………………………...08  Religious education only……………………………….…..09  Don’t know………………………………………………….……98 | 🡪 C7 |
| C6 | Can you read this sentence to me?  *Enumerator: Show respondent card with sentence on it.*  ***“Parents loves their child***  ***Agriculture is hard work.”***  *Circle response describing their reading ability* | Cannot read at all 1  Able to read only parts of sentence 2  Able to read whole sentence 3  Not available in language (specify) \_\_\_\_\_\_ 4  Blind/visually impaired 5 |  |
| C7 | What is your current marital status? | Married (monogamous) 01  Divorced or separated 03  Widowed 04  Single (Never married) 05 | D1 |
| C8 | How old were you at the time of your (first) marriage? | Age in completed years |\_\_|\_\_| |  |
| C9 | How many times you become pregnant in your lifetime? | Times |\_\_|\_\_| |  |
| C9a | How many living children do you have? | One child 01  More than one child |\_\_|\_\_| | C9c |
| C9b | Did you deliver any live children before or after this child? | Yes 1  No 2 | C10 |
| C9c | What is the age difference between your last two live children | Month |\_\_|\_\_|  Twin 00 |  |
| C10 | Enumerator: Please check C7 and circle the right code | Married (monogamous) 01  Divorced or separated 03  Widowed 04  Single (Never Married) 05 | D1 |
| C11 | Are you currently pregnant? | Yes 1  No 2  Don’t know/Not sure 8 | D1 |
| C12 | Are you/your husband currently using any contraceptive for Family planning? | Yes 1  No 2 | D1 |
| C13 | What types of contraceptive you or your husband are using? | Pill A  Condom B  Injection C  IUD / CT D  Ligation E  Safe period / day counting F  Withdrawal G  Other (Specify) H |  |

# **D. Basic information of household characteristics**

**Read:** Now I would like to ask you a few questions about your household and the type of things your household owns.

| NO. | QUESTIONS AND FILTERS | RESPONSE CODE | | | SKIP TO |
| --- | --- | --- | --- | --- | --- |
| D1 | Does your household participate in NAC: Homegrown (CARE) project | Yes 1  No 2 | | |  |
| D2 | Does your household own any farmland? | Yes 1  No 2 | | |  |
| D3 | Do you own your house? | Yes 1  No 2 | | |  |
| D4 | Now, I am going to ask you about **farm animals**.  Does your household **own** the following? | a. Cattle  b. Goat  c. Sheep  d. Chickens  e. Pigs  f. Horse  g. Donkey  h. Mule  i. Duck  j. Other \_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Yes  1  1  1  1  1  1  1  1  1  1 | No  2  2  2  2  2  2  2  2  2  2 | For all no, go to D6 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| D5 | Do you keep **any** animals inside the house at night where you sleep (including pets)? | 01= Yes  02=No | | |  |
|  |  |  | | |  |
|  | **Instructions:** If you are not inside the house; ask the mother to visit the house and see the interior and exterior of the house and fill the questionnaire from D6 to D8. | | | |  |
| D6 | Main material of the floor.  *Enumerator: Observe and record one response* | Earth/Sand 01  Bamboo 02  Stone/Brick 03  Cement 04  Tile……………………………………………………………….05  Other (specify)\_\_\_\_\_\_\_\_\_\_\_\_\_ 06 | | |  |
| D7 | Main material of the roof.  *Enumerator: Observe and record one response* | Grass roof 01  Metal roof/Tin 02  Stone or tile roof/Tally 03  Plastic alone 04  Plastic plus grass 05  Asbestos 06  Cement 07  Other (specify)\_\_\_\_\_\_\_\_\_\_ 08 | | |  |
| D8 | Main material of the exterior walls.  *Enumerator: Observe and record one response* | Earth/Sand/Mud/Clay 01  Bamboo, corn stalks 02  Stone/ Fired Brick 03  Cement 04  Tile 05  Mud brick or wattle 07  Tin 09  Other (specify)\_\_\_\_\_\_\_\_\_\_ 08 | | |  |
| D9 | Where is cooking usually done? | In a room used for living or sleeping 1  In a separate room in the same building  used as a kitchen 2  In a separate building used as kitchen 3  Outdoors 4  Other (specify): \_\_\_\_\_\_\_\_\_ 5 | | |  |
| D10 | Do you have electricity, solar power or generator in your home? | Yes 1  No ………………………………………..……………..2 | | |  |
| D11 | | Does your household **own** the following?  **(READ OUT)** | **Assets** | **Yes** | **No** |  |
|  | | a. Radio | 1 | 2 |  |
|  | | b. Television | 1 | 2 |  |
|  | | c. Mobile phone | 1 | 2 |  |
|  | |  | d. Telephone land | 1 | 2 |  |
|  | |  | e. Refrigerator | 1 | 2 |  |
|  | |  | f. Animal-drawn cart | 1 | 2 |  |
|  | |  | g. Table | 1 | 2 |  |
|  | |  | h. Chair | 1 | 2 |  |
|  | |  | i. Electric fan | 1 | 2 |  |
|  | |  | j. DVD/VCD player | 1 | 2 |  |
|  | |  | k. Water pump | 1 | 2 |  |

E. Agriculture production, access to food

Read: This section asks about the household’s production of food, access to land, and where you get the food you eat.

| NO. | QUESTIONS AND FILTERS | | RESPONSE CODES | SKIP TO |
| --- | --- | --- | --- | --- |
| E1 | What are the main sources of household food that you consume?    **Read all responses, circle all that apply** | | Produce own food A  Purchase food B  Food for work C  Government food aid D  NGO food aid E  Trade/Borrow food F  Charity/Beg G  Other (specify):\_\_\_\_\_\_\_ H |  |
| E2 | | Do you have a **home/kitchen garden** that you use to grow food for family or personal consumption? | Yes 1  No 2 | 🡪 |
| E3 | | What are the main uses of foods you PRODUCE on your home/kitchen garden?  *Read all answers, circle all that apply* | Personal/Family Consumption A  Sale B  Barter trade C  Other (specify): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ D |  |
| E4 | | What types of food do you PRODUCE on this home/kitchen garden?  *Read all answers, circle all that apply* | Grains: wheat, corn, oats, rice A  Red Amaranth B  Kang kong C  Sweet Gourd D  Bottle Gourd E  Amaranth F  Indial Spinach G  Okra H  Brinjal I  Wax Gourd J  Sponge Gourd K  Bitter Gourd L  Carrot M  Tomato N  Bean O  Spinach P  Radish Q  Papaya R  Lemon S  Golden Apple T  Guava U  Orange flesh Sweet Potato V  Chili W  Moringa X  Other (specify):\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Y |  |

F. Food preservation and storage

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| NO. | QUESTIONS AND FILTERS | RESPONSE CODES | SKIP TO | |
| F1 | In the last 12 months, did the household preserve any **fruits and vegetables** for use later in the year? | Yes 1  No 2 |  |
| F2 | During the last post-harvest period, did you store any **crops** that you grew? | Yes 1  No 2 | 🡪G1 |
| F3 | What is the purpose of the crop(s) being stored?  Read all answers, circle all that apply | Food for household consumption A  To sell for higher price B  Seed for planting C  Other(specify): \_\_\_\_\_\_\_\_\_\_\_\_ D |  |

# **G. Agriculture Extension**

|  |  |  |  |
| --- | --- | --- | --- |
| NO. | QUESTIONS AND FILTERS | RESPONSE CODES | SKIP TO |
| G1 | In the past 12 months, have you/ your husband ever met, or been visited by an agricultural extension worker | Yes 1  No 2  Don’t know 8 |  |
| G2 | In the past 12 months, have you/your husband ever met, or been visited by a livestock/fisheries extension worker | Yes 1  No 2  Don’t know 8 |  |

# Household Hunger Scale

|  |  |  |  |
| --- | --- | --- | --- |
| NO. | QUESTION | RESPONSE CODES | SKIP TO |
| I1 | In the past 4 weeks/30 days was there ever **no food** to eat of any kind in your house because of lack of resources/money to get food? | Yes 1  No 2 | 🡪 I3 |
| I2 | How often did this happen in the past [4 weeks/30 days]? | Rarely (1-2 times) 1  Sometimes (3-10 times) 2  Often (more than 10 times) 3 |  |
| I3 | In the past [4 weeks/30 days] did you or any household member (including children) go to sleep at night hungry because there **was not enough food**? | Yes 1  No 2 | 🡪 I5 |
| I4 | How often did this happen in the past [4 weeks/30 days]? | Rarely (1-2 times) 1  Sometimes (3-10 times) 2  Often (more than 10 times) 3 |  |
| I5 | In the past [4 weeks/30 days] did you or any household member (including children) go a whole day without eating anything at all because there **was not enough food**? | Yes 1  No 2 | 🡪 J1 |
| I6 | How often did this happen in the past [4 weeks/30 days]? | Rarely (1-2 times) 1  Sometimes (3-10 times) 2  Often (more than 10 times) 3 |  |

# **J. Women’s Diet Diversity Score**

READ: Now I would like to know about the kind of food you consume during a normal/typical day.

|  |  |  |  |
| --- | --- | --- | --- |
| NO. | QUESTIONS AND FILTERS | RESPONSE CODES | SKIP |
| J1 | Was yesterday a special day of celebration or fasting?  *Clarification special day includes: celebration, or feast day where you ate special foods or more food than normal. It also includes fasting day where you ate less than usual* | Yes 1  No 2 | 🡪J3 |
| J2 | How many days ago was a “normal” day where special kinds of foods were not eaten, or no one in the household ate more or less than usual or did not eat because of fasting? | Number of days |\_\_|\_\_| |  |
|  |  | |  |

**READ**: Please describe the foods (Khichuri) and drinks that you took yesterday (or last “normal” day), both during the day and night, whether at home or outside the home. Let’s begin with the first thing you took in the morning.

***Enumerator instructions****: When composite dishes (soup, stew) are mentioned, asked for the list of ingredients. When the respondent has finished, probe for meals and snacks not mentioned.*

|  |  |  |  |
| --- | --- | --- | --- |
| NO. | FOOD GROUP | EXAMPLES | RESPONSE CODES  Yes No |
| **J3** | a. CEREALS & GRAINS | Wheat, rice or any other grains or foods made from these (e.g. bread, noodles, porridge or other grain products…) | 1 2 |
|  | b. VITAMIN A RICH VEGETABLES AND TUBERS | Pumpkin, carrot that are orange inside. (e.g. other locally available Vitamin A rich vegetables) | 1 2 |
|  | c. WHITE ROOTS AND TUBERS | Potatoes, white yams, sweet potatoesother foods made from roots | 1 2 |
|  | d. DARK GREEN LEAFY VEGETABLES | Dark green/leafy vegetables including wild ones + other locally available Vitamin A rich leaves ) | 1 2 |
|  | e. OTHER VEGETABLES | Other vegetables (e.g. tomato, onion, eggplant, ladies finger), including wild vegetables | 1 2 |
|  | f. VITAMIN A RICH FRUITS | Ripe mangoes, ripe papaya, other locally available Vitamin A rich fruits. | 1 2 |
|  | g. OTHER FRUITS | Other fruits, including wild fruits (eg. Lotkon, Jamrul) | 1 2 |
|  | h. ORGAN MEAT | Liver, kidney, heart or other organ meats | 1 2 |
|  | i. FLESH MEATS | Beef, Buffalo meat, pork, lamb, goat, , chicken, duck, or other birds | 1 2 |
|  | j. EGGS | Chicken, duck, or any other egg | 1 2 |
|  | k. FISH | Fresh, dried fish, shellfish, crab, squid, prawn or small, dried fish | 1 2 |
|  | l. PULSES (beans, peas lentils etc) | Beans, peas, chick peas, lentils, soybean cowpea etc or foods made from these | 1 2 |
|  | m. NUTS & SEEDS | Nuts, seeds or foods made from these | 1 2 |
|  | n. MILK AND MILK PRODUCTS | Milk, cheese, yogurt or other milk products | 1 2 |
|  | o. OILS AND FATS | Oil, ghee, fats or butter added to food or used for cooking | 1 2 |
|  | p. Sugar Sweetened Beverages | Sugar, honey, sweetened soda, sweetened juice or sugary foods such as chocolates, candies, cookies, pastries, cakes and biscuits | 1 2 |
|  | q. Ready-Made Snacks | High fat, salty, pre-packaged foods, typically eaten between meals as convenience | 1 2 |
|  | r. SPICES, CONDIMENTS & SEASONINGS | Spices (onion, garlic, ginger, pepper, GOROM MASALLA, black pepper, salt), condiments (soy sauce, hot sauce), fish powder | 1 2 |
|  | s. OTHER BEVERAGES & FOODS | Coffee, tea, Energy drink, carbonated drinks (eg. Pepsi, CoCa cola, Mojo etc), fruit drink, foods such as pickles and olives etc or any other local examples | 1 2 |

**K. Maternal health/pregnancy**

Read: Now, I have several questions about your last (most recent) pregnancy.

| **NO.** | **QUESTIONS AND FILTERS** | **RESPONSE CODES** | **SKIP TO** |
| --- | --- | --- | --- |
| K1 | When you were pregnant with (Name) did you see anyone for a medical check up/ANC ? | Yes 1  No 2 | 🡪K5 |
| K2 | How many times did you receive antenatal care during this pregnancy? | One time………………………………………………….1  Two times………………………………………………..2  Three times……………………………………………..3  Four times (or more)…………………………….…4  Don’t know, or remember………..……………..8 |  |
| K3 | Whom did you see?  Anyone else? | QUALIFIED DOCTOR A  NURSE/MIDWIFE/PARAMEDIC B  FAMILY WELFARE VISITOR C  COMMUNITYSKILLED BIRTH ATTENDANT D  MA/SACMO E  HEALTH ASSISTANT. F  FAMILY WELFARE ASSISTANT G  TRAINED TBA H  UNTRAINED TBA I  UNQUALIFIED DOCTOR J  NGO WORKER K  OTHER X  (SPECIFY) |  |
| K4 | Where did you receive antenatal care for this pregnancy?  Anywhere else? | HOME A  MEDICAL COLLEGE HOSPITAL B  SPECIALIZED GOVT HOSPITAL  C  DISTRIC HOSPITAL D  MCWC E  UPAZILLA HEALTH COMPLEX F  H&FAMILY WELFARE CENTRE G  SATELLITE CLINIC/EPI OUTREACH H  COMMUNITY CLINIC I  OTHER J  (SPECIFY)  NGO STATIC CLINIC K  NGO SATELLITE CLINIC L  OTHER M  (SPECIFY)  PRIVATE HOSPITAL/ CLINIC N  QUALIFIED DOCTOR’S CHAMBER O  TRADITIONAL DOCTOR’S CHAMBER P  PHARMACY Q  PRIVATE MEDICAL COLLEGE HOSPITAL R  OTHER X  (SPECIFY) |  |
| K5 | During your last pregnancy, did you take any iron/IFA tablet/syrup?(list the local brand name, show example of iron tablet) | Yes 1  No 2  Don’t know/remember 8 | 🡪K7 |
| K6 | During your last pregnancy, how **long** did you take iron/IFA tablets/syrup? | Less than 30 Days 1  30 to 59 Days 2  60 to 89 3  90 Days or more 4  Don't know 8 |  |
| K7 | After your last delivery, did you attend post-natal care (PNC) ? | Yes 1  No 2 |  |
| K8 | Did your child receive any Vitamin A supplementation? | Yes 1  No 2 |  |

# L. Infant and Young Child Feeding Practices (IYCF)

| **NO.** | **QUESTIONS AND FILTERS** | | | **RESPONSE CODES** | | | **SKIP TO** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| L1 | Copy the name of child from Q. B0 | | | Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | |  |
| L2 | Copy the age of child in months from Q. B4 | | | Age of month |\_\_|\_\_| | | |  |
|  | **Read: I would like to ask you some questions about how you have been feedingCHILD’S NAMEfrom birth until now** | | | | | |  |
| L3 | Did you ever breastfeed CHILD’S NAME? | | | Yes 1  No 2 | | | 🡪 L7 |
| L4 | How soon after birth did you first put (CHILD’S NAME) to your breast? | | | Immediately 1  In less than one hour 2  One hour to less than 24 hours 3  One day (24 hours or more) 4  Don’t know 8 | | |  |
| L4a. | Are you currently breastfeeding $(child name)? | | | Yes……………….. 1  No 2 | | | 🡪 L7 |
| L6 | Yesterday, did you breastfeed CHILD’S NAME during the day and night? | | | Yes……………….. 1  No 2 | | |  |
|  | **Read: I would like to ask you about liquids that CHILD’S NAMEmay have had yesterday during the day and at night** | | | | | |  |
| L7 | During the last 24 hour (day or at night), did (NAME) receive any of the following?  **Ask about every liquid. If don’t know, circle the code of don’t know.** | | | | | Number  of times |  |
| **Liquids** | **Yes** | **No** | | **Don’t know** |
| a. | Plain water | 1 | 2 | | 8 |  |  |
| b. | Infant formula (Lactogen, Biomil, Eldobaby, Babycare, Mother’s Smile, Pre-Nan).  **If yes**, how many times? | 1 | 2 | | 8 | Times  Don’t know 98 |  |
| c. | **C**ow’s/goat’s milk, tinned, powdered milk (Dano, Anchor, Diploma, Fresh, Mark, Red cow).  **If yes**, how many times? | 1 | 2 | | 8 | Times  Don’t know 98 |  |
| d. | Fruit juice or juice drinks | 1 | 2 | | 8 |  |  |
| e. | Clear broth(chicken soup, vegetable soup, dal pani) | 1 | 2 | | 8 |  |  |
| f. | Other water-based liquids(e.g. Soft drinks like Pepsi, Coca Cola, Sprite, Virgin, RC Cola) | 1 | 2 | | 8 |  |  |
| g. | Sour milk or yogurt (curd, ghole, matha).  **If yes**, how many times? | 1 | 2 | | 8 | Times  Don’t know 98 |  |
| h. | Thin porridge (Suji, Luta) | 1 | 2 | | 8 |  |  |
| l. | Any other liquids\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (Specify) | 1 | 2 | | 8 |  |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **NO.** | **QUESTION** | | **CODING CATEGORY** | **RESPONSE** | | **SKIP TO** | | |
|  | **Interviewer:** Don’t read the food’s name. Listen attentively the answer and probe if needed. After circle the all yes responses, then ask about the food which the respondent don’t mention. | | | | |  | | |
|  | Please tell me everything that [CHILD NAME] ate during the last 24 hour (day or at night) (whether at home or outside the home)? **(One answer should record in each row).** | | | | |  | | |
| L8 | Food Group | Example | | | Yes | | No | DK |
|  | a. CEREALS / GRAINS | bread, rice, biscuits, or other foods made from millet, sorghum, maize, , wheat or grain or Khichuri, semolina | | | 1 | | 2 | 8 |
| . | b. VITAMIN A RICH  VEG & TUBERS | pumpkin, carrots, squash and other locally available vitamin-A rich vegetables that are yellow or orange inside | | | 1 | | 2 | 8 |
|  | c. WHITE TUBERS & ROOTS | White potatoes, white yams, or foods made from roots | | | 1 | | 2 | 8 |
|  | d. DARK GREEN LEAFYVEG | dark green/leafy vegetables locally available vitamin-A rich leaves, for example pumpkin leaves | | | 1 | | 2 | 8 |
|  | e. OTHER VEGETABLES | other vegetables (e.g. tomatoes, eggplant etc) | | | 1 | | 2 | 8 |
|  | f. VITAMIN A RICH FRUITS | fruits rich in vitamin A (e.g. ripe mangoes, papaya) | | | 1 | | 2 | 8 |
|  | g. OTHER FRUITS | other fruits including guava, pineapple, watermelon, melon, orange, apple, grape, banana, jackfruit, AMRA, BAROI or other local fruits | | | 1 | | 2 | 8 |
|  | h. ORGAN MEAT  (IRON-RICH) | liver, kidney, heart or other organ meats | | | 1 | | 2 | 8 |
|  | i. FLESH MEATS | Beef, pork, lamb (mutton), goat, wild game, chicken, duck, or other birds | | | 1 | | 2 | 8 |
|  | j. EGGS | Egg | | | 1 | | 2 | 8 |
|  | k. FISH | fresh or dried fish or shellfish | | | 1 | | 2 | 8 |
|  | l. PULSES (beans, peas lentils etc) | Beans, peas, chick peas, lentils, soybean cowpea etc or foods made from these | | | 1 | | 2 | 8 |
|  | m. NUTS AND SEEDS | Nuts, seeds or foods made from these | | | 1 | | 2 | 8 |
|  | n. MILK PRODUCTS | Cheese, yogurt or other milk products | | | 1 | | 2 | 8 |
|  | o. OILS AND FATS | Oil, fats or butter or foods made with any of these | | | 1 | | 2 | 8 |
|  | p. Sugar Sweetened Beverages | Sugar, honey, sweetened soda, sweetened juice or sugary foods such as chocolates, candies, cookies, pastries, cakes and biscuits | | | 1 | | 2 | 8 |
|  | q. READY-MADE SNACKS | High fat, salty, pre-packaged foods, typically eaten between meals as convenience, Chips, CHANACHUR, Nimki | | | 1 | | 2 | 8 |
|  | r. OTHER FORTIFIED FOODS | Specially fortified foods (e.g. Corn soya blend (CSB) foods **fortified with micronutrient powder**, plumpy nut, other Ready-to-Use Therapeutic Foods or lipid-based nutrient supplements? | | | 1 | | 2 | 8 |
|  | s. SPICES, CONDIMENTS, & SEASONINGS | Spices (black pepper, salt), condiments (soy sauce, hot sauce, tomato sauce) fish powder or any other local examples | | | 1 | | 2 | 8 |
|  | t. Other Beverages & Foods | Coffee, tea, alcohol beverages, areke (local alchohol), local beer (*Tela* or *Korefe*) clear broth, foods such as pickles and olives etc or any other local examples | | | 1 | | 2 | 8 |

|  |  |  |  |
| --- | --- | --- | --- |
| L8a | **Interviewer: Check Q. L8 and circle in appropriate code.** | All code 2 and/or 8 is circled 1  At least one code 1 is circled 2 | 🡪 L10 |
| L9 | Did CHILD’S NAME eat any solid, semi-solid, or soft foods yesterday during the day or night?  **By that I mean were any of these foods thick enough that you could have picked them up with your fingers and fed them by hand?** | Yes 1  ***If yes repeat L8 and underline food groups in L8.***  No 2  Don’t know 8 | 🡪 L11 |
| L10 | How many times did CHILD’S NAME eat solid, semi-solid or soft foods other than liquids yesterday during the day or night? | Number of times |\_\_|\_\_|  Don’t know 98 |  |
| L10a | At what age did you introduce solid, semi-solid or soft foods in CHILD’S NAME's diet? | Month |\_\_|\_\_|  Not started yet 97  Don’t know 98 |  |
| L11 | Did CHILD’S NAME drink anything from a bottle or nipple yesterday during the day or night? | Yes 1  No ………………………………………………………………2  Don’t know 8 |  |
| L12 | Yesterday, during the day or night, did CHILD’S NAMEeat any iron fortified formula? ***(example:****Cerelac, mother’s smile cereal, Babyvit, serimeal, baby lac, lactozen, biomeal?*  *Needs to check whether these are iron fortified or not locally available fortified formula****)*** | Yes 1  No 2  Don’t know 8 |  |
| L13 | Yesterday, during the day or night, did CHILD’S NAME eat any iron fortified food baby foods *(example local baby foods)* | Yes 1  No 2  Don’t know 8 |  |
| L14 | Yesterday, during the day or night, did (child name) eat any monimix? | Yes 1  No 2  Don’t know 8 |  |

# **O. Drinking water**

Read: Great, thank you. I have a couple questions about your household water sources and sanitation.

| NO. | QUESTIONS AND FILTERS | RESPONSECODE | SKIP |
| --- | --- | --- | --- |
| O1 | What is the **primary** source of **water** for members of your household?  Circle all that apply | Piped water into dwelling 01  Piped water into yard/plot 02  Public tap/standpipe 03  Tubewell/Deep Tubewell 04  Protected dug well 05  Protected spring 06  Bottled water 07  Unprotected dug well 08  Unprotected spring 09  Cart with small tank/drum 10  Tanker truck 11  Surface water (river, HAOR dam, lake, pond, stream, canal, irrigation channels) 12  Rainwater collection 13  Other (specify)\_\_\_\_\_\_\_\_\_\_\_ 14 | O3 |
| O2 | How long does it take to go there, get water and come back?  *Enumerator instructions: Only include time to get to water source and back. Do not include socializing or other errands* | Number of minutes |\_\_|\_\_|\_\_|  480 minutes or more (8+ hours) 480  988= Don’t know 988 |  |
| O3 | Do you treat your water in any way to make it safer to drink? | Yes 1  No 2  Don’t know 8 | 🡪 P1 |
| O4 | What do you **usually** do to the water to make it safer to drink?  Do not read, but circle all that apply | Boil water A  Add bleach/chlorine B  Strain it through a cloth C  Use water filter (ceramic/sand/ composite/etc.) D  Solar disinfection E  Let it stand and settle F  Use purifying tablets G  Other (Specify) \_\_\_\_\_\_\_\_\_ H  Don’t know I |  |

**P. Hand washing, sanitation and disposal of child’s feces**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| NO. | QUESTIONS AND FILTERS | | | | | CODE RESPONSE | SKIP |
| P1 | When do you usually wash your hands with soap?  *(Do not read responses. Allow respondent to answer first, and then ask how often by probing, with never, always or sometimes. If respondent does not mention an activity, such as “before eating”, circle 01 for Never.)* | | | | |  |  |
|  |  | Before eating **A** | | | Never 1  Always 2  Sometimes 3 | |  |
|  |  | Before preparing food **B** | | | Never 1  Always 2  Sometimes………….….....3 3 | |  |
|  |  | Before feeding the child **C** | | | Never 1  Always 2  Sometimes……………..….3 3 | |  |
|  |  | After toilet use **D** | | | Never 1  Always 2  Sometimes…………………3 3 | |  |
|  |  | After changing a baby **E** | | | Never 1  Always 2  Sometimes…………………3 3 | |  |
|  |  | After processing of cow dung for fuel **F** | | | Never 1  Always 2  Sometimes…………………3 3 | |  |
|  | **Observation section:** Read: I’d like you to please show me where you store your drinking water, and also where you most often wash your hands. | | | | | |  |
| P2 | Can you please show me where you store your drinking water?  *Observe: Are the containers covered?* | | | All are covered 1  Some are covered 2  None are covered 3  No permission to see 4  Don’t preserve drinking water 5 | | |  |
| P3 | Thanks, can you show me where you or your HH members most often wash hands?  *(Ask to see and observe. Record only one hand washing place. This is the hand washing place that is used most often by the respondent or household.)* | | | Inside/within 10 paces of the toilet facility 01  Inside/within 10 paces of the kitchen/  cooking place 02  Elsewhere in home or yard 03  Outside yard 04  No specific place 05  No permission to see 06  Near the water source (outside home) 07 | | | 🡪 P9 |
| P4 | ***OBSERVE:*** *Is water present at the specific place for hand washing?*  *Enumerator: If there is a tap, tubewell or pump present at the specific place for hand washing, open the tap or operate the pump to see if water is coming out. If there is a bucket, basin, or other type of water container, examine it to see whether water is present in the container. Record observation.* | | | Yes (Water is available) 1  No (Water is not available) 2 | | |  |
| P5 | ***OBSERVE:*** *Is soap or detergent present at the specific place for hand washing?*  *Enumerator: record observation. Circle all that apply.* | | | Bar soap A  Detergent (powder/liquid/paste) B  Liquid soap (including shampoo) C  None D | | | P9 |
| P6 | ***OBSERVE:*** *Is locally sourced cleansing agent present at the specific place for hand washing?*  *Enumerator: Record observation. Circle all that apply.* | | | Ash A  Mud/sand B  None C  Other (specify)………………………………………………..D | | |
| P6a | Interviewer: Check q.P5 and P6 and circle in appropriate code. | | Any code of A, B, C in q. P9 and/or  q. P10 is circled 1  Code D in q. P9 and code C or D in  q. P10 is circled 2 | | | | 🡪P9 |
| P7 | Do you have soap/local sourced cleansing agent in your house? | | | Yes 1  No 2  Don’t know; N/A 8 | | | P9 |
| P8 | Can I please see your soap/locally sourced cleansing agent? *Circle all that apply.* | | | Soap present A  Ash/mud/sand present B  None available…………………………………………………C | | |  |
| P9 | What kind of toilet facility do members of your household usually use? | | Flush/pour flush to piped sewer system 1  Flush/pour flush to septic tank 2  Flush/pour flush to pit latrine 3  Ventilated improved pit latrine (VIP) 4  Pit latrine with slab/water sealed 5  Composting toilet …………………………………………………. 6  Flush/pour flush to unknown place/DK…….…………… 7  Pit latrine without slab/open pit 8  Bucket 9  Hanging toilet/hanging latrine 10  No facilities/bush/field 11  Other (*specify*) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 12 | | | |  |
| P10 | The last time (child name) passed stool, where did he/she defecate? | | | Used potty 01  Used washable diaper 02  Used disposable diaper 03  Used latrine 04  Went in his/her wearing clothes 05  Towel/bed sheet/ oil cloth/KANTHA 06  Went in house/yard 07  Went outside of house/yard 08  Don’t know 09 | | |  |

# **Q. Women’s Empowerment**

## **Household Decision-making**

Read: Now, I would now like to ask you about who usually makes decisions in your household.

| NO. | QUESTIONS AND FILTERS | RESPONSE CODES | SKIP TO |
| --- | --- | --- | --- |
| Q1 | In your household who usually makes decisions about own health care? | You (respondent) 1  Your husband 2  Both you and your husband 3  Mother/Father In-law 4  Mother/Father 5  Other (specify)\_\_\_\_\_\_\_\_\_\_\_ 6 |  |
| Q2 | In your household who usually makes decisions about your child’s health? | You (respondent) 1  Your husband 2  Both you and your husband 3  Mother/Father In-law 4  Mother/Father 5  Other (specify)\_\_\_\_\_\_\_\_\_\_\_ 6 |  |
| Q3 | In your household who usually makes decisions about large household (Cow, furniture, Television, Refrigerator purchases?  *Probe: (give local examples of large purchases)* | You (respondent) 1  Your husband 2  Both you and your husband 3  Mother/Father In-law 4  Mother/Father 5  Other (specify)\_\_\_\_\_\_\_\_\_\_\_ 6 |  |
| Q4 | In your household who usually makes decisions about household purchases for daily needs? | You (respondent) 1  Your husband 2  Both you and your husband 3  Mother/Father In-law 4  Mother/Father 5  Other (specify)\_\_\_\_\_\_\_\_\_\_\_ 6 |  |
| Q5 | In your household who usually decides when you visit parents’ family | You (respondent) 1  Your husband 2  Both you and your husband 3  Mother/Father In-law 4  Mother/Father 5  Other (specify)\_\_\_\_\_\_\_\_\_\_\_ 6 |  |
| Q6 | In your household who usually decides when your whole family will visit parents’ family/ | You (respondent) 1  Your husband 2  Both you and your husband 3  Mother/Father In-law 4  Mother/Father 5  Other (specify)\_\_\_\_\_\_\_\_\_\_\_ 6 |  |

|  |  |  |  |
| --- | --- | --- | --- |
| Q7 | In your household who usually decides how to use money that *you*bring into the household? | You (respondent) 1  Your husband 2  Both you and your husband 3  Mother/Father In-law 4  Mother/Father 5  Other (specify)\_\_\_\_\_\_\_\_\_\_\_ 6 |  |
| Q8 | In your household who usually decides how to use the money *your husband*brings into the household? | You (respondent) 1  Your husband 2  Both you and your husband 3  Mother/Father In-law 4  Mother/Father 5  Other (specify)\_\_\_\_\_\_\_\_\_\_\_ 6 |  |
| Q9 | In your household who usually decides when your family will sell a large asset (like a cow)? | You (respondent) 1  Your husband 2  Both you and your husband 3  Mother/Father In-law 4  Mother/Father 5  Other (specify)\_\_\_\_\_\_\_\_\_\_\_ 6 |  |
| Q10 | In your household who usually decides when your family will sell a small asset (like a chicken, duck/goat)? | You (respondent) 1  Your husband 2  Both you and your husband 3  Mother/Father In-law 4  Mother/Father 5  Other (specify)\_\_\_\_\_\_\_\_\_\_\_ 6 |  |
| Q11 | In your household, who usually decides whether you can work to earn money? | You (respondent) 1  Your husband 2  Both you and your husband 3  Mother/Father In-law 4  Mother/Father 5  Other (specify)\_\_\_\_\_\_\_\_\_\_\_ 6 |  |
| Q12 | If there is not enough food in the household, who decides how food is shared among family members? | You (respondent) 1  Your husband 2  Both you and your husband 3  Mother/Father In-law 4  Mother/Father 5  Other (specify)\_\_\_\_\_\_\_\_\_\_\_ 6 |  |

## **Gender Attitude and Belief: Tolerance of Intimate Partner Violence**

Read: Sometimes a husband is angry with his wife. In your opinion, is a husband justified in hitting his wife in the following situations

|  |  |  |  |
| --- | --- | --- | --- |
| No. | QUESTIONS AND FILTERS | RESPONSE CODES  Yes No | SKIP TO |
| Q13 | Is he justified in hitting his wife, if she goes out without telling him? | 1 2 |  |
| Q14 | Is he justified in hitting his wife, if she neglects their children? | 1 2 |  |
| Q15 | Is he justified in hitting his wife, if she argues with him? | 1 2 |  |
| Q16 | Is he justified in hitting his wife, if she refuses to have ”MELAMESHA” with him? | 1 2 |  |
| Q17 | Is he justified in hitting his wife, if she did not cook the food properly? | 1 2 |  |

R**:**  **Edinburgh Postnatal Depression Scale (EPDS).**

During pregnancy and post-partum period mothers can suffer from depression. To evaluate this I will ask some questions to measure your mental status**.**

**R1. In the past 7 days:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Question number | Question | Categories | Coding | Score |
| EPDS 1 | I have been able to laugh and see the funny side of things | As much as I always could  Not quite so much now  Definitely not so much now  Not at all | 1  2  3  4 | 0  1  2  3 |
| EPDS 2 | I have looked forward with enjoyment to things | As much as I ever did  Rather less than I used to  Definitely less than I used to  Hardly at all | 1  2  3  4 | 0  1  2  3 |
| EPDS 3 | I have blamed myself fun necessarily when things went wrong | Yes, most of the time  Yes, some of the time  Not very often  No, never | 1  2  3  4 | 3  2  1  0 |
| EPDS 4 | I have been anxious or worried for no good reason | No, not at all  Hardly ever  Yes, sometimes  Yes, very often | 1  2  3  4 | 0  1  2  3 |
| EPDS 5 | I have felt scared or panicky for no very good reason | Yes, quite a lot  Yes, sometimes  No, not much  No, not at all | 1  2  3  4 | 3  2  1  0 |
| EPDS 6 | Things have been getting on top of me | Yes, most of the time I haven’t been able to cope at all  Yes, sometimes I haven’t been coping as well as usual  No, most of the time I have coped quite well  No, I have been coping as well as ever | 1  2  3  4 | 3  2  1  0 |
| EPDS 7 | I have been so unhappy that I have had difficulty sleeping | Yes, most of the time  Yes, sometimes  Not very often  No, not at all | 1  2  3  4 | 3  2  1  0 |
| EPDS 8 | I have felt sad or miserable | Yes, most of the time  Yes, quite often  Not very often  No, not at all | 1  2  3  4 | 3  2  1  0 |
| EPDS 9 | I have been so unhappy that I have been crying | Yes, most of the time  Yes, quite often  Only occasionally  No, never | 1  2  3  4 | 3  2  1  0 |
| EPDS 10 | The thought of harming myself has occurred to me | Yes, quite often  Sometimes  Hardlyever  Never | 1  2  3  4 | 3  2  1  0 |

**R2: Program participation**

|  |  |  |  |
| --- | --- | --- | --- |
| No. | QUESTIONS AND FILTERS | RESPONSE CODES  Yes No | SKIP |
| a | In the past three year, have you participated in farmer nutrition group meetings? | 1 2 | C |
| b | If **yes** how frequently | Sometimes (1-2 meetings)……..1  Frequently (3-10 meetings………2  Always (> 10 meetings ……………3 |  |
| c | In the past three year, have you received ducks? | 1 2 |  |
| D | In the past three year did you receive training in poultry rearing & and management | 1 2 |  |
| E | In the past three year have you received any training in for home garden? | 1 2 |  |
| f | In the past three year have you received seeds & saplings for your home garden? | 1 2 |  |
| g | In the past three year have you received materials to build hand washing station? | 1 2 |  |
| h | In the past 3 years have you ever been referred to a health facility by your community support group member for a check-up during your pregnancy or after delivery? | 1 2 |  |
| i | In the past 3 years have you been advised to go to a health facility by your community support group member when your baby was not doing well for any reason? | 1 2 |  |
| j | In the past 3 years have you been encouraged to establish a home garden? | 1 2 |  |
| k | Did the Community Agriculture Volunteer visit your home? | 1 2 |  |
| l | Did you receive any support from Community Ag volunteer? | 1 2 |  |
| m | In the past 3 years did you participate in the *Annoproshan* event? | 1 2 |  |
| n | Did you or a family member construct a hand washing station ? | 1 2 |  |
| o | Did your community support group member help you access a government safety net program? | 1 2 |  |
| p | Did your community support group member help you access other NGO operated programs? | 1 2 |  |

|  |  |  |
| --- | --- | --- |
| Record time the interview ended in 24 hour format | HOUR | |\_\_|\_\_| |
| MINUTES | |\_\_|\_\_| |

**READ: Thank you for your time and participation. This concludes the household survey part. Next, we will take the height, weight and arm measurements of your and child under three.**

# 

# S. Mother’s Anthropometry and Hemoglobin

Read: Now I would like to take your height and weight measurements.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| MEASUREMENTS FOR MOTHER | | | | | |
| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | RESPONSE | | SKIP TO |
| S1 | Mother’s Age | Copy from C2 | |\_\_|\_\_| | |  |
| S2 | Pregnancy status  **Interviewer: Check Q. C9 and L4a and circle in appropriate code**. | Pregnant 1  Not pregnant *but* lactating 2  Pregnant and lactating …………………………………………………………….3  Not Pregnant and *not* lactating 4 | | | 🡪 S5  🡪 S5 |
| S3 | Mother’s height in centimeters | Write in measurement (centimeters)  988.8 = Don’t know | | |\_\_|\_\_|\_\_|.|\_\_| cm |  |
| S4 | Weight of Mother | Write in measurement (kilograms)  988.8 = Don’t know | | |\_\_|\_\_|\_\_|.|\_\_| kg |  |
| S5 | MUAC Measurement | Write in measurement (centimeters)  98.8 = Don’t know | | |\_\_|\_\_|.|\_\_| cm |  |
| S5a | How the MUAC was taken? |  | | On skin 1  On tight cloth 2  On loose cloth 3 |  |

**Consent for Anemia.**

As part of this survey, we are asking people to take an anemia test. Anemia is a serious health problem that usually results from poor nutrition, infection or chronic disease. This survey will assist the program to develop programs to prevent and treat anemia.

We ask that all women born between 1968 and 2002 take part in anemia testing and give a few drops of blood from a finger. The equipment used to take the blood is clean and completely safe. It has never been used before and will be thrown away after each test.

The blood will be tested for anemia immediately. The result will be kept strictly confidential [no names will be taken] and will not be shared with anyone other than members of our survey team.

You can say yes to the test or you can say no. It’s up to you to decide. Do you have any questions?

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| S6 | Do you agree to participate in the anemia test? | 1=Granted  2= Refused  3=Mother/Household not found  4=Mother/ household not visited/No need sample | Z1 | Enumerator sign name  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |
| S7 | Mother’s Hemoglobin  (Fingerprick sample) | Write in response  98.8 = Machine Error | |\_\_|\_\_|.|\_\_| g/dL | |  |

**Z. Child’s Anthropometry and Hemoglobin (6-23) months**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | QUESTIONS | CODING CATEGORIES | RESPONSE | SKIP TO |
| Z1 | Child’s Date of Birth | Copy from B3  99 99 99 = don’t know | |\_\_|\_\_| |\_\_|\_\_| 20|\_\_|\_\_| dd mm yy |  |
| Z2 | Childs age in Months | Copy from **B4**  Write age in completed months  00= Less than 30 days  98= Don’t know | |\_\_|\_\_| months |  |
| Z3 | What is the sex of (child’s name)?  Copy from **B1** | 1= Male  2= Female |  |  |
| Z4 | What is the weight of child | Write in kilograms  98.8= Don’t Know | |\_\_|\_\_|.|\_\_| kg |  |
| Z5 | What is the length/height of the child? | Write in centimeters  988.8= Don’t know | |\_\_|\_\_|\_\_|.|\_\_|cm |  |
|  |  |  |  |  |
| Z6 | What is the MUAC reading of the child | Write in centimeters  98.8= Don’t know Z7 | |\_\_|\_\_|.|\_\_|cm |  |
| Z6a. | How MUAC measured? | 1 = On skin  2 = On tight cloth  3 = On loose cloth |  |  |
| Z7 | Is bilateral oedema present in the child? | 1= Yes  2= No |  |  |

**Consent for Anemia (READ)**

As part of this survey, we are asking people to take an anemia test. Anemia is a serious health problem that usually results from poor nutrition, infection or chronic disease. This survey will assist the program to develop programs to prevent and treat anemia.

We ask that all children born between January 2014 to present take part in anemia testing and give a few drops of blood from a finger. The equipment used to take the blood is clean and completely safe. It has never been used before and will be thrown away after each test.

The blood will be tested for anemia immediately. The result will be kept strictly confidential and will not be shared with anyone other than members of our survey team.

You can say yes to the test or you can say no. It’s up to you to decide. Do you have any questions?

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| NO. | QUESTIONS | CODING CATEGORIES | | RESPONSE | | | SKIP TO |
| Z8 | Will you allow (CHILD NAME) to participate in the anemia test? | 1=Granted  2= Refused  3=Mother/HH not  found  4=Mother/HH not  visited – not needed  for sample | | Enumerator sign name  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | If 02,03,04 🡪 Z9 |
| Z9 | Hemoglobin (Fingerprick sample) | Record reading  98.8= DK/Test error | | |\_\_|\_\_|.|\_\_| g/dL | | |  |
|  | | | | | | | |
|  | | | | | | | |
| **READ: Thank you for participation. Do you have any final questions? Have a good day.** | | | | | | | |
| Z10. Record time the interview ended in 24 hour format | | | HOUR | | |\_\_|\_\_| |
| MINUTES | | |\_\_|\_\_| |

Interviewer: Please check the questioner before leaving the household. Hence thanks to respondents and end the interview.

1. Food and Agricultural Organization of the United Nations, the State of Food Insecurity in the World. 2017. [↑](#footnote-ref-1)
2. Food and Agricultural Organization, World Food Insecurity and Malnutrition: Scope, Trends, Causes and Consequences. Ftp://ftp.fao.org/docrep/fao/010/ai799e/ai79902.pdf [↑](#footnote-ref-2)
3. World Health Organization, Essential nutrition actions: improving maternal, newborn, infant and young child health and nutrition. 2013 [↑](#footnote-ref-3)
4. Ibid [↑](#footnote-ref-4)
5. Robert Black, Maternal and child under-nutrition: global and regional exposures and health consequences. Lancet, 2008 [↑](#footnote-ref-5)
6. Ibid [↑](#footnote-ref-6)
7. Noreen Mucha, Implementing Nutrition-Sensitive Development: Reaching Consensus. November 2012 [↑](#footnote-ref-7)