



# One-Year Survey Shows Improvements in Dietary Diversity for Pregnant Women

According to the Food and Agriculture Organization of the United Nations, Bangladesh has some of the highest rates of malnutrition in the world, with more than half of all women and children considered malnourished. In rural areas, micronutrient deficiencies caused by low dietary diversity have been reported among pregnant women. Such deficiencies increase the risks of growth restriction in the womb, low birth weight, and compromised growth and nutrition after birth.

Inspired by the Bangla term “*shisukekhawano*,” which means infant and young child feeding (IYCF), the SHIKHA project works to improve nutrition among pregnant women and children ages 0 to 2 in rural Bangladesh. It is based on a programmatic approach developed and proven by Alive & Thrive to effectively improve IYCF practices in developing countries. When it began in 2013, SHIKHA added a unique maternal nutrition component to its five core interventions. A household survey evaluating one year of implementation has shown that—even in a short amount of time—the maternal nutrition component has had a positive effect. So far, the biggest impact has been for pregnant women with low levels of education and low socioeconomic status.

## Household Surveys

SHIKHA's one-year progress was determined by comparing the results of a one-year household survey with the results of a baseline household survey conducted in November

### FIVE CORE INTERVENTIONS

- 1. Home visits:** Nutrition workers counsel pregnant women and young mothers about maternal nutrition and IYCF.
- 2. Community mobilization:** Orientation sessions with fathers, doctors, religious leaders, and the local government promote good maternal nutrition and IYCF practices.
- 3. Health forums:** Meetings are held with pregnant women, mothers, mothers-in-law, adolescents, and other community members to discuss health, nutrition, and hygiene.
- 4. Antenatal and postnatal sessions:** Community health workers provide pregnant and lactating women with medical care and counseling about maternal nutrition and IYCF.
- 5. Media campaign:** A mass media campaign reaches villages that lack access to nationally televised advertisements on IYCF and handwashing.



## WHY NINE FOOD GROUPS?

Researchers use the number of food groups a woman eats each day to measure dietary diversity and predict whether she is getting enough micronutrients. In 2005, the Food and Nutrition Technical Assistance Project (FANTA) and its partners began gathering data on dietary patterns and food consumption among women of reproductive age in five developing countries, including Bangladesh. They found that dividing foods into 6, 9, 13, or 21 food groups could all be used to predict micronutrient adequacy, even though 13 or 21 groups worked best in some settings. In 2013, the Food and Agriculture Organization of the United Nations recommended that researchers use nine groups to calculate dietary diversity scores since dividing food into more than nine groups would be cumbersome. These were the recommendations at the time of SHIKHA's inception.

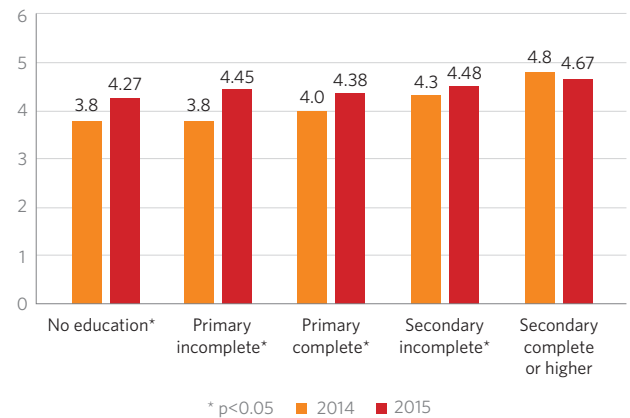
and December 2013, when the SHIKHA interventions were beginning. The one-year survey was conducted from December 2014 to March 2015 in 255 villages from 10 of the 26 subdistricts receiving the interventions.

As part of both surveys, approximately 500 pregnant women were interviewed about their knowledge of nine food groups and about how many of the food groups they had consumed in the past 24 hours. A dietary diversity score ranging from 0 to 9 was calculated for each pregnant woman based on the number of food groups she had consumed. Dietary diversity scores were also calculated for different groups of women based on their background characteristics.

## Key Findings

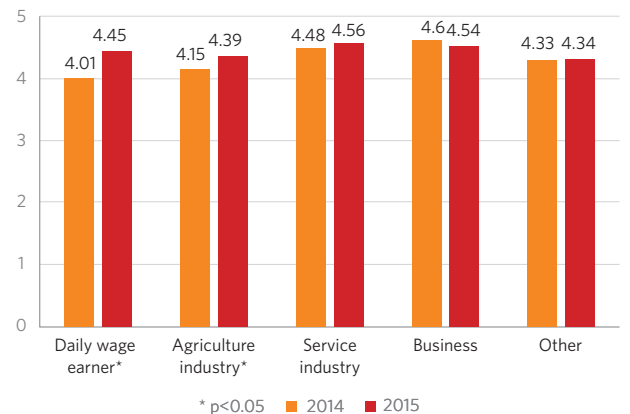
- Pregnant women's overall knowledge improved for almost all food groups and across all categories of socioeconomic status.
- The mean dietary diversity score for pregnant women increased significantly from 4.28 at baseline to 4.48 at one year ( $p < 0.01$ ).
- Mean dietary diversity scores increased more among pregnant women who had low levels of education than among those who had completed secondary education (**Figure 1**).

**Figure 1.** Mean dietary diversity scores by level of education



- Mean dietary diversity scores also increased more among pregnant women with low socioeconomic status than among those with higher socioeconomic status ( $p < 0.05$ ). This was determined by examining dietary diversity by occupations of husbands (**Figure 2**) and by household characteristics (which showed similar results).

**Figure 2.** Mean dietary diversity scores by occupation of husband



## Closing the Gap

These early data suggest that SHIKHA is achieving positive results related to improving maternal dietary diversity. In particular, the project is beginning to close the gap in dietary diversity between women of different educational and socioeconomic backgrounds. Additional analysis will be conducted to determine if longer-term implementation can further improve dietary diversity and to provide further insight about factors related to good maternal diet choices.