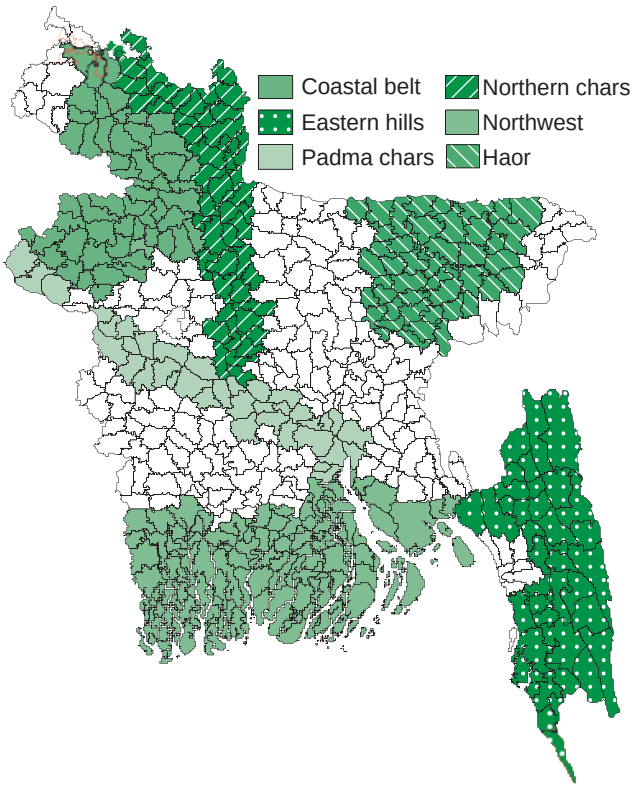
BANGLADESH

FSNSP | Round 8

The Food Security and Nutrition Surveillance Project: Results from Round 8: June to August 2012

The Food Security and Nutrition Surveillance Project (FSNSP) provides up-to-date, seasonal information on the situation of food and nutrition security in Bangladesh for six surveillance zones, depicted in Figure 1, as well as the nation as a whole. In each household multiple members are interviewed to obtain commonly referenced and standardized indicators of food security, women's care and nutrition, as well as children's care and nutrition.

Figure 1: FSNSP surveillance zones



FSNSP estimates levels of food insecurity from household coping and food consumption patterns, because food insecurity – no matter if it is due to low availability of food stocks, low household access to foods, or biased utilization of a household's food stocks – results in a similar range of experiences and observables for households and individuals. All food security questions are asked to the person identified in each household as the manager of the kitchen.

In each household, one non-pregnant woman, aged 10 to 49 years, is randomly selected to be interviewed about her diet and to have her height, weight, and

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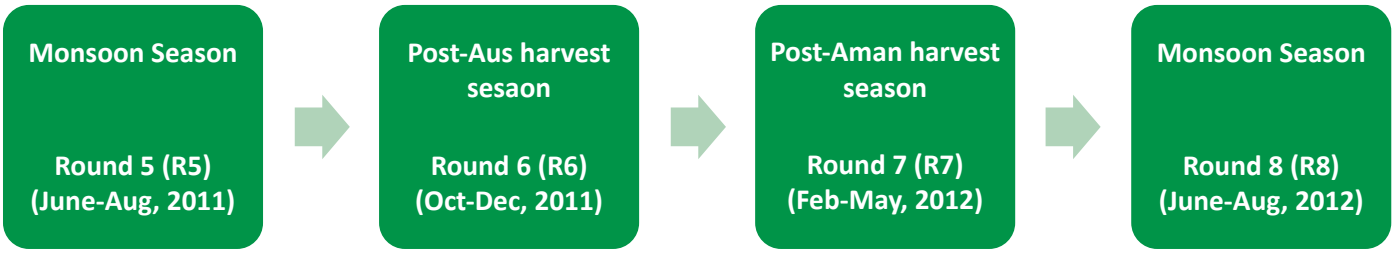
mid-upper arm circumference (MUAC) measured. In addition, all pregnant women are interviewed about their diet and the care they have received during their pregnancy, and their MUAC measurement is recorded. In addition, if the youngest child in the household is less than six months of age, that child's mother is asked about the care she received during her pregnancy with this child.

In each household with a child less than five years of age, child caregivers are asked about the care and feeding practices for the youngest child in the household. Caregivers also provide information about recent childhood illnesses, and, if the child is reported to have been ill, additional questions about care during illness are asked. The height, weight, and MUAC of all children under five years of age in the household are recorded.

Figure 2: Time period of surveillance rounds included in this bulletin



This bulletin presents selected results from the eighth round of surveillance which took place from June to August 2012. This bulletin also presents estimates from the fifth, sixth, and seventh rounds of data collection, to show both seasonal variation and changes in indicators between 2012 and 2013 for the monsoon season. The eighth round included 4,521 children less than five years of age and 9,170 women and adolescent girls aged 10 to 49 years in 9,022 households.

In this report, percentages given at the end of bars in each graph are for the overall prevalence estimates for that particular indicator (regardless of severity) and may vary from the sum of its sub-categories due to rounding error. Adjusted Wald tests were used to determine the statistical significance of changes in indicators between surveillance rounds. In the graphs rounds of data collection are indicated by the letter R and the round of data collection (For example, Round 5 is indicated by R5). Additional details about the terms used in each graph can be found in the endnotes.

Food Security

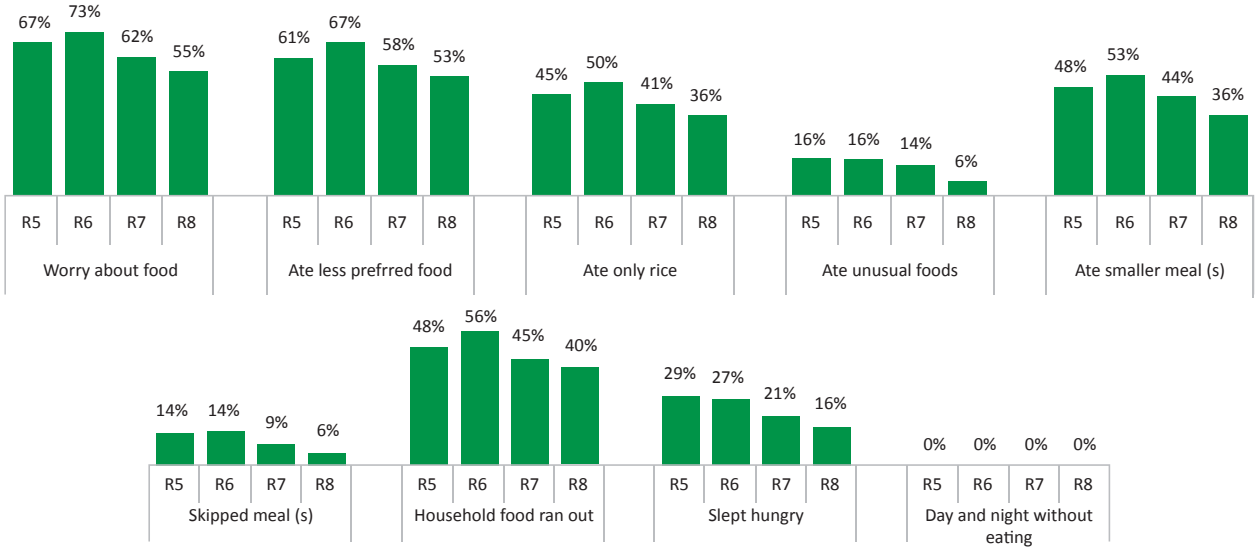
There were significant changes in individual and composite indicators of food insecurity between the periods June to August 2011 (Round 5) and June to August 2012 (Round 8). Food insecurity by all measures decreased after Round 6. Nationally, food insecurity as measured by Household Food Insecurity Access Scale (HFIAS) peaked in prevalence in Round 6 (end of 2011) which was significantly higher than other surveillance rounds and then decreased gradually in Round 7 and Round 8. Prevalence of food insecurity was significantly lower in Round 8 compared to Round 6. Most importantly, the proportion of households food insecure fell substantially between the monsoon seasons of 2011 and 2012 (compare Round 5 to Round 8). The variation in the proportion of households with food deficit (FDS) and households with inadequate diets (FCS) followed the same trend. Households with inadequate dietary diversity (consisting of households with poor, borderline, and acceptable low FCS values) were one-fifth (21%) of the households in Round 8. These changes may be a lagged result of reductions in the price of rice which fell from 35 taka/kg in Round 4 to 26 taka/kg in Round 8.

Among zones, the highest prevalence of food insecurity (by HFIAS) was in the Haor followed by the Eastern hills. Notably this ranking of surveillance zones from worst to best has changed somewhat between rounds of data collection. The prevalence of food insecurity has decreased in the Coastal belt in Rounds 7 and 8 compared to Rounds 5 and 6. In contrast, the Haor has been consistently the most food insecure. The

proportion of food insecure households in the Eastern hills has also been gradually increasing. One-quarter (26%) households of the Eastern hills had food deficit followed by the Coastal belt (24%). Around one-third (32%) households of the Eastern hills and Northern chars were consuming inadequately diversified diet (FCS).

Figure 3: Households experiencing food insecure conditions at least once in the month prior to the interview

The proportion of households nationally in which the kitchen manager reported that the household had ever experienced the listed conditions related to food insecurity in the month prior to the interview (presented from least to most severe, according to HFIAS) by surveillance round.[i] These estimates are derived from self-reported perceptions of the food security situation (1).



Note: Responses to the indicators given in Figure 3 are grouped into a two scales utilizing internationally standardized methodology in Figure 4.

Figure 4: National prevalence of internationally standardized food security indicators by severity and round

The proportion of households in Bangladesh which fit internationally standardized categorizes of food insecurity by surveillance round (1; 2; 3; 4).

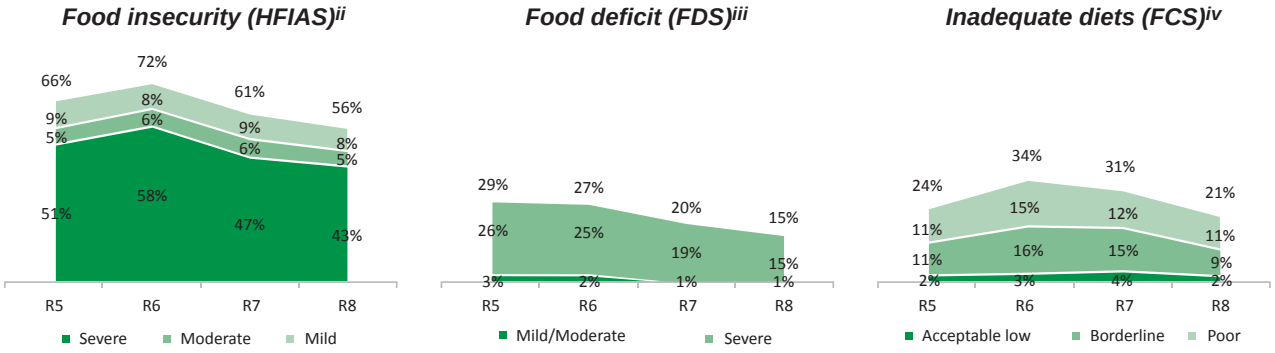
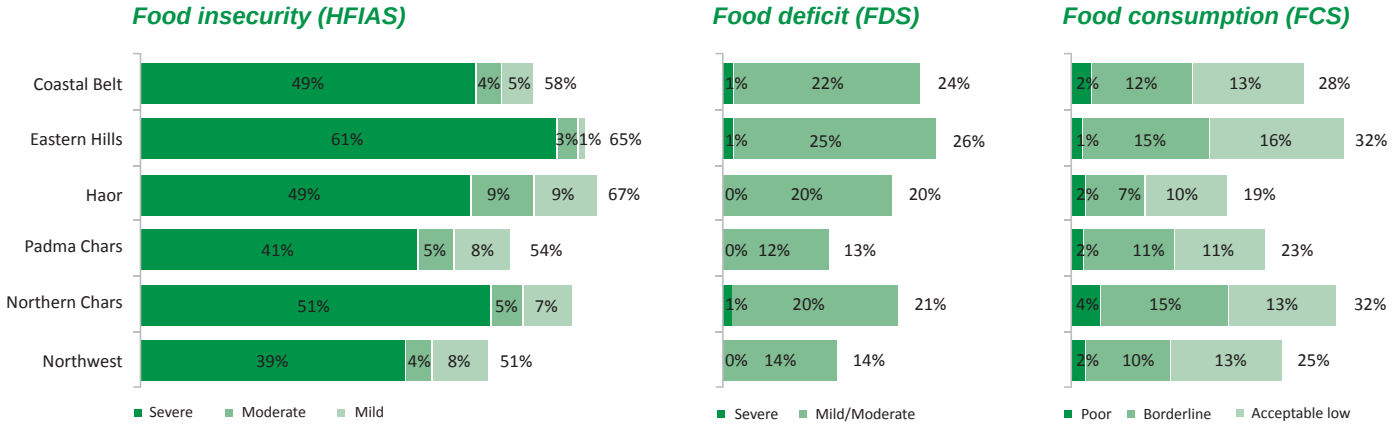


Figure 5: Prevalence of internationally standardized food security indicators during Round 8 by surveillance zone

The proportion of households which fit internationally standardized categorizes of food insecurity by surveillance zone during June to August 2012 (1; 2; 3; 4).



Care and nutrition for pregnant women and children

The proportion of pregnant women whose fetus was at increased risk of growth retardation rose significantly in Round 8 (34%) compared to Round 7 (23%). This could be due to normal seasonal or random variation, as none of the other indicators of care for pregnant women changed dramatically between Rounds 5 and 8. Only the increase of ANC visits before 4th month between Rounds 7 and 8 was significant. Prevalence of early initiation of breastfeeding and exclusive breastfeeding of infants were lowest in Round 8 compared to previous rounds but the reasons for this change are not yet clear. Interestingly, the low rate of exclusive breastfeeding was driven by the greater proportion of young infants given water to drink during the 2012 monsoon season than in previous years. In contrast, the prevalence of minimum dietary diversity, minimum acceptable diet, and iron rich food consumption were highest in Round 8. The proportion of children who were suffering from fever decreased significantly in Round 8 compared to Rounds 5 and 7. No other changes of illness and care for children between rounds were significant. Prevalence of both wasting and underweight decreased gradually between Rounds 5 and 7 and then increased in Round 8; this change was only significant for wasting and is in line with normal seasonal trends. Among zones, the prevalence of wasting was highest in the Northern chars (16%) followed by the Haor and Northwest (15% each) and lowest in the Coastal belt (11%).

Figure 6: Care during pregnancy by round

The proportion of women pregnant during interview or with recent deliveries in Bangladesh who received the listed standards of care during their pregnancy and who are malnourished (based on MUAC) by surveillance round (5; 6).[v] A woman included in the recently completed pregnancy estimates had a child less than 6 months of age at the time of the interview.

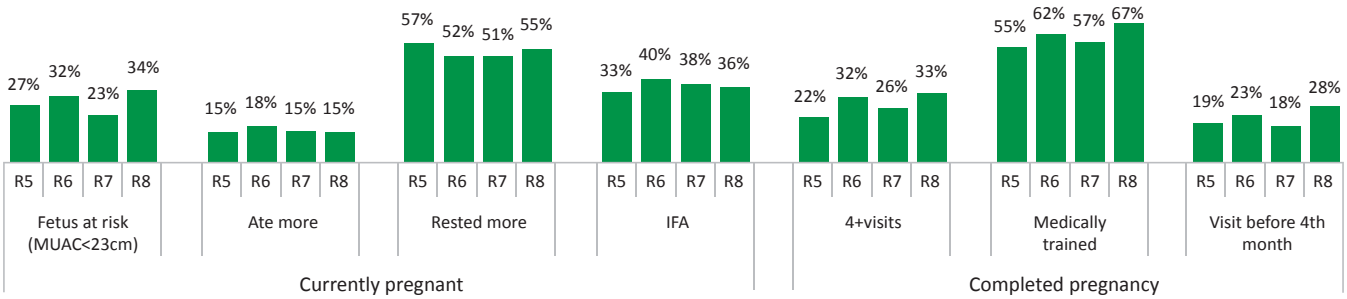
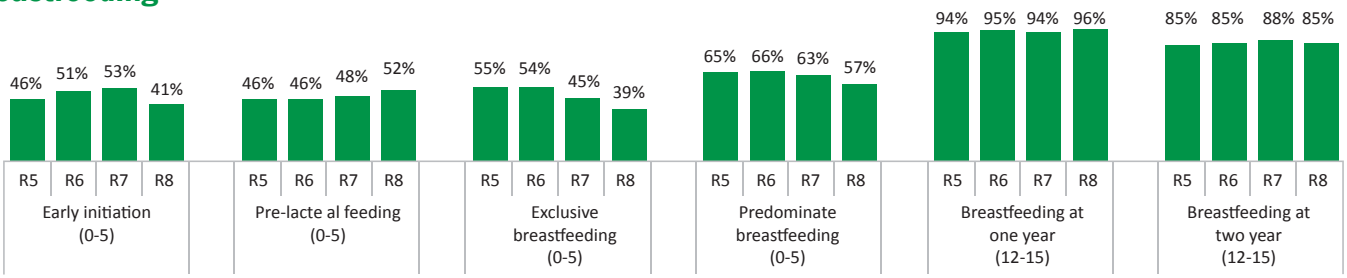


Figure 7: Infant and young child feeding practices by round

The proportion of children fed in line with the listed practices nationally.[vi]The age group in completed months is given in parenthesis. These indicators of infant and young child feeding practices of children are estimated using methodology from the World Health Organization (7; 8).

Breastfeeding



Complementary feeding

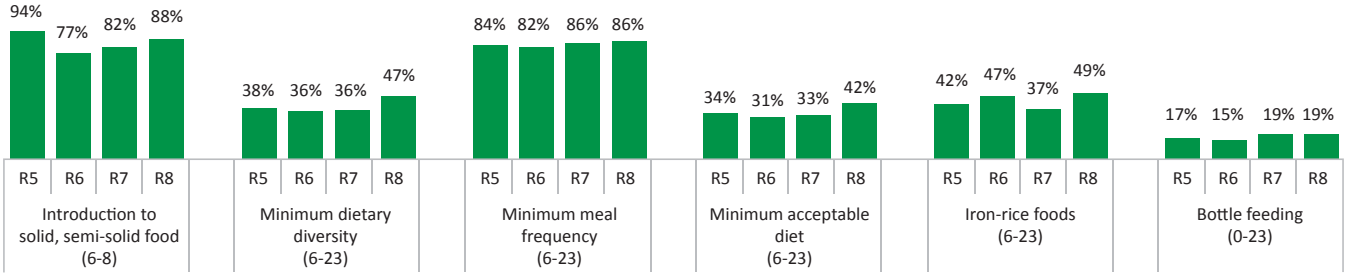


Figure 8: Child illness and care for sick children by round

The proportion of children in Bangladesh who were sick with the respective illness and who were reported to receive the listed standards of care by surveillance round (6).[vii]

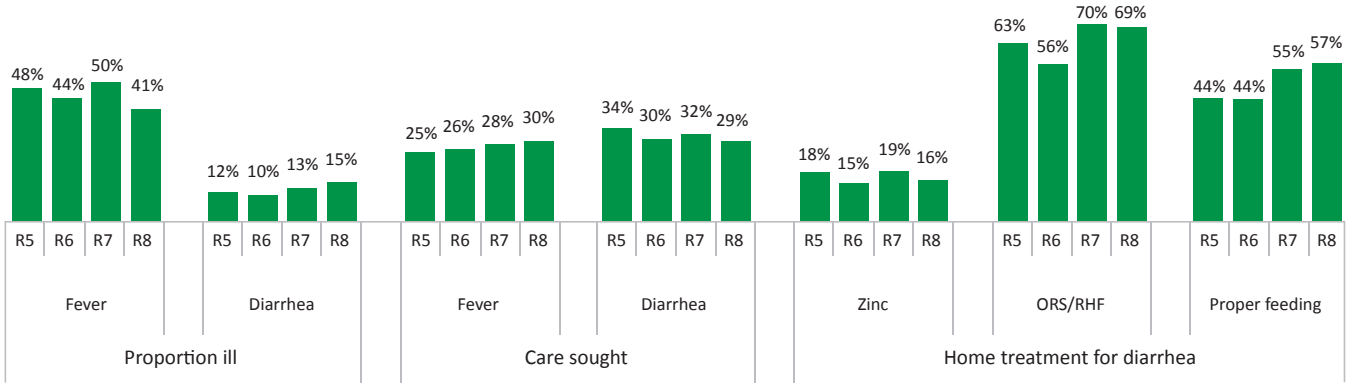


Figure 9: National prevalence of child under nutrition by severity and round

The proportion of children under five years of age in Bangladesh who were wasted and underweight by surveillance round. The proportion of children 0 to 59 months of age who were classified as malnourished based on age, weight, and height measurements as assessed with reference to the World Health Organization's 2006 growth standards (9). The overall or total prevalence indicates global malnutrition of children.[viii]

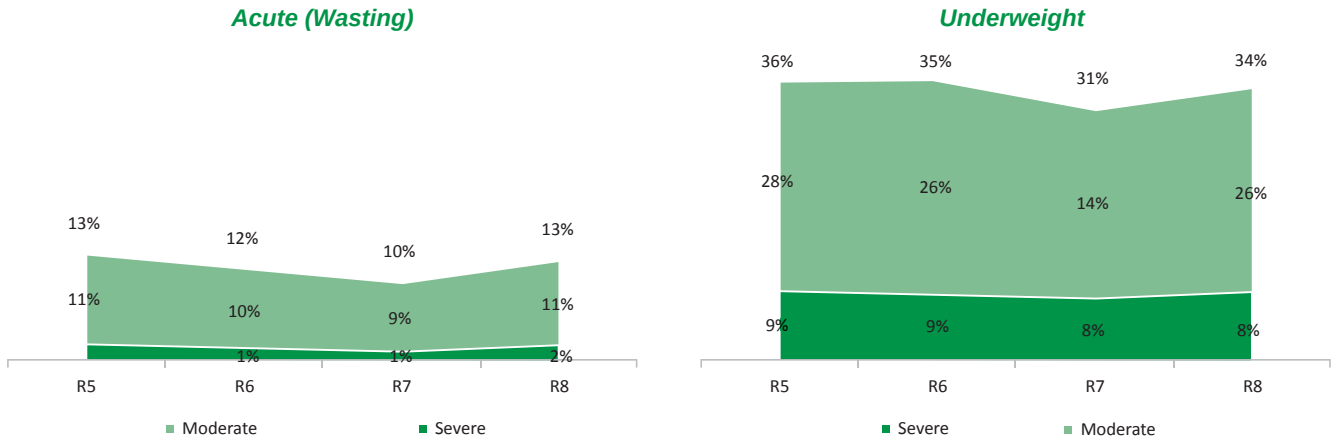
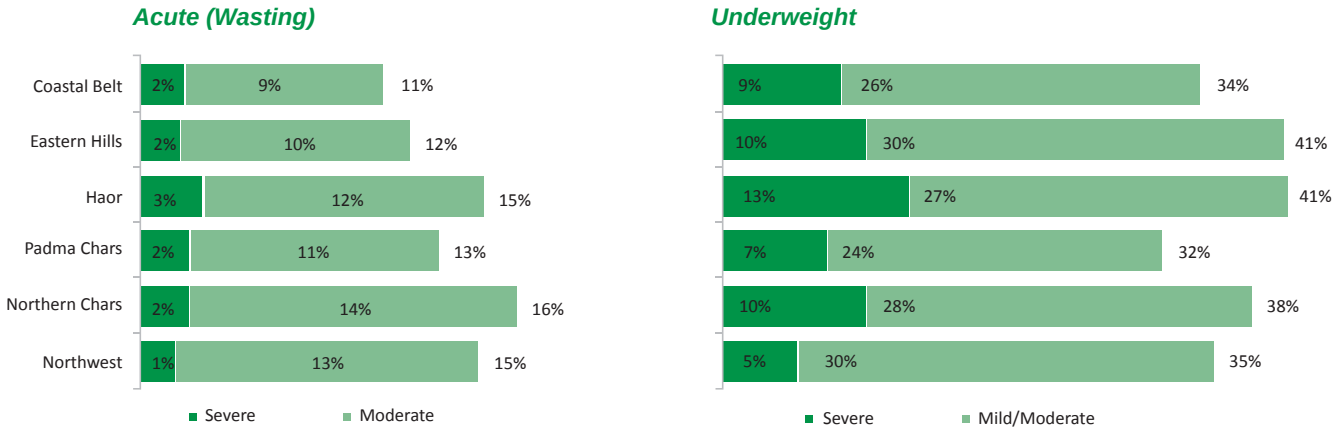


Figure 10: Prevalence of child under nutrition during Round 8 by severity and zone

Proportion of children under five years of age who were wasted and underweight by surveillance zone during June to August 2012. The proportion of children 0 to 59 months of age who were classified as malnourished based on age, weight, and height measurements as assessed with reference to the World Health Organization's 2006 growth standards (9).[ix]



Nutritional status of women and adolescent girls

There was no remarkable change observed for nutritional status of adolescent girls or women between Rounds 7 and 8, except for the continued gradual increase in the proportion of women overweight (Asian standard, BMI>23). There was only a slight change in the proportion of adolescent girls who were underweight. Among zones, the prevalence of chronic energy deficiency (CED, BMI<18.5) among women was highest in Haor (31%) in Round 8 followed by Northern chars (23%) and lowest in Eastern hills (16%). On the other hand, the proportion of overweight women was highest in Padma chars (37%) followed by the Eastern hills (36%) and lowest in the Haor (21%). The highest prevalence of chronic energy deficiency among women was in the Haor and highest prevalence of overweight women was found in Padma chars, similar to past findings. Surprisingly, prevalence of underweight girls was highest in Padma chars (19%) in Round 8 while CED among women was lowest (18%).

Figure 11: Nutritional status of women and adolescent girls

The proportion of adolescent girls and women who fell into categories of nutritional status based on BMI (6; 10; 11). The overall prevalence indicates global underweight for adolescent girls underweight (BMI for age z-score<-2S.D.), chronic energy deficiency (CED) for women underweight (BMI<18.5), and overweight and obese by the Asian cutoff for women overweight (BMI>23) (6; 10; 11).[ix]

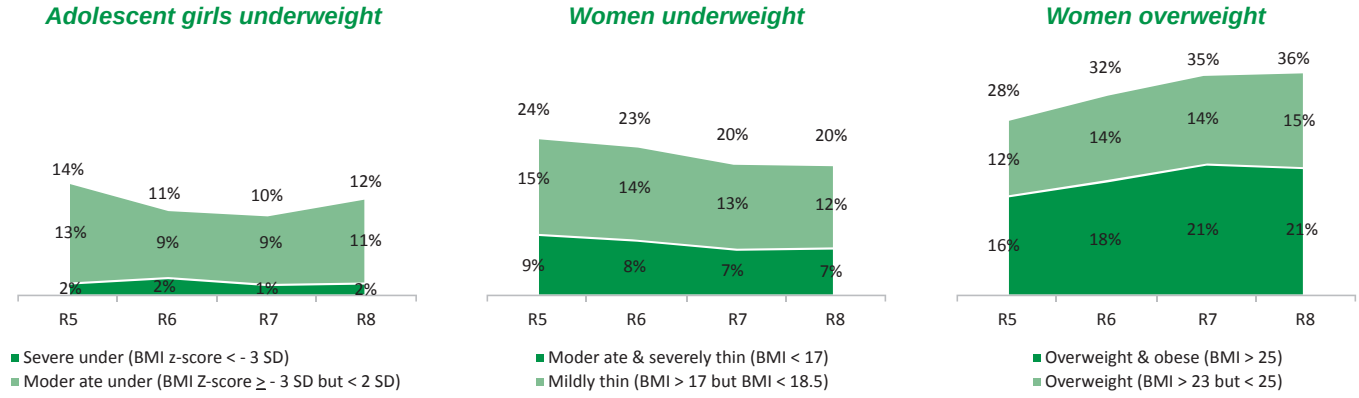
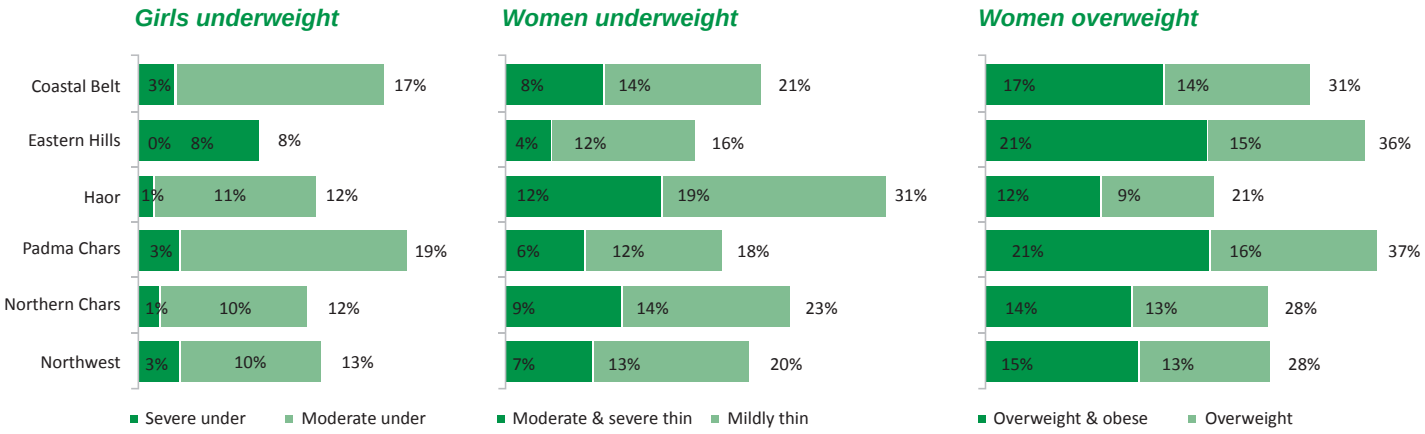


Figure 12: Nutritional status of women and adolescent girls during Round 8 by zone

The proportion of adolescent girls and women who fell into categories of nutritional status based on BMI during June to August 2012 by surveillance zone (6; 10; 11).[ix]



[i] These indicators are ordered by severity as given in the Household Food Insecurity Access Scale (HFIAS) scale. Households and household members who practiced any of these behaviors for a reason other than difficulties obtaining food are not included (for example, a household member who skipped a meal due to illness).

Worry about food: Proportion of kitchen managers who report worrying about obtaining food for their household in the past month

Ate less preferred foods: Proportion of households in which any member had to eat food they felt was inferior, i.e. broken rice instead of whole rice

Ate only rice: Proportion of households in which any member ate only rice or rice and spices for a meal

Ate unusual foods: Proportion of households in which any member ate unusual or scavenged foods, i.e. water lily

Ate smaller meals: Proportion of households in which any member ate a smaller meal than they felt they needed

Skipped meals: Proportion of households in which any member skipped a meal

Food ran out: Proportion of kitchen managers who report that any food stored in the household ran out for the day and there was no money to buy more

Slept hungry: Proportion of households in which any member slept hungry at night, even if this individual did so after eating an inadequate meal

Day and night without eating: Proportion of households in which any member was unable to eat for 24 hours

[ii] All nine indicators listed in Figure 3 are used in HFIAS. Based around the premise that some coping responses are more serious than others and indicate a household is more food insecure, HFIAS categorizes households into three degrees of food insecurity based on the most "severe" coping mechanism they have employed (1), and a household is categorized as food insecure if worry about providing food occurred more than twice in the month before the interview.

[iii] Only the three most severe indicators depicted in Figure 3 – household food stores running out, sleeping hungry, or going day and night without eating – are included in the Food Deficit Scale (FDS). FDS, identical to the internationally standardized indicator the Household Hunger Score, uses the reported frequency of experience of these three conditions to categorize households into categories of household food scarcity. A household is categorized as having a food deficit if any one of these three experiences occurred more than three times or if more than two of these conditions were experienced in the month before the interview.

[iv] FSNSP asks household kitchen managers about the frequency with which their household has eaten foods from eight standardized food groups in the week prior to the interview. These frequency scores are weighted in line with the Food Consumption Score (FCS) guidelines laid out by the World Food Program (3). Households are then grouped into food consumption categories using cut-offs designed for Bangladesh (4).

[v] The following indicators of care during pregnancy were asked to women who were pregnant at the time of interview.

Nutritional status: Based on MUAC: fetus at moderate risk – MUAC<23.0cm (5).

Ate more: Proportion of women who report eating more during their pregnancy than they did prior to their pregnancy

Rested more: Proportion of women who report resting more during their pregnancy than they did prior to their pregnancy

Took IFA at least weekly: Proportion of women who report taking iron and folic acid (IFA) tablets in the last week

The following indicators of care during pregnancy were asked to women who gave birth in the six months prior to the interview (recently completed pregnancy)

4+ visits: Proportion of women who received at least four ANC visits from any provider

Medically trained: Proportion of women who obtained any ANC from a medically trained provider as defined by DHS (6)

Visit before the fourth month: Proportion of women who obtained their first ANC before their fourth month of pregnancy

[vi] All indicators, except early initiation and pre-lacteal feeding are based on feeding practices the day before the interview (7; 8). Any cases where the respondent could not answer the question were excluded from the analysis.

Early initiation: Proportion of children born in the last 24 months who were reported to have been put to the breast within one hour of birth.

Pre-lacteal feeding: Proportion of children born in the last 24 months who were given anything other than breast milk in the first three days after delivery

Exclusive breastfeeding: Proportion of infants 0-5 months of age who are fed only breast milk (vitamins and medicines are also permitted)

Predominant breastfeeding: Proportion of infants 0 to 5 months of age who receive breast milk exclusively or breast milk and other non-milk based liquids (such as water, water-based drinks, fruit juice, and ritual fluids)

Continued breastfeeding at 1 year: Proportion of children 12 to 15 months of age who are fed breast milk

Continued breastfeeding at 2 years: Proportion of children 20 to 23 months of age who are fed breast milk

Introduction of solid, semi-solid or soft food: Proportion of infants 6 to 8 months of age who receive solid, semi-solid or soft foods the day before the interview

Minimum dietary diversity: Proportion of children 6 to 23 months of age who receive foods from 4 or more food groups the day before the interview

Minimum meal frequency: Proportion of children aged 6 to 23 months who receive solid or semi-solid foods the minimum number of times or more.

Minimum is defined as: 2 times for breastfed infants 6 to 8 months; 3 times for breastfed children 9 to 23 months; and 4 times for non-breastfed children 6 to 23 months a day.

Minimum acceptable diet: Proportion of children aged 6 to 23 months whose diet met both the minimum diversity and minimum frequency standards

Iron rich foods: Proportion of children aged 6 to 23 months who ate an iron-rich food, an iron-fortified food, or an iron supplement day before the interview

Bottle feeding: Proportion of children 0 to 23 months of age who are fed with a bottle the day before the interview

[vii] The following indicators were estimated for children who were reported ill with the respective symptoms in the two weeks preceding the interview:

Fever: Proportion of children 0 to 59 months of age whose caregiver reported that he/she had had fever

Diarrhea: Proportion of children 0 to 59 months of age whose caregiver reported that he/she had had diarrhea

Care sought: Proportion of children 0 to 59 months of age reported to have been sick with the listed illness who sought treatment from any provider except a pharmacy or traditional healer

Zinc: Proportion of children 6 to 59 months of age with a diarrheal episode who were reported to have received zinc during the illness

ORS/RHF: Proportion of children 6 to 59 months of age with a diarrheal episode who were reported to have received oral rehydration solution (ORS) and/or recommended home fluids (RHF), such as sugar-salt-water, or fluid from special saline (rice) during the episode

Adequate home care for diarrhea (proper feeding): Proportion of children 6 to 59 months of age with a diarrheal episode in who were reported to have received increased fluids and/or ORS and ate the same or more food during the episode

[viii] Children whose measurements (z-score) indicate that they are between negative two standard deviations (-2 SD) and negative three standard deviation (-3 SD) from the mean of the reference population are classified as moderately malnourished for any given measure. Children who are below -3 SD are classified as severely malnourished. All children whose z-score falls below -2 SD are classified as globally malnourished (9).

Underweight: Proportion of children with low weight for their age

Acute (wasting): Proportion of children with low weight for their height

[ix] The nutritional status of non-pregnant women who have not recently given birth (no child less than 2 months of age, in line with DHS guidelines) is ascertained using body mass index (BMI, $weight_{kg}$/$height_{m^2}$) (6). For women, 19 to 49 years of age, nutritional status is calculated through the use of BMI cutoffs while for adolescents, 10 to 18 years of age, BMI-for-age z-scores are used (6; 10; 11).

Girls underweight: Severe underweight – BMI z-score < -3 SD; Moderate underweight – BMI z-score greater than or equal to -3 SD but less than -2 SD

Women underweight: Moderate and severe thin – BMI less than 17; Mildly thin – BMI greater than or equal to 17 but less than 18.5

Women overweight: Overweight – BMI greater than 23 but less than 25; Overweight and obese – BMI greater than or equal to 25

Highlights

- Prevalence of food insecurity decreased over the first half of 2012; this change was likely linked to the decline in the price of rice during 2011.
- The proportion of children exclusively breastfed was lower in Round 8 than any other surveillance round of FSNSP thus far. The reasons for this change are not clear.
- The proportion of women overweight has increased steadily from Round 4 to Round 8.
- Prevalence of wasting peaked between June and August in 2012 as it has between June and August of 2011.
- The Haor had the highest proportion of food insecure households and the largest proportion of under nourished women and children.

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