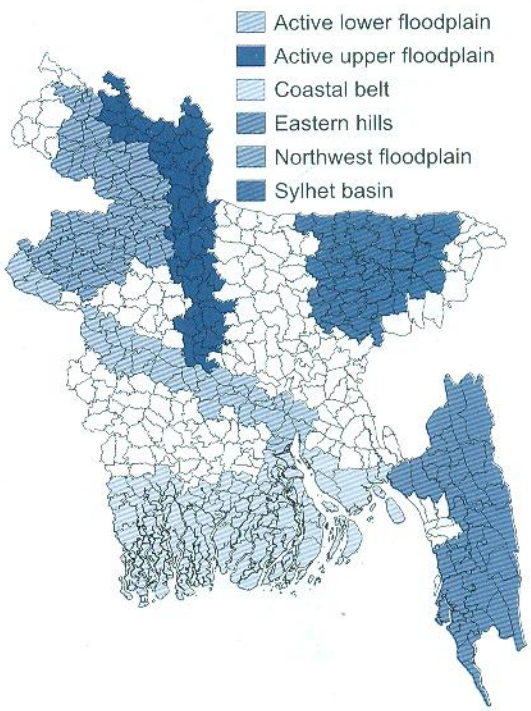
BANGLADESH

Bulletin No 5 | June - September 2011

The Food Security and Nutrition Surveillance Project: Results from Round 5: June - September 2011

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 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.



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 12 to 49 years, is randomly selected to be interviewed about her diet and to have her height, weight, and 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

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recent childhood illnesses, and, if the child is reported to have been ill, additional questions about care during the illness are asked. The height, weight, and MUAC of all children under five years of age in the household are recorded.

This bulletin presents selected results from the fifth round of surveillance which took place from June 5th to August 24th 2011. The fifth round included 4,808 children less than five years of age and 9,227 women and adolescent girls aged 12 to 49 years in 9,000 households. In this report, percentages given at the end of the bars of each graph are for the overall prevalence estimates for that particular indicator (regardless of severity), and the error bars indicate the corresponding 95% confidence interval. Adjusted Wald tests were used to determine the statistical significance of changes in indicators between surveillance rounds. Additional details about the terms used in each graph can be found in the endnotes.

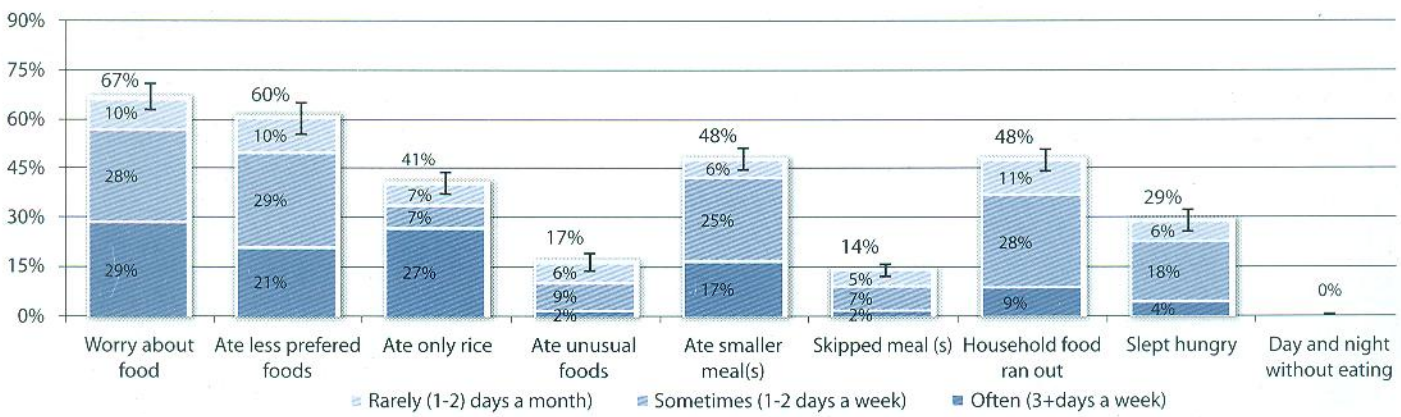
Food Security

Seasonal variation and trends

There were only a few, small changes in individual and composite indicators of food insecurity between the periods of February-May 2011 (Round 4) and June-August 2011 (Round 5). It is notable that all composite indicators of food insecurity – HFIAS, HHS, and FCS – fell slightly in between the fourth and fifth round. This change is in contrast to the trend observed last year in food insecure zones in households with children, when far more households were food insecure in the monsoon than in the post-aman harvest period. This improvement could be due to the stabilization in food prices that occurred in early 2011.

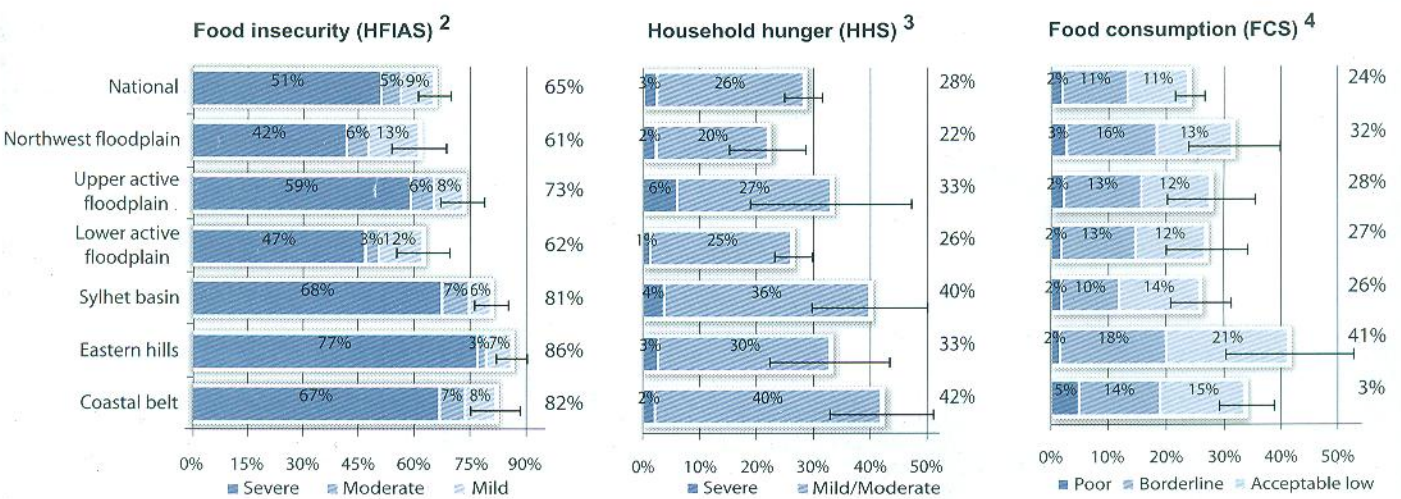
However the decline in food insecurity was slight. Food insecurity based on HFIAS fell by 3% and household hunger fell by less than 1%. Only the change in the proportion of households with inadequate or low food consumption from 30% to 24% was significant, and the magnitude of this change could be due to normal seasonal eating patterns in Bangladesh; during the monsoon, individuals tend to eat more diversified diets.

Figure 2: Households experiencing food insecure conditions by frequency
Proportion of households nationally in which the kitchen manager reported that the household experienced the following conditions related to food insecurity in the month prior to the interview by frequency of experience (presented from least to most severe, according to HFIAS)[1]. This graph is based on self-reported experience and perceptions of household members.



Note: Responses to the indicators given in Figure 2 are grouped into two scales utilizing internationally standardized methodology in Figure 3 (HFIAS and HHS). In contrast the FCS scale is derived from food consumption patterns.

Figure 3: Internationally standardized food security indicators based on perception scales and food frequency
Proportion of households which fit internationally standardized categories of food insecurity nationally and by surveillance zone.



Nutrition and care for women and adolescent girls

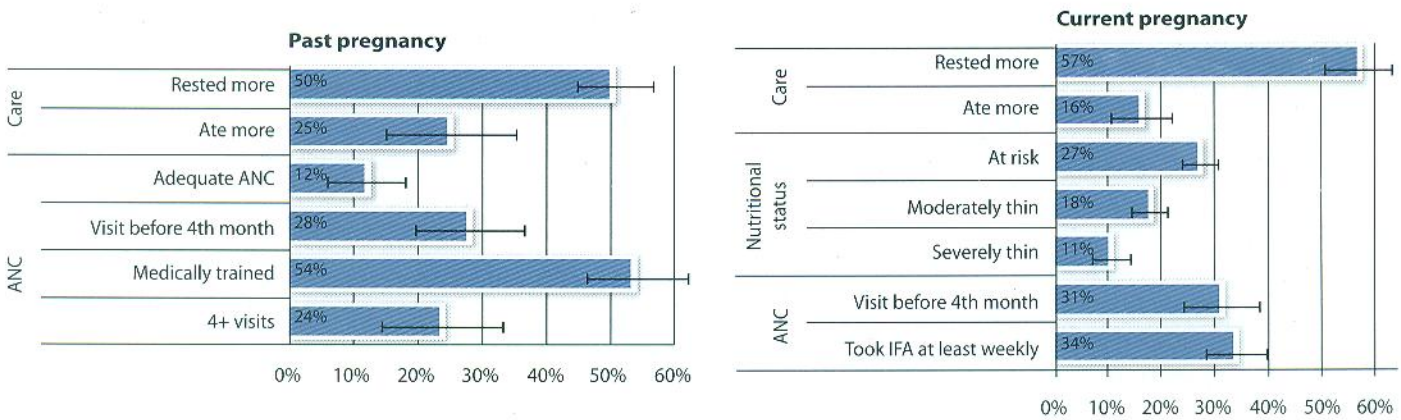
Seasonal variation and trends

Indicators of care during pregnancy were largely the same between the periods February-May 2011 (Round 4) and June-August 2011 (Round 5). Notably, however, in the fifth round a greater proportion of pregnant women were malnourished. The proportion of women at risk rose from 23% to 27%, the proportion moderately thin rose from 14% to 18%, and the proportion severely thin rose from 6% to 11%. Only the difference in the proportion of pregnant women severely malnourished was significant.

The nutritional status of adolescents was slightly worse in the fifth round than had been observed in the fourth, but the difference was not statistically significant. There were no notable differences in the nutritional status of women over 15 years of age.

Figure 4: Care during pregnancy

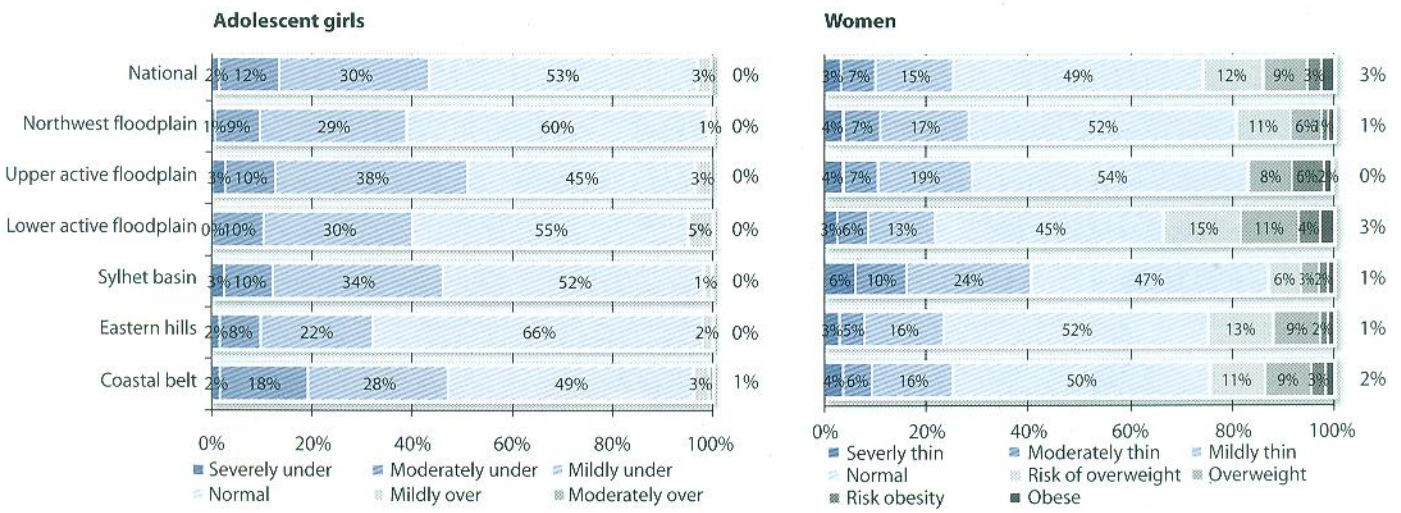
The proportion of women who received the listed standards of care during their pregnancy and who are malnourished (based on MUAC)[5].



Note: A woman included in the past pregnancy estimates had a child aged less than 6 months during the interview; a woman included in the current pregnancy estimates was pregnant during the interview.

Figure 5: Nutritional status of women and adolescent girls

The proportion of adolescent girls and women who fall into categories of nutritional status based on BMI[6]



Adolescent girls: Severely under – BMI z-score less than -3 SD; Moderately under – BMI z-score greater than or equal to -3 SD but less than -2 SD; Mildly under – BMI z-score greater than or equal to -2 SD but less than -1 SD; Normal – BMI z-score greater than or equal to -1 SD but less than or equal to +1 SD; Mildly over – BMI z-score greater than +1 SD but less than or equal to +2 SD; Moderately over – BMI z-score greater than +2 SD but less than or equal to +3 SD; Severely over – BMI z-score greater than +3 SD (no observations) (1)

Women: Severely thin – BMI less than 16; Moderately thin – BMI greater than or equal to 16 but less than 17; Mildly thin – BMI greater than or equal to 17 but less than 18.5; Normal – BMI greater than or equal to 18.5 but less than or equal to 23; Risk of overweight – BMI greater than 23 but less than or equal to 25; Overweight – BMI greater than 25 but less than or equal to 28; Risk of obesity – BMI greater than 28 but less than or equal to 30; Obese – BMI greater than 30 (2; 3)

Child care and nutrition

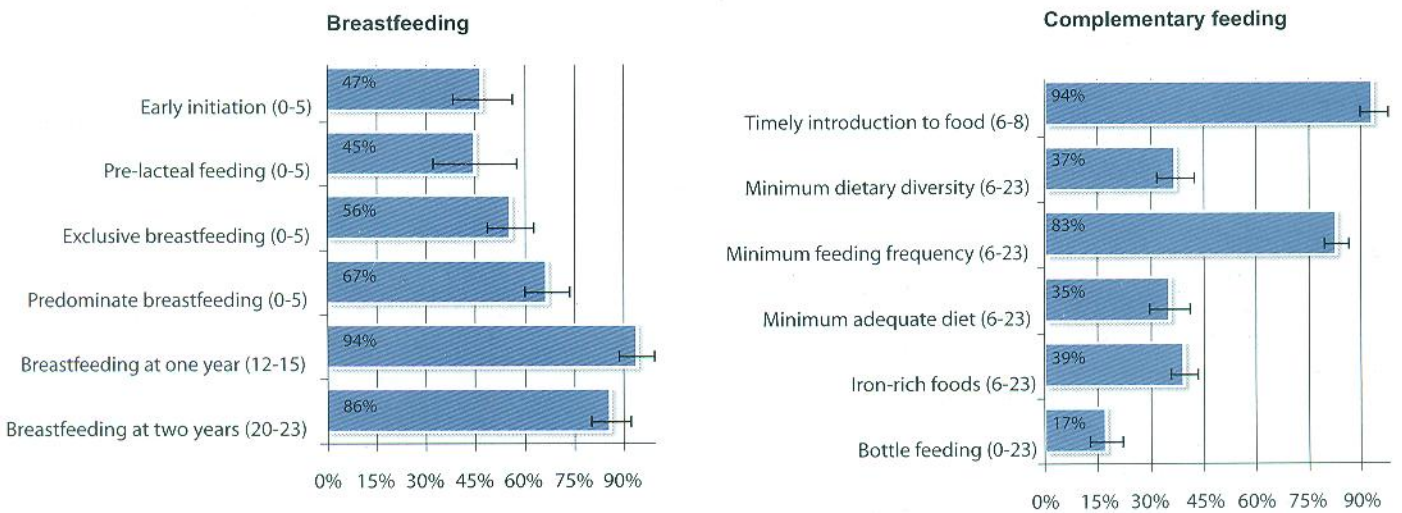
Seasonal variation and trends

Most indicators of child feeding did not change significantly between the periods February-May 2011 (Round 4) and June-August 2011 (Round 5) except for the rate of exclusive breastfeeding which increased from 46% to 56%. The reduction in pre-lacteal feeding rates from 50% to 45% was also not significant. However the increase in timely introduction to complementary foods was both sizable and statistically significant.

The proportion of children ill in the two weeks prior to the interview did not change greatly between Rounds 4 and 5, however the proportion of sick children whose caregivers sought medical care increased slightly. While the small increase in care seeking behavior for fever was not statistically significant the increase in the proportion of sick children receiving medical attention for ARI and diarrhea was statistically significant. In addition, all indicators of home care practices for children with diarrhea improved significantly except for zinc supplementation.

As expected, the proportion of children wasted and underweight increased between Round 4 and Round 5. Nationally these changes were statistically significant and in line with normal seasonal patterns. Similar to the pattern observed last year the increase in wasting was especially large in the Northwest floodplain zone; this was the only zone with a statistically significant increase in wasting rates. In contrast, there were statistically significant increases in the rates of child underweight in the Sylhet basin, Northwest floodplain, and Upper active floodplain.

Figure 6: Child breastfeeding and complementary feeding practices
The proportion of children fed in line with the following practices. The age group in completed months is given in parenthesis[7]



Note: The indicators of infant and young child feeding practices of children are estimated using methodology from the World Health Organization (4; 5).

Figure 7: Child illness and care for sick children
The proportion of children sick with the respective illness who were reported to receive the listed standards of care[8].

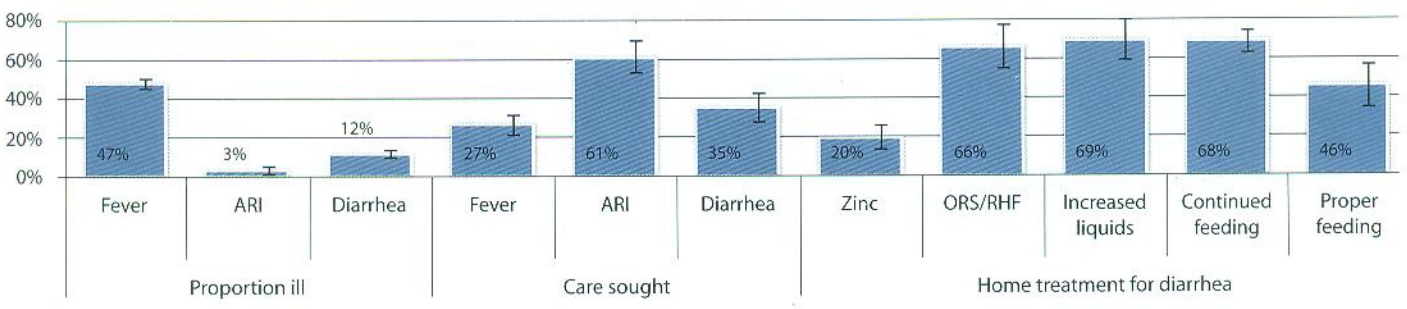
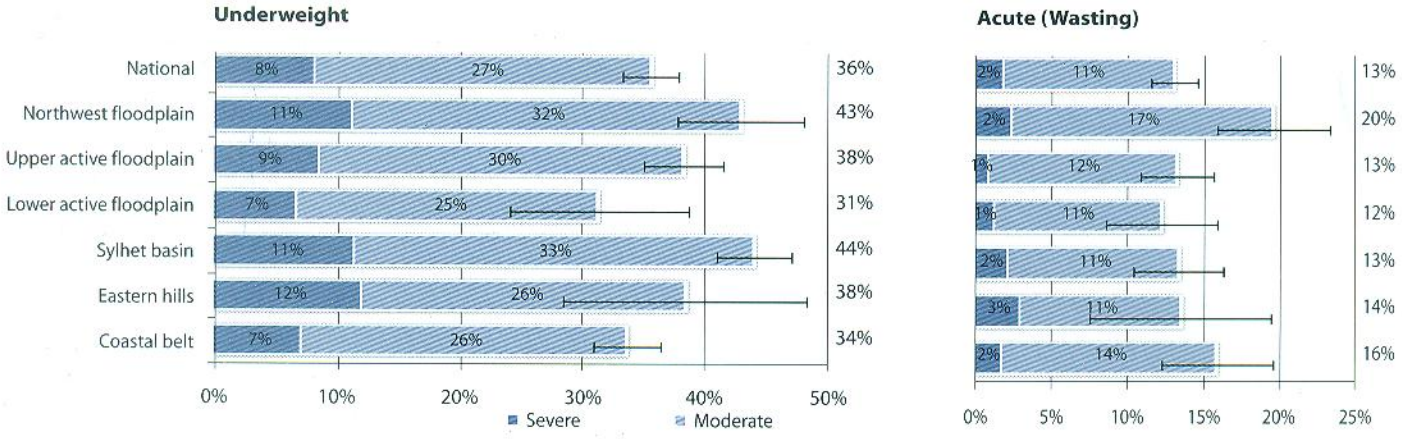


Figure 8: Nutritional status of children

The proportion of children 0 to 59 months of age who were classified as malnourished based on age, weight, and height measurements[9]



Note: The nutritional status of children is assessed with reference to the World Health Organization's 2006 growth standards (6).

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1 These indicators are ordered by severity as given in the 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

2 All nine indicators listed in Figure 2 are used in the **Household Food Insecurity Access Scale (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 (10), and a household is categorized as food insecure if worry about providing food occurred more than twice in the month before the interview.

3 Only the three most severe indicators depicted in Figure 2 – household food stores running out, sleeping hungry, or going day and night without eating – are included in the **Household Hunger Scale (HHS).** HHS uses the reported frequency of experience of these three conditions to categorize households into categories of household food scarcity or hunger. A household is categorized as hungry if any one of these three experiences occurred.

4 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 (7). Households are then grouped into food consumption categories using cut-offs designed for Bangladesh (11).

5 The following indicators of care during pregnancy were asked to currently and recently pregnant women

Rested more: Proportion of women who report resting more during their pregnancy than they did prior to their pregnancy
Ate more: Proportion of women who report eating more during their pregnancy than they did prior to their pregnancy
Adequate ANC: Proportion of women who report obtaining their first ante-natal check-up (ANC) before their fourth month of pregnancy while having at least four ANC visits with at least one by a medically trained provider
Medically trained: Proportion of women who obtained any ANC from a medically trained provider as defined by DHS (3)
4+ visits: Proportion of women who received at least four ANC visits from any provider
Visit before the fourth month: Proportion of women who obtained their first ANC before their fourth month of pregnancy; for currently pregnant women this proportion is only calculated over the proportion of women who have already completed their 4th month
Took IFA at least weekly: Proportion of women who report taking iron and folic acid (IFA) tablets at least weekly during their current pregnancy
Nutritional status: Based on MUAC: at risk – MUAC<23.0cm; moderately thin – MUAC<22.1cm; severely thin – MUAC≤21.4cm (12). These categories are not mutually exclusive.

6 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,) (3). For women, 15 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 (1; 2; 3). Women 15 to 18 years of age are included in both calculations.

7 All indicators, except early initiation and pre-lacteal feeding are based on feeding practices the day before the interview (4; 5).

Early initiation: Proportion of infants born in the last 6 months who were reported to have been put to the breast within one hour of birth.
Pre-lacteal feeding: Proportion of infants aged 0 to 5 months who were given anything other than breast milk in the first three days after delivery
Exclusive breastfeeding: Proportion of infants aged 0-5 months of age who are fed only breast milk (vitamins and medicines are also permitted)
Predominant breastfeeding: Proportion of infants aged 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
Timely introduction to food: Proportion of infants 6 to 8 months of age who receive solid, semi-solid or soft foods
Minimum dietary diversity: Proportion of children 6 to 23 months of age who receive foods from 4 or more food groups
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.
Minimum adequate 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
Bottle feeding: Proportion of children 0 to 23 months of age who are fed with a bottle

8 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
ARI: Proportion of children 0 to 59 months of age whose caregiver reported that he/she had had cough/runny nose and difficulty breathing
Care sought: Proportion of children 0 to 59 months of age who were reported to be 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
Increased liquids: Proportion of children 6 to 59 months of age with a diarrheal episode who were reported to have received increased fluids or ORS
Continued feeding: Proportion of children 6 to 59 months of age with a diarrheal episode who were reported to have eaten the same or more food
Adequate home care: 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

9 Children whose measurements 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 (6)

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

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