# NUTRITION OF CHILDREN AND WOMEN 11

**Key Findings**

- **Nutritional status of children:** Seventeen percent of children under age 5 are stunted (short for their age); 15 percent are wasted (thin for their height); and 21 percent are underweight (thin for their age).
- **Early initiation of Breastfeeding:** Ninety percent of children were breast-fed within one hour of birth
- **Exclusive breastfeeding:** Eighty-two percent of children, less than age 6 months, are exclusively breastfed and the median duration is 5.2 months.
- **Breastfeeding:** Ninety-nine percent of children have ever been breastfed and the median duration of breastfeeding among children born in the three years before the survey is 30.2 months.
- **Complementary foods:** Generally complementary foods are introduced at the recommended age; 89 percent of breastfed children aged 6-8 months received complementary foods in addition to being breastfed within the 24 hours preceding the survey.

Nutritional status is the result of complex interactions between food consumption and the overall status of health and care practices.Nutritional intake from birth to two years of age is a key determinant of the future growth, health, and development of the child. However, faltering growth, micronutrient deficiencies, and common childhood illnesses often mark this period. Proper breastfeeding practices, including exclusive breastfeeding during the first six months of life, are crucial to the health and well-being of a child. Continued breastfeeding for a longer period improves health and nutritional status of the child. Complementary foods introduced initially around six months of age contribute to the nutritional needs of the child.

A woman's nutritional status has important implications on her health as well as the health of her children. Malnutrition in women results in reducing productivity, increasing susceptibility to infections, slow recovery from illness, and heightened risk of adverse pregnancy outcomes. For example, a woman who has poor nutritional status, short stature, anaemia, or other micronutrient deficiencies has a greater risk of obstructed labour, dying due to postpartum hemorrhage, and morbidity from various conditions. If the mother's nutritional status is unsatisfactory, her baby is at a higher risk of low weight at birth and morbidities.

This chapter focuses on the nutritional status of children and woman. It also includes information about feeding practices of infant and young children, diversity of food consumed, frequency of feeding, and micronutrient intake children and mothers. The section on nutritional status covers anthropometric assessment of the nutritional status of children aged 0-5 and of women aged 15 -49.

## 11.1 Nutritional status of children

### Stunting or height-for-age

Height-for-age is a measure of linear growth retardation and cumulative growth deficits. Children whose height-for-age Z-score is below minus two standard deviations (-2SD) from the median of the reference population are considered short for their age (stunted), or chronically undernourished. Children who are below minus three standard deviations (-3 SD) are considered severely stunted.

***sample :*** children under age 5

### Wasting or weight-for-height

The weight-for-height index measures body mass in relation to body height or length and discribes current nutritional status. Children whose Z-score is below minus two standard deviations (-2sd) from the median of the reference population are considered thin (wasted), or acutely undemourished. children whos weight-for-age Z-score is below minus three standard deviations (-3 SD) from the median of the reference population are considered severely wasted.

***sample :*** children under age 5

### Underweight or weight-for-age

Weight-for-age is a composite index of height-for-age and weight-for-height that accounts for both acute and chronic undernutrition. Children whose Weight-for-age Z-score is below minus two standard deviations (-2SD) from the median of the reference population are classified as underweight. Children whose weight-for-age Z-score is below minus three standard deviations (-3SD) from the median are considered severely underweight.

***sample :*** children under age 5

### Overweight in children

Children whose weight-for-height Z-score is more than two standard deviations (+2 SD) above the median of the reference population are considered overweight.

***sample :*** children under age 5

The anthropometric data on height and weight collected in the 2016 SLDHS permit the measurement and evaluation of the nutritional status of children under the age of 5 years in Sri Lanka.

### 11.1.1 Measurement of nutritional status among children under the age of 5 years

The 2016 SLDHS collected data on the nutritional status of children by measuring the height and weight of all children less than five years of age. Data were collected with the aim of calculating three indices: namely, weight–for–age, height–for–age and weight–for–height. Weight was measured using lightweight SECA bathroom–type scale with digital screens designed and manufactured under the authority of the United Nations Children's Fund (UNICEF). The measuring board was specially designed by SECA productions for use in survey settings. Children younger than 24 months were measured lying down on the board. Older ones were measured standing up.

The nutritional status of children in the survey population is compared with the World Health Organization (WHO) child growth standards, which are based on an international sample of ethnically, culturally and genetically diverse, healthy children living under optimum conditions that are conducive to achieving a child's full genetic growth potential (WHO, 2006).

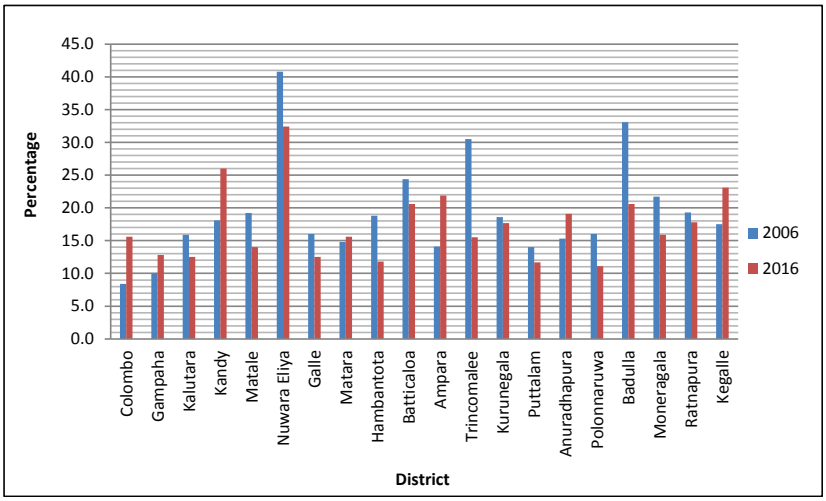
The analysis presented in this chapter uses measurements of length/height and weight obtained for

all children under age 5 living in the households selected for the 2016 SLDHS sample. The following analysis focuses on the 8,459 children for whom complete and plausible anthropometric and age data measurements were collected.

### 11.1.2 Stunting

Assessment of child nutrition using the measurement of height-for-age is of crucial importance to understand the health of children in the country. Data from the 2016 SLDHS revealed that 17 percent of the children under age 5 in Sri Lanka are stunted, and 4 percent are severely stunted (Table 11.1). The levels of stunting according to age of the child follow the traditional pattern of increasing with age, peaking at ages 24-35 months (22 percent), and then slowly declining to 14 percent among older children ages 48-59 months. There is a negative association between stunting and the level of education of the mother and wealth of the households. Place of residence also seems to impact the levels of stunting in Sri Lanka, with higher levels of stunting in children in the estate sector (32 percent) than in those of the urban and rural sectors (15 percent). The highest levels of stunting were observed in Nuwara Eliya (32 percent), followed by Kandy (26 percent) , Kegalle (23 percent), Batticaloa (22 percent), Ampara(22 percent), Mannar, Killinochchi, and Badulla (21 percent). The lowest prevalence of stunting is observed in Polonnaruwa (11 percent), followed by Puttalam and Hambantota (12 percent each, Table 11.1).

**Figure 11.1 Trends in stunting of children under age 5 by district, 2006-2016**



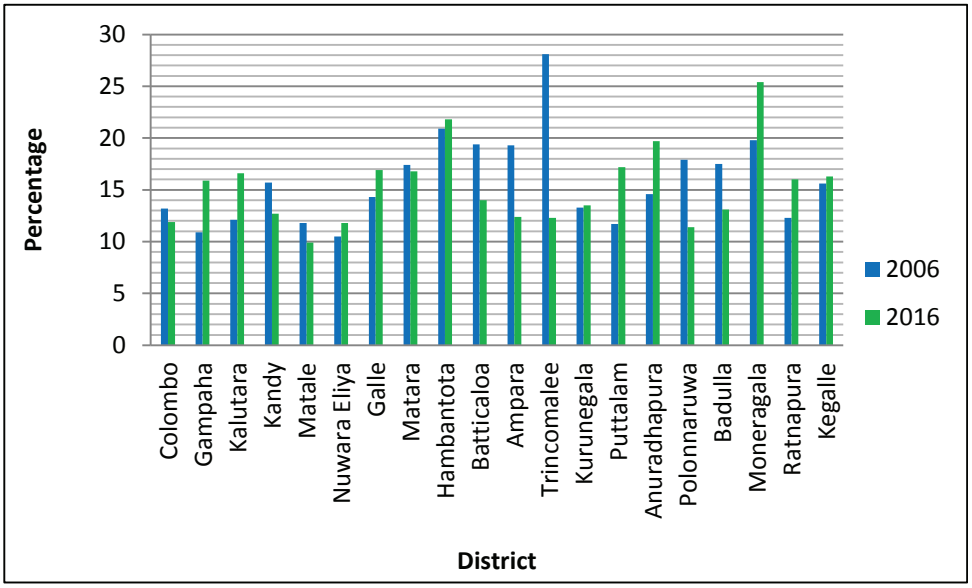

Note : Excluding Northern Province

### 11.1.3 Wasting

Table 11.1 also contains information about weight-for-height to identify levels of wasting for children under five years of age . The overall prevalence of wasting is 15 percent, with 3 percent identified as severely wasted. Wasting is highest among children aged 0-5 months (19 percent), while the lowest prevalence is observed among those children aged 18-23 months (13 percent). The level of education of the mother is negatively associated with wasting. The birth interval of the child does not present a clear pattern in relation to wasting.

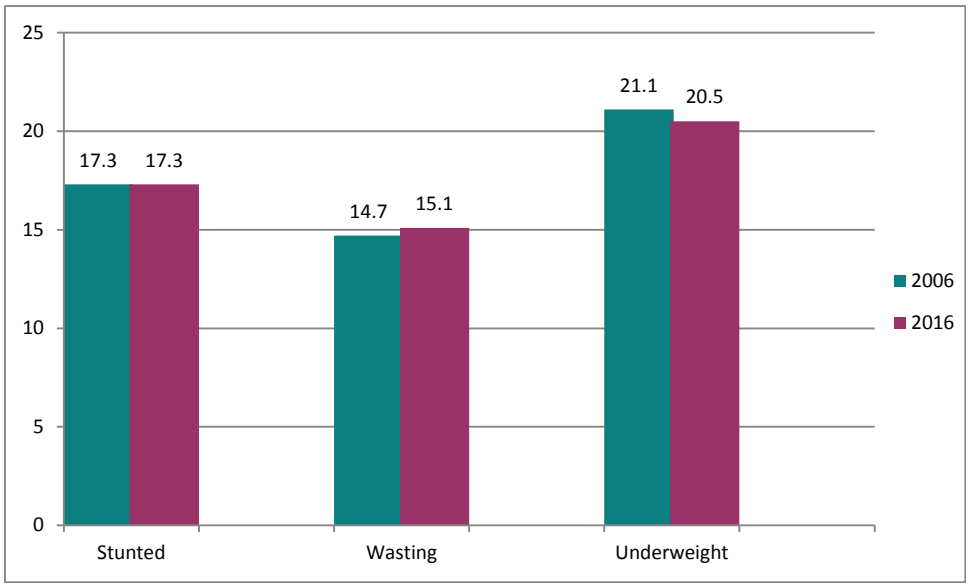
Measures of wasting by sector of residence does not show any important differences, but higher variations are observed across districts. The higher levels of wasting are observed in Moneragala (25 percent), Mullaitivu, and Hambantota (22 percent each), compared with Matale (10 percent) and Polonnaruwa (11 percent) where lower values are observed.

**Figure 11.2 Trends in Wasting of children under age 5 by district , 2006-2016.**




Note : Excluding Northern Province

**Figure 11.3 Trends in nutritional status of children under age 5**




Note : Excluding Northern Province

**Table 11.1 Nutritional status of children**

Percentage of children under five years classified as malnourished according to three anthropometric indices of nutritional status: height-for-age, weight-for-height, and weight-for-age, by background characteristics, Sri Lanka 2016

| | Height-for-age[1] | | | | Weight-for-height | | | | | Weight-for-age | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Background characteristic | Percentage below -3 SD | Percentage below -2 SD[2] | Mean Z-score (SD) | Number of children | Percentage below -3 SD | Percentage below -2 SD[2] | Percentage above +2 SD | Mean Z-score (SD) | Number of children | Percentage below -3 SD | Percentage below -2 SD[2] | Percentage above +2 SD | Mean Z-score (SD) | Number of children |
| **Age in months** | | | | | | | | | | | | | | |
| <6 | 3.1 | 11.6 | -0.3 | 613 | 6.6 | 19.4 | 5.3 | -0.6 | 584 | 4.7 | 14.8 | 1.2 | -0.8 | 614 |
| 6-8 | 4.1 | 16.7 | -0.6 | 396 | 4.0 | 15.8 | 4.1 | -0.6 | 394 | 2.6 | 15.9 | 1.9 | -0.8 | 400 |
| 9-11 | 5.8 | 15.4 | -0.7 | 370 | 4.5 | 15.4 | 2.2 | -0.8 | 372 | 3.9 | 16.3 | 0.8 | -1.0 | 375 |
| 12-17 | 4.0 | 18.8 | -1.0 | 747 | 4.1 | 14.4 | 1.5 | -0.7 | 745 | 3.9 | 18.4 | 0.8 | -1.0 | 752 |
| 18-23 | 5.6 | 21.2 | -1.1 | 771 | 2.6 | 13.0 | 1.3 | -0.8 | 767 | 5.2 | 19.8 | 1.0 | -1.2 | 777 |
| 24-35 | 4.8 | 21.5 | -1.1 | 1,652 | 2.2 | 14.0 | 0.9 | -0.9 | 1,644 | 4.3 | 23.1 | 0.8 | -1.3 | 1,660 |
| 36-47 | 4.5 | 16.8 | -1.1 | 1,650 | 2.7 | 15.3 | 1.7 | -0.9 | 1,643 | 4.1 | 23.2 | 0.7 | -1.2 | 1,652 |
| 48-59 | 2.6 | 13.6 | -1.0 | 1,670 | 1.9 | 15.4 | 2.2 | -0.9 | 1,667 | 3.2 | 20.5 | 1.2 | -1.2 | 1,677 |
| **Sex** | | | | | | | | | | | | | | |
| Male | 4.7 | 17.9 | -1.0 | 4,066 | 3.3 | 15.4 | 2.2 | -0.9 | 4,042 | 3.9 | 20.5 | 1.1 | -1.1 | 4,088 |
| Female | 3.6 | 16.6 | -0.9 | 3,804 | 2.7 | 14.7 | 1.7 | -0.8 | 3,775 | 4.1 | 20.5 | 0.9 | -1.1 | 3,821 |
| **Birth interval in months[3]** | | | | | | | | | | | | | | |
| First birth[4] | 3.5 | 15.5 | -0.9 | 3,027 | 3.2 | 13.9 | 2.2 | -0.8 | 3,007 | 3.6 | 19.9 | 1.2 | -1.1 | 3,041 |
| <24 | 5.8 | 17.7 | -0.9 | 380 | 3.0 | 17.0 | 1.7 | -0.9 | 377 | 4.2 | 21.2 | 0.4 | -1.2 | 380 |
| 24-47 | 4.6 | 19.2 | -1.1 | 1,511 | 2.9 | 17.0 | 1.7 | -0.9 | 1,502 | 4.5 | 21.6 | 1.2 | -1.2 | 1,525 |
| 48+ | 4.3 | 18.0 | -1.0 | 2,746 | 3.0 | 15.1 | 2.0 | -0.9 | 2,724 | 4.2 | 20.3 | 0.6 | -1.2 | 2,756 |
| **Mother's interview status** | | | | | | | | | | | | | | |
| Interviewed | 4.1 | 17.2 | -1.0 | 7,663 | 3.0 | 15.1 | 2.0 | -0.8 | 7,610 | 4.0 | 20.4 | 1.0 | -1.1 | 7,701 |
| Not interviewed but in household | 8.6 | 23.6 | -1.0 | 56 | 0.5 | 20.1 | 0.0 | -1.0 | 57 | 6.8 | 29.8 | 0.0 | -1.4 | 57 |
| Not interviewed and not in the household[5] | 4.4 | 16.2 | -0.9 | 150 | 2.6 | 12.0 | 1.8 | -0.8 | 150 | 1.6 | 19.8 | 1.8 | -1.1 | 150 |
| **Mother's nutritional status[6]** | | | | | | | | | | | | | | |
| Thin (BMI<18.5) | 6.6 | 22.6 | -1.2 | 814 | 4.9 | 24.5 | 0.8 | -1.3 | 804 | 7.9 | 31.5 | 0.6 | -1.5 | 816 |
| Normal (BMI 18.5-24.9) | 4.3 | 18.1 | -1.0 | 3,415 | 3.2 | 15.7 | 1.7 | -0.9 | 3,409 | 4.1 | 22.0 | 0.6 | -1.2 | 3,440 |
| Overweight/ obese (BMI >= 25) | 3.3 | 15.5 | -0.9 | 2,751 | 1.9 | 10.8 | 2.6 | -0.6 | 2,737 | 2.9 | 15.5 | 1.3 | -1.0 | 2,764 |
| **Residence** | | | | | | | | | | | | | | |
| Urban | 3.6 | 14.7 | -0.8 | 1,214 | 1.6 | 12.9 | 2.9 | -0.7 | 1,205 | 1.9 | 16.4 | 1.5 | -0.9 | 1,220 |
| Rural | 4.0 | 17.0 | -1.0 | 6,325 | 3.2 | 15.6 | 1.9 | -0.9 | 6,286 | 4.2 | 20.8 | 0.9 | -1.2 | 6,355 |
| Estate | 8.8 | 31.7 | -1.4 | 332 | 3.7 | 13.4 | 1.3 | -0.9 | 326 | 7.6 | 29.7 | 0.4 | -1.5 | 334 |
| **District** | | | | | | | | | | | | | | |
| Colombo | 4.3 | 15.6 | -0.7 | 669 | 1.7 | 11.9 | 2.8 | -0.7 | 667 | 1.6 | 14.6 | 1.9 | -0.9 | 674 |
| Gampaha | 2.9 | 12.8 | -0.8 | 756 | 2.6 | 15.9 | 2.2 | -0.8 | 749 | 4.1 | 19.6 | 1.4 | -1.0 | 756 |
| Kalutara | 1.7 | 12.5 | -0.7 | 497 | 2.9 | 16.6 | 2.1 | -0.9 | 494 | 2.8 | 20.1 | 1.1 | -1.0 | 496 |
| Kandy | 5.2 | 26.0 | -1.2 | 549 | 2.3 | 12.7 | 3.4 | -0.7 | 552 | 4.9 | 20.6 | 2.1 | -1.1 | 559 |
| Matale | 2.8 | 14.0 | -1.0 | 216 | 1.9 | 9.9 | 1.6 | -0.8 | 215 | 3.1 | 17.8 | 0.0 | -1.2 | 216 |
| Nuwara Eliya | 10.0 | 32.4 | -1.5 | 250 | 3.2 | 11.8 | 1.5 | -0.7 | 248 | 7.8 | 29.6 | 0.6 | -1.4 | 250 |
| Galle | 3.7 | 12.5 | -0.8 | 408 | 2.9 | 16.9 | 1.8 | -1.0 | 401 | 4.7 | 17.8 | 0.5 | -1.1 | 410 |
| Matara | 3.8 | 15.6 | -0.9 | 336 | 2.2 | 16.8 | 1.3 | -1.0 | 332 | 3.9 | 22.3 | 0.7 | -1.2 | 337 |
| Hambantota | 2.6 | 11.8 | -0.9 | 216 | 3.2 | 21.8 | 0.5 | -1.1 | 214 | 5.1 | 22.4 | 1.2 | -1.2 | 217 |
| Jaffna | 1.5 | 13.7 | -0.8 | 197 | 2.2 | 11.7 | 0.8 | -0.7 | 196 | 2.5 | 13.7 | 0.2 | -1.0 | 197 |
| Mannar | 4.6 | 20.8 | -1.1 | 41 | 2.4 | 13.1 | 3.5 | -0.6 | 40 | 5.2 | 18.2 | 2.6 | -1.1 | 41 |
| Vavuniya | 6.1 | 18.7 | -0.9 | 64 | 3.5 | 16.0 | 0.6 | -0.9 | 61 | 4.9 | 20.3 | 1.0 | -1.2 | 64 |
| Mullaitivu | 6.0 | 16.7 | -0.9 | 36 | 3.8 | 21.6 | 2.1 | -1.0 | 36 | 8.5 | 25.5 | 1.5 | -1.2 | 37 |
| Killinochchi | 6.6 | 20.9 | -1.1 | 46 | 3.9 | 16.8 | 2.9 | -0.8 | 45 | 3.1 | 16.6 | 0.0 | -1.2 | 46 |
| Batticaloa | 3.6 | 20.6 | -1.1 | 249 | 2.8 | 14.0 | 2.6 | -0.9 | 248 | 2.8 | 21.4 | 1.5 | -1.2 | 250 |
| Ampara | 7.2 | 21.9 | -1.1 | 345 | 2.3 | 12.4 | 2.6 | -0.7 | 342 | 3.3 | 18.1 | 0.7 | -1.2 | 346 |
| Trincomalee | 3.5 | 15.5 | -1.0 | 188 | 2.4 | 12.3 | 1.0 | -1.0 | 184 | 5.8 | 22.7 | 0.4 | -1.3 | 188 |
| Kurunegala | 2.0 | 17.7 | -1.0 | 685 | 2.3 | 13.5 | 1.0 | -0.9 | 683 | 3.3 | 21.9 | 0.4 | -1.2 | 686 |
| Puttalam | 2.9 | 11.7 | -0.7 | 276 | 6.5 | 17.2 | 2.5 | -0.9 | 275 | 2.9 | 20.1 | 1.9 | -1.0 | 276 |
| Anuradhapura | 5.9 | 19.1 | -1.1 | 409 | 6.0 | 19.7 | 3.7 | -0.8 | 404 | 6.1 | 24.7 | 0.8 | -1.2 | 411 |
| Polonnaruwa | 3.0 | 11.1 | -0.8 | 185 | 2.1 | 11.4 | 2.7 | -0.9 | 184 | 2.3 | 18.7 | 1.0 | -1.1 | 185 |
| Badulla | 6.5 | 20.6 | -1.2 | 293 | 2.6 | 13.1 | 1.4 | -0.9 | 294 | 5.2 | 22.6 | 0.0 | -1.3 | 297 |
| Moneragala | 3.5 | 15.9 | -0.7 | 244 | 5.3 | 25.4 | 0.4 | -1.2 | 240 | 4.9 | 24.2 | 0.0 | -1.3 | 244 |
| Ratnapura | 4.0 | 17.8 | -1.1 | 440 | 3.7 | 16.0 | 1.0 | -0.9 | 436 | 4.5 | 22.9 | 0.4 | -1.2 | 446 |
| Kegalle | 8.4 | 23.1 | -1.2 | 275 | 4.2 | 16.3 | 2.2 | -0.8 | 275 | 4.5 | 19.9 | 0.8 | -1.2 | 280 |
| **Mother's education** | | | | | | | | | | | | | | |
| No education | 17.5 | 37.6 | -1.6 | 58 | 1.6 | 17.9 | 0.0 | -1.0 | 58 | 6.9 | 33.9 | 0.0 | -1.6 | 58 |
| Passed Grade 1-5 | 8.4 | 27.2 | -1.4 | 277 | 4.1 | 17.6 | 1.4 | -0.9 | 275 | 8.5 | 30.2 | 0.9 | -1.5 | 278 |
| Passed Grade 6-10 | 5.0 | 20.3 | -1.1 | 3,368 | 3.7 | 17.5 | 1.7 | -0.9 | 3,349 | 5.2 | 24.6 | 0.5 | -1.3 | 3,387 |
| Passed G.C.E.(O/L) or equivalent | 3.4 | 15.9 | -0.9 | 1,705 | 2.5 | 14.9 | 2.6 | -0.8 | 1,690 | 3.6 | 18.6 | 1.4 | -1.1 | 1,713 |
| Passed G.C.E.(A/L) or equivalent | 2.8 | 12.2 | -0.7 | 1,868 | 2.4 | 12.2 | 1.9 | -0.8 | 1,853 | 2.1 | 15.4 | 1.2 | -0.9 | 1,878 |
| Degree and above | 1.3 | 12.1 | -0.6 | 444 | 2.0 | 8.7 | 2.8 | -0.6 | 442 | 2.2 | 10.0 | 1.8 | -0.7 | 445 |
| **Wealth quintile** | | | | | | | | | | | | | | |
| Lowest | 6.2 | 25.2 | -1.3 | 1,595 | 3.6 | 17.3 | 1.5 | -1.0 | 1,584 | 6.9 | 27.6 | 0.5 | -1.4 | 1,599 |
| Second | 5.4 | 18.9 | -1.1 | 1,620 | 4.3 | 18.3 | 1.6 | -1.0 | 1,601 | 5.4 | 24.5 | 0.7 | -1.3 | 1,625 |
| Middle | 3.3 | 15.9 | -0.9 | 1,578 | 3.3 | 15.0 | 1.8 | -0.9 | 1,572 | 3.4 | 20.9 | 0.5 | -1.1 | 1,590 |
| Fourth | 3.4 | 14.0 | -0.8 | 1,679 | 2.2 | 14.1 | 2.2 | -0.8 | 1,669 | 2.1 | 16.1 | 1.4 | -1.0 | 1,690 |
| Highest | 2.3 | 11.7 | -0.6 | 1,397 | 1.5 | 10.0 | 3.2 | -0.6 | 1,390 | 2.1 | 12.5 | 1.8 | -0.7 | 1,404 |
| **Total** | **4.1** | **17.3** | **-1.0** | **7,870** | **3.0** | **15.1** | **2.0** | **-0.8** | **7,817** | **4.0** | **20.5** | **1.0** | **-1.1** | **7,908** |

Note: Table is based on children who stayed in the household on the night before the interview. Each of the indices is expressed in standard deviation units (SD) from the median of the WHO Child Growth Standards adopted in 2006. The indices in this table are NOT comparable to those based on the previously used NCHS/CDC/WHO reference.

Table is based on children with valid dates of birth (month and year) and valid measurement of both height and weight.

1 Recumbent length is measured for children under age 2, or in the few cases when the age of the child is unknown and the child is less than 85 cm; standing height is measured for all other children.

2 Includes children who are below -3 standard deviations (SD) from the WHO Child Growth standards population median

3 Excludes children whose mothers were not interviewed

4 First-born twins (triplets, etc.) are counted as first births because they do not have a previous birth interval

5 Includes children whose mothers are deceased

6 Excludes children whose mothers were not weighed and measured, children whose mothers were not interviewed, and children whose mothers are pregnant or gave birth within the preceding 2 months. Mother's nutritional status in terms of BMI (Body Mass Index) is presented in Table 11.10.

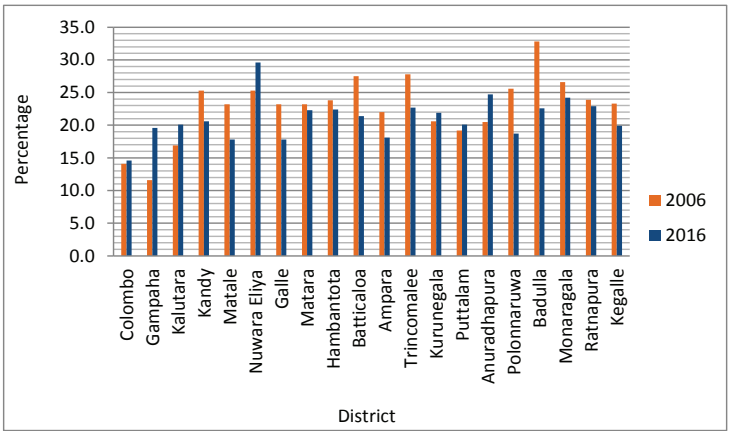
7 For women who are not interviewed, information is taken from the Household Questionnaire. Excludes children whose mothers are not listed in the Household Questionnaire

### 11.1.4 Underweight

The 2016 SLDHS includes a third indicator for assessing malnutrition among children under five years of age which identified 21 percent of children as of low weight or underweight for their age, and 4 percent as severely underweight. (Table11.1) Similar to the measurements for stunting and wasting, underweight percentages increase with the age of the child, the highest level at 36-47 months of age (23 percent). Differences in the percentage of underweight children by sex, birth interval of the child,level of education, nutritional status of the mother and wealth quintiles are similar to those previously observed and described for stunting and wasting.

Place of residence again shows some interesting differences as with stunting, children living in the estate sector (30 percent) haveing a much higher prevalence of underweight than their counterparts in the urban and rural sectors (21 percent ,16 percent,respectively).Table 11.1, also reveals some differences in underweight across administrative districts. Children in Nuwara Eliya have the highest level of underweight (30 percent), followed by Mullaitivu (26 percent), Anuradhapura (25 percent) and Moneragala (24 percent). The lower levels of underweight children are observed in Jaffna (14 percent) and in Colombo (15 percent).

**Figure 11.4 Comparision of underweight of children under age 5 by District, 2006 and 2016**




Note : Excluding Northern Province

## 11.2 Initiation of breastfeeding

**Early breastfeeding**

Initiation of breastfeeding with in 1 hour of birth.

***sample :*** Last born children who were born in the 2 years before the survey

Feeding practices play a pivotal role in determining the optimal growth and development of infants. Poor breastfeeding and undesirable complementary feeding practices have adverse consequences for the health and nutritional status of children which could affect their mental and physical development. Exclusive breastfeeding also affects mothers by physiologically suppressing the return of fertility, thereby contribute to lengthening the interval between pregnancies. The pattern of feeding a child has an important influence on both the child and the mother and is one of the key determinants of a child's nutritional status.

Early breastfeeding practices determine the successful establishment and duration of breastfeeding. Moreover, during the first three days after delivery, colostrum, an important source of nutrition and protection for the newborn, is produced and should be given to the newborn while awaiting the let-down of regular/ mature breast milk. Thus, it is recommended that children be put to the breast immediately or within one hour after birth, while discouraging pre-lacteal feeding (i.e. feeding newborns anything other than breast milk before early breastfeeding is initiated).

In 2016, almost all of the last-born children under age two (99 percent) had been breastfed at some time (ever breastfed). About 90 percent of the children were breastfed within one hour of birth (98 percent within one day of birth). The percentage of children breastfed within one hour has increased during the last ten years from 80 percent to 90 percent. The percentage of children breastfed within one day has remained stable at 98 percent (compared to 97 percent in 2006-07). Disparities on breastfeeding initiation across districts are notable. The percentage of infants put to the breast soon after birth ranges from only 77 percent in Mannar to 100 percent in Anuradhapura.

The proportion of children who have ever been breastfed does not show a clear relationship with wealth quintile, but a higher percentage of last-born children of households in the fourth wealth quintile are breastfed within one hour than in any of the other quintiles. The percentage of children who were breastfed within one hour of birth are also higher among children born to mothers who have Passed G.C.E.(A/L) or equivalent education than to mothers of other educational groups.

Table 11.2 shows that thirteen percent of newborns in Sri Lanka received pre-lacteal feeds. The percentage is higher among infants born in the urban sector, mothers whose education is “degree and above”, or living in the richer wealth quintiles. This practice is discouraged because pre-lacteal feeds are less nutritious than breast milk, more susceptible to contamination, and may reduce milk flow.

**Table 11.2 Initial breastfeeding**

Among last-born children who were born in the two years preceding the survey, the percentage who were ever breastfed and the percentages who started breastfeeding within one hour and within one day of birth; and among last-born children born in the two years preceding the survey who were ever breastfed, the percentage who received a prelacteal feed, by background characteristics, Sri Lanka 2016

| | Among last-born children born in the past two years: | | | | Among last-born children born in the past two years who were ever breastfed: | |
|---|---|---|---|---|---|---|
| Background characteristic | Percentage ever breastfed | Percentage who started breastfeeding within 1 hour of birth | Percentage who started breastfeeding within 1 day of birth[1] | Number of last-born children | Percentage who received a prelacteal feed[2] | Number of last-born children ever breastfed |
| **Sex** | | | | | | |
| Male | 99.4 | 90.2 | 97.4 | 1,544 | 14.3 | 1,535 |
| Female | 99.4 | 90.4 | 98.4 | 1,524 | 11.1 | 1,515 |
| **Residence** | | | | | | |
| Urban | 99.4 | 87.0 | 97.4 | 487 | 18.4 | 484 |
| Rural | 99.5 | 91.2 | 98.0 | 2,443 | 11.6 | 2,430 |
| Estate | 98.9 | 86.3 | 98.1 | 138 | 11.4 | 136 |
| **District** | | | | | | |
| Colombo | 99.6 | 88.7 | 98.2 | 299 | 23.5 | 298 |
| Gampaha | 100.0 | 94.4 | 99.5 | 257 | 16.2 | 257 |
| Kalutara | 98.8 | 87.5 | 95.9 | 198 | 21.8 | 195 |
| Kandy | 98.8 | 79.8 | 97.0 | 211 | 10.3 | 208 |
| Matale | 100.0 | 91.1 | 99.5 | 69 | 15.6 | 69 |
| Nuwara Eliya | 100.0 | 90.3 | 100.0 | 107 | 8.9 | 107 |
| Galle | 99.1 | 86.7 | 98.3 | 157 | 15.8 | 156 |
| Matara | 100.0 | 93.0 | 93.0 | 129 | 10.2 | 129 |
| Hambantota | 100.0 | 92.1 | 98.2 | 105 | 5.5 | 105 |
| Jaffna | 100.0 | 90.8 | 98.1 | 73 | 22.8 | 73 |
| Mannar | 100.0 | 77.1 | 100.0 | 11 | 12.9 | 11 |
| Vavuniya | 100.0 | 91.7 | 98.5 | 20 | 21.2 | 20 |
| Mullaitivu | 100.0 | 97.6 | 100.0 | 13 | 14.1 | 13 |
| Kilinochchi | 100.0 | 83.9 | 96.5 | 15 | 9.7 | 15 |
| Batticaloa | 98.9 | 92.4 | 97.6 | 89 | 12.9 | 88 |
| Ampara | 98.8 | 94.5 | 97.7 | 125 | 13.7 | 124 |
| Trincomalee | 96.8 | 78.2 | 96.8 | 70 | 13.5 | 68 |
| Kurunegala | 100.0 | 92.1 | 99.2 | 274 | 8.9 | 274 |
| Puttalam | 98.5 | 87.5 | 98.5 | 110 | 5.6 | 108 |
| Anuradhapura | 100.0 | 100.0 | 100.0 | 153 | 0.2 | 153 |
| Polonnaruwa | 100.0 | 84.9 | 94.7 | 84 | 16.0 | 84 |
| Badulla | 99.1 | 90.5 | 99.1 | 97 | 2.9 | 96 |
| Moneragala | 100.0 | 95.0 | 100.0 | 91 | 9.9 | 91 |
| Ratnapura | 98.9 | 91.7 | 95.8 | 182 | 10.1 | 180 |
| Kegalle | 99.3 | 94.5 | 97.6 | 128 | 8.0 | 127 |
| **Mother's education** | | | | | | |
| No education | * | * | * | 19 | * | 17 |
| Passed Grade 1-5 | 100.0 | 89.5 | 97.8 | 86 | 14.8 | 86 |
| Passed Grade 6-10 | 99.4 | 88.3 | 98.0 | 1,288 | 8.8 | 1,281 |
| Passed G.C.E.(O/L) or equivalent | 99.6 | 90.6 | 97.8 | 648 | 10.6 | 646 |
| Passed G.C.E.(A/L) or equivalent | 99.4 | 93.2 | 98.2 | 819 | 16.8 | 814 |
| Degree and above | 99.6 | 91.5 | 97.6 | 208 | 26.1 | 207 |
| **Wealth quintile** | | | | | | |
| Lowest | 99.2 | 89.5 | 98.2 | 563 | 10.6 | 558 |
| Second | 99.5 | 90.3 | 98.4 | 599 | 8.8 | 596 |
| Middle | 99.5 | 89.1 | 96.5 | 641 | 9.8 | 637 |
| Fourth | 99.5 | 92.0 | 98.6 | 664 | 13.5 | 660 |
| Highest | 99.5 | 90.6 | 97.8 | 602 | 20.8 | 599 |
| **Total** | **99.4** | **90.3** | **97.9** | **3,068** | **12.7** | **3,050** |

Note: Table is based on last-born children born in the 2 years preceding the survey regardless of whether the children are living or dead at the time of interview.

[1] Includes children who started breastfeeding within one hour of birth

[2] Children given something other than breast milk during the first three days of life

[3] Doctor, nurse/midwife, or auxiliary midwife

Colostrum, which has also been called the "first milk", is thick milk that is produced by mothers of newborns. Colostrum provides a host of benefits for infants. The ministry of health in Sri Lanka encourages all mothers to breastfeed their babies with colostrum. The majority of children born during the five years before the survey (98 percent) were given colostrum. This percentage has increased in the past ten years from 92 in 2006-07 to 98 in 2016. There are hardly any differences among background variable categories. A slightly higher percentage of women in the richest wealth quintiles and those with higher education have given colostrum than those women with lower education and belonging to households in lower wealth quintiles.

Another notable improvement has occurred in the estates sector, where the percentage of children receiving colostrum increased from 70 percent in 2006-07 to 97 percent in 2016.

**Table 11.3 Colostrum feeding**

Among children born in the five years before the survey who were ever breastfed, percentage of the most recent births who were not given colostrum and among those, the percentage whose mothers were advised by a health provider not to give colostrum, according to background characteristics, Sri Lanka 2016

| Background characteristic | Percentage not given colostrum | Number of lastborn children born in past five years who were ever breastfed | Percentage advised by a health provider not to use colostrum | Number of children who were not given colostrum |
|---|---|---|---|---|
| **Sex** | | | | |
| Male | 2.2 | 3,697 | 24.4 | 83 |
| Female | 1.6 | 3,441 | 17.8 | 54 |
| **Residence** | | | | |
| Urban | 1.6 | 1,114 | * | 18 |
| Rural | 1.9 | 5,728 | 25.6 | 110 |
| Estate | 2.7 | 296 | * | 8 |
| **Mother's education** | | | | |
| No education | 7.9 | 51 | * | 4 |
| Passed Grade 1-5 | 1.9 | 257 | * | 5 |
| Passed Grade 6-10 | 2.0 | 3,104 | 25.7 | 64 |
| Passed G.C.E.(O/L) or equivalent | 1.8 | 1,608 | (8.1) | 29 |
| Passed G.C.E.(A/L) or equivalent | 1.4 | 1,706 | * | 23 |
| Degree and above | 3.0 | 413 | * | 12 |
| **Wealth quintile** | | | | |
| Lowest | 2.7 | 1,413 | 13.0 | 38 |
| Second | 1.8 | 1,457 | (24.5) | 27 |
| Middle | 1.6 | 1,463 | * | 23 |
| Fourth | 1.8 | 1,524 | (24.6) | 27 |
| Highest | 1.7 | 1,280 | * | 22 |
| **Total** | 1.9 | 7,138 | 21.8 | 137 |

## 11.3 BREASTFEEDING STATUS BY AGE

UNICEF and WHO recommend that children be exclusively breastfed during the first six months of life and that they be given age-appropriate solid or semisolid complementary food in addition to continued breastfeeding from age 6 months to at least age 24 months. Exclusive breastfeeding during the first six months is recommended because breast milk contains all of the nutrients necessary for children in the first few months of life. In addition, the mother's antibodies in breast milk provide immunity to diseases or infections. Early supplementation is discouraged for several reasons. First, it exposes infants to pathogens and increases their risk of infection. Second, it decreases infants' intake of breast milk and therefore suckling, which reduces breast milk production and the infant is deprived of all the benefits of breast milk. Third, in

low-resource settings, complementary food is often nutritionally inferior.

After six completed months, a child requires adequate complementary foods for normal growth. Lack of appropriate complementary feeding may lead to malnutrition and frequent illnesses, which in turn may even lead to death. However, even with complementary feeding, the child should continue to be breast-fed for two years or more. Interviewers obtained information on complementary feeding by asking mothers about the current breastfeeding status of all children under age 5 and, for the youngest child born in the two-year period before the survey and living with the mother, foods and liquids given to the child the day and night before the survey.

Table 11.4 shows the percent distribution by breastfeeding status of youngest children under age 2 living with their mother and the percentage of children under age 2 using a bottle with a nipple, according to age in months. Exclusive breastfeeding for the first six months in Sri Lanka is 82 percent for children under age 6 months (Table 11.4 and Figure 11.5). Among age subgroups, the percentage of children exclusively breastfed decreases sharply from 93 percent of infants aged 0-1 month to 87 percent of infants' age 2-3 months and, further to 64 percent of infants aged 4-5 months.

In addition to receiving breast milk, 6 percent of children under age 6 months receive plain water, 5 percent receive other milk, and 6 percent are given complementary foods. After the age of 5 months, a majority of children (88 percent or more) receive complementary foods in addition to breast milk, as recommended; however, 12 percent of children aged 6-8 months did not receive complementary foods the day or night preceding the survey.

Only two percent of children below 6 months and 11 percent of children aged 6-8 months used a bottle with a nipple the day or night preceding the survey. Bottle feeding is a concern because of possible contamination due to unsafe water and lack of hygiene in its preparation; it also may reduce the child's interest in breastfeeding, with a consequential decline in the mother's milk production.

Continued breastfeeding is recommended until a child is 2 years of age or beyond. In Sri Lanka breastfeeding is widely accepted and of long duration. The proportion of children who are currently breast-feeding decreases with the age of the child, from 94 percent among children aged 12-17 months to 88 percent among children aged 18-23 months.

Although it is recommended that breastfeeding be continued throughout the second year of life, 9 percent of children 12-23 months old are not receiving any breast milk. Figure 11.5 illustrates the patterns of child feeding by the age of the child.

**Table 11.4 Breastfeeding status by age**

Percent distribution of youngest children under two years who are living with their mother by breastfeeding status and the percentage currently breastfeeding; and the percentage of all children under two years using a bottle with a nipple, according to age in months, Sri Lanka 2016

| | Breastfeeding status | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Age in months | Not breast-feeding | Exclusively breastfed | Breast-feeding and consuming plain water only | Breast-feeding and consuming non-milk liquids[1] | Breast-feeding and consuming other milk | Breast-feeding and consuming complementary foods | Total | Percentage currently breast-feeding | Number of youngest children under age 2 living with their mother | Percentage using a bottle with a nipple | Number of all children under two years |
| 0-1 | 0.6 | 93.4 | 1.1 | 0.0 | 1.8 | 3.1 | 100.0 | 99.4 | 286 | 0.8 | 287 |
| 2-3 | 0.0 | 87.2 | 5.3 | 0.0 | 6.6 | 0.8 | 100.0 | 100.0 | 223 | 0.7 | 226 |
| 4-5 | 0.0 | 63.8 | 12.5 | 1.7 | 7.7 | 14.3 | 100.0 | 100.0 | 243 | 5.6 | 244 |
| 6-8 | 1.2 | 2.2 | 6.8 | 1.8 | 0.2 | 87.9 | 100.0 | 98.8 | 404 | 10.7 | 406 |
| 9-11 | 4.3 | 0.3 | 0.4 | 0.0 | 0.4 | 94.6 | 100.0 | 95.7 | 381 | 10.5 | 384 |
| 12-17 | 5.7 | 0.1 | 0.3 | 0.0 | 0.2 | 93.8 | 100.0 | 94.3 | 766 | 9.6 | 773 |
| 18-23 | 11.8 | 0.0 | 0.0 | 0.0 | 0.1 | 88.1 | 100.0 | 88.2 | 738 | 10.6 | 783 |
| 0-3 | 0.3 | 90.7 | 3.0 | 0.0 | 3.9 | 2.1 | 100.0 | 99.7 | 509 | 0.8 | 513 |
| 0-5 | 0.2 | 82.0 | 6.0 | 0.6 | 5.1 | 6.0 | 100.0 | 99.8 | 752 | 2.3 | 757 |
| 6-9 | 1.6 | 1.8 | 5.2 | 1.4 | 0.2 | 89.9 | 100.0 | 98.4 | 528 | 10.4 | 531 |
| 12-15 | 4.7 | 0.2 | 0.4 | 0.0 | 0.1 | 94.6 | 100.0 | 95.3 | 479 | 10.7 | 482 |
| 12-23 | 8.7 | 0.1 | 0.1 | 0.0 | 0.1 | 91.0 | 100.0 | 91.3 | 1,504 | 10.1 | 1,556 |
| 20-23 | 13.4 | 0.0 | 0.0 | 0.0 | 0.1 | 86.6 | 100.0 | 86.6 | 503 | 10.7 | 536 |

Note: Breastfeeding status refers to a "24-hour" period (yesterday and last night). Children who are classified as breastfeeding and consuming plain water only consumed no liquid or solid supplements. The categories of not breastfeeding, exclusively breastfed, breastfeeding and consuming plain water, non-milk liquids, other milk, and complementary foods (solids and semi-solids) are hierarchical and mutually exclusive, and their percentages add to 100 percent. Thus, children who receive breast milk and non-milk liquids and who do not receive other milk and who do not receive complementary foods are classified in the non-milk liquid category even though they may also get plain water. Any children who get complementary food are classified in that category as long as they are breastfeeding as well.

[1] Non-milk liquids include juice, juice drinks, clear broth or other liquids

## Figure 11.5: Infant feeding practices by age

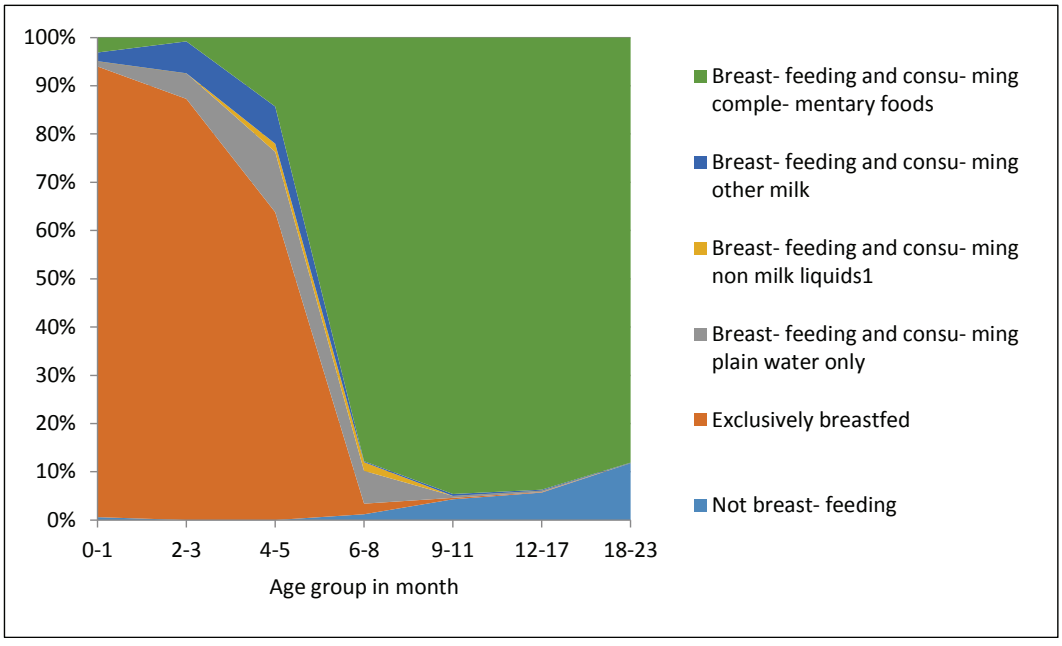
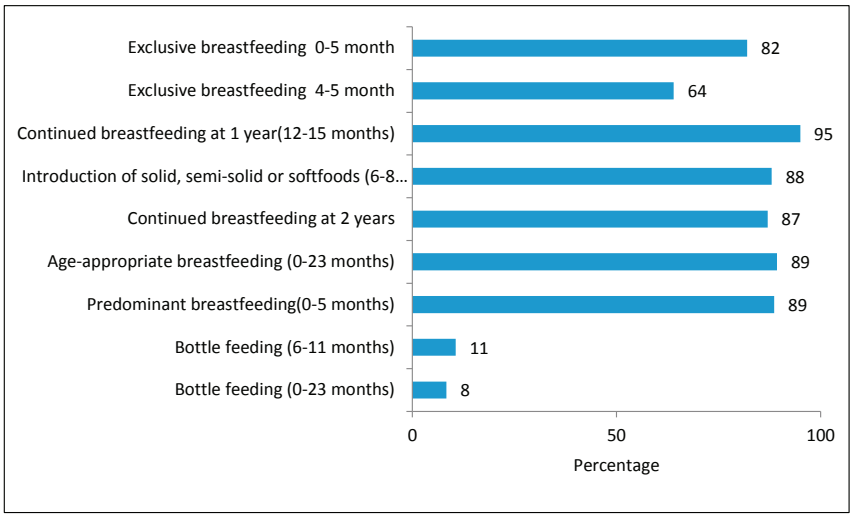


Figure 11.6, included below, shows the 2016 SLDHS results for key infant and young child feeding (IYCF) practices on breastfeeding for children under age 2. Although 82 percent of all children under age 6 months are exclusively breastfed, only 64 percent of those aged 4-5 months are exclusively breastfed. Almost all children (95 percent) continue breastfeeding at age 1, and 87 percent continue to breastfeed until age 2. Eighty-eight percent of children are introduced to complementary foods at an appropriate age. Eighty-nine percent of children aged 0-23 months are breastfed appropriately for their age, i.e., exclusive breastfeeding for children aged 0-5 months and continued breastfeeding along with complementary foods for children aged 6-23 months. Predominant breastfeeding (receiving breast milk and only plain water or non-milk liquids such as juice, clear broth, and other liquids) is prevalent in 89 percent of the children. Eleven percent of infants aged 6-11 and eight percent of children under age 2 are bottle-fed.

**Figure 11.6 Infant and young child feeding (IYCF) practices-indicators on breastfeeding status**




## 11.4 Duration and frequency of breastfeeding

Table 11.5 provides information on the median duration of any breastfeeding, exclusive breastfeeding, and predominant breastfeeding among children born in the three years preceding the survey. The median duration of any breastfeeding in Sri Lanka is 30 months. Differences in the median duration of breastfeeding by background characteristics are small and affected by small sample sizes. Table 11.5 also shows the median duration of predominant breastfeeding, which is defined as exclusive breastfeeding or breastfeeding in combination with plain water and/or non-milk liquids only. The median duration of predominant breastfeeding is 5.8 months.

**Table 11.5 Median duration of breastfeeding**

Median duration of any breastfeeding, exclusive breastfeeding, and predominant breastfeeding among children born in the three years preceding the survey, by background characteristics, Sri Lanka 2016

| Background characteristic | Median duration (months) of breastfeeding among children born in the past three years[1] Any breastfeeding | Exclusive breastfeeding | Predo- minant breastfeeding[2] |
|---|---|---|---|
| **Sex** | | | |
| Male | 0.0 | 4.3 | 5.1 |
| Female | 0.0 | 4.4 | 5.1 |
| **Residence** | | | |
| Urban | 29.0 | 4.3 | 5.1 |
| Rural | 0.0 | 4.4 | 5.1 |
| Estate | (30.6) | 4.5 | 5.2 |
| **Mother's education** | | | |
| Passed Grade 1-5 | (33.9) | (3.8) | (4.5) |
| Passed Grade 6-10 | 0.0 | 4.4 | 5.3 |
| Passed G.C.E.(O/L) or equivalent | 0.0 | 4.7 | 5.4 |
| Passed G.C.E.(A/L) or equivalent | 33.1 | 4.2 | 4.7 |
| Degree and above | 0.0 | (4.0) | (4.3) |
| **Wealth quintile** | | | |
| Lowest | 0.0 | 4.3 | 5.6 |
| Second | 34.4 | 4.2 | 5.0 |
| Middle | 0.0 | 4.8 | 5.3 |
| Fourth | 33.8 | 4.4 | 5.0 |
| Highest | 31.4 | 4.2 | 4.4 |
| **Total** | **0.0** | **4.4** | **5.1** |
| **Mean for all children** | **30.2** | **5.2** | **5.8** |

Note: Median and mean durations are based on the distributions at the time of the survey of the proportion of births by months since birth. Includes children living and deceased at the time of the survey.

[1] It is assumed that non-last-born children and last-born children not currently living with the mother are not currently breastfeeding

[2] Either exclusively breastfed or received breast milk and plain water, and/or non-milk liquids only

## 11.5 TYPES OF COMPLEMENTARY FOODS

Table 11.6 provides information on the types of food given by mothers to children under 3 years of age on the day or night preceding the interview, according to breastfeeding status. The consumption of infant formula and other milk, among breastfed children, increases with the age of the child. Solid and semi-solid foods are introduced to infants around the age of 6 months in Sri Lanka,following the guidelines and recommendations of UNICEF and WHO. Thus, by the ages of 6-8 months, almost 89 percent of the children are receiving any solid or semi-solid food. This percentage is an increase from 85 percent observed ten years ago from the 2006-07 SLDHS.

Overall, nearly one hundred percent of children (98 percent) aged 6-23 months of age receive any solid or semisolid complementary foods in addition to breast milk. Consumption of foods made from grains (88 percent) and fruits and vegetables rich in vitamin A (86 percent) is high in the children aged 6-23 months. The consumption of food made from legumes and nuts (66%), food made from roots and tubers (58%) , meat, fish, poultry and eggs (58%) is relatively low. Moreover consumption of sugary foods (34%) among children under the age of 3 years decreased drastically by 27 percent compared to 2006/07 SLDHS (61%). The consumption of food made with oil, fat and butter increased from 34 percent (2006/07 SLDHS) to 42 percent (2016 SLDHS excluding northern province) in this decade (2006-2016)

**Table 11.6 Foods and liquids consumed by children in the day or night preceding the interview**

Percentage of youngest children under three years of age who are living with the mother by type of foods consumed in the day or night preceding the interview, according to breastfeeding status and age, Sri Lanka 2016

| | Liquids | | | | Solid or semi-solid foods | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Age in months | Infant formula | Other milk[1] | Other liquids[2] | Fortified baby foods | Food made from grains[3] | Fruits and vegeta-bles rich in vitamin A[4] | Other fruits and vege-tables | Food made from roots and tubers | Food made from legume s and nuts | Meat, fish, poultry, eggs | Cheese , yogurt, other milk product | Any solid or semi-solid food | Food made with oil, fat and butter | Sugary foods | Number of children under age 3 |
| BREASTFEEDING CHILDREN | | | | | | | | | | | | | | | |
| 0-1 | 2.3 | 0.8 | 4.4 | 0.5 | 1.6 | 1.1 | 0.0 | 0.6 | 1.2 | 1.0 | 0.4 | 3.1 | 0.7 | 0.9 | 284 |
| 2-3 | 5.6 | 3.3 | 8.1 | 0.1 | 0.8 | 0.8 | 0.0 | 0.1 | 0.7 | 0.1 | 0.7 | 0.8 | 0.8 | 0.0 | 223 |
| 4-5 | 13.2 | 3.7 | 13.3 | 4.1 | 6.8 | 8.8 | 2.7 | 6.0 | 8.1 | 4.4 | 1.8 | 14.3 | 4.8 | 0.0 | 243 |
| 6-8 | 19.4 | 7.8 | 45.8 | 35.1 | 68.3 | 75.6 | 28.6 | 54.4 | 58.8 | 36.9 | 29.5 | 88.9 | 32.7 | 8.6 | 399 |
| 9-11 | 24.3 | 9.6 | 52.4 | 40.0 | 88.2 | 88.0 | 43.3 | 65.0 | 68.1 | 54.3 | 46.1 | 98.9 | 38.7 | 22.0 | 364 |
| 12-17 | 30.6 | 17.4 | 64.6 | 35.3 | 93.5 | 89.7 | 52.5 | 58.5 | 67.8 | 64.9 | 47.6 | 99.4 | 42.6 | 38.4 | 722 |
| 18-23 | 35.2 | 28.1 | 76.7 | 32.5 | 94.9 | 87.1 | 53.5 | 55.4 | 66.9 | 65.1 | 42.0 | 99.9 | 44.1 | 50.1 | 651 |
| 24-35 | 33.4 | 37.7 | 84.4 | 29.1 | 96.6 | 86.8 | 53.9 | 50.1 | 70.2 | 60.7 | 41.9 | 99.7 | 46.5 | 57.4 | 1,051 |
| 6-23 | 28.8 | 17.5 | 62.7 | 35.2 | 88.3 | 86.0 | 46.8 | 57.9 | 65.9 | 57.9 | 42.2 | 97.5 | 40.6 | 33.6 | 2,137 |
| **Total** | **25.9** | **20.0** | **58.1** | **27.2** | **74.3** | **70.5** | **39.9** | **45.2** | **55.1** | **48.0** | **34.3** | **80.7** | **34.8** | **33.6** | **3,939** |
| NONBREASTFEEDING CHILDREN | | | | | | | | | | | | | | | |
| 0-1 | * | * | * | * | * | * | * | * | * | * | * | * | * | * | 2 |
| 2-3 | * | * | * | * | * | * | * | * | * | * | * | * | * | * | 0 |
| 4-5 | * | * | * | * | * | * | * | * | * | * | * | * | * | * | 0 |
| 6-8 | * | * | * | * | * | * | * | * | * | * | * | * | * | * | 5 |
| 9-11 | * | * | * | * | * | * | * | * | * | * | * | * | * | * | 16 |
| 12-17 | (83.8) | (47.2) | (79.7) | (61.8) | (88.5) | (84.0) | (58.5) | (72.3) | (69.4) | (83.1) | (63.3) | (100.0) | (62.0) | (36.0) | 43 |
| 18-23 | 72.7 | 42.9 | 83.1 | 39.9 | 94.8 | 91.8 | 50.7 | 58.7 | 63.6 | 74.7 | 47.0 | 100.0 | 47.4 | 57.4 | 87 |
| 24-35 | 53.5 | 48.6 | 84.5 | 41.3 | 92.4 | 84.6 | 51.6 | 50.5 | 60.3 | 69.2 | 37.8 | 99.6 | 47.4 | 59.8 | 475 |
| 6-23 | 77.9 | 42.5 | 79.6 | 48.9 | 92.4 | 87.0 | 51.9 | 63.8 | 64.2 | 76.5 | 52.6 | 99.2 | 52.8 | 46.5 | 152 |
| **Total** | **59.5** | **47.0** | **83.1** | **43.0** | **92.2** | **84.9** | **51.5** | **53.6** | **61.1** | **70.8** | **41.3** | **99.2** | **48.6** | **56.4** | **628** |

Note: Breastfeeding status and food consumed refer to a 24-hour" period (yesterday and last night).
[1] Other milk includes fresh, tinned and powdered cow or other animal milk
[2] Doesn't include plain water
[3] Includes fortified baby food
[4] Includes [list fruits and vegetables included in the questionnaire such as pumpkin, red or yellow yams or squash, carrots, red sweet potatoes, dark green leafy vegetables, mangoes, papayas, and other locally grown fruits and vegetables that are rich in vitamin A]

## 11.6 Infant and young child feeding (IYCF) practices

Appropriate IYCF practices include timely initiation of feeding solid and semisolid foods from age 6 months and increasing the amount and variety of foods and frequency of feeding as the child gets older while maintaining breastfeeding (WHO, 2008). The age ranges of various indicators of IYCF practices presented in this chapter have been updated based on the most recent definitions of breastfeeding and complementary feeding indicators (WHO, 2010).

Minimum dietary diversity means feeding the child food from at least four food groups. This cut-off was selected because it is associated with better-quality diets for both breastfed and non-breastfed children. Studies have shown that plant-based complementary foods by themselves are insufficient to meet the needs for certain micronutrients (WHO and UNICEF 1998). Therefore, 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. Iron rich food as well as Vitamin A-rich fruits and vegetables should be consumed daily.

Table 11.7 presents a summary of IYCF practices along with the background characteristics. The indicators take into account the percentages of children for whom feeding practices meet minimum standards

with respect to food diversity (i.e., the number of food groups consumed), feeding frequency (i.e., the number of times the child is fed), and consumption of breast milk or other types of milk or milk products (accounting for number of milk feeds for non-breastfed children). Breastfed children are considered to be fed within the minimum standards if they consume at least four food groups and receive food other than breast milk two to three times per day in the case of infants aged 6-8 months and three to four times per day in the case of children aged 9-23 months (Arimond and Ruel, 2003). Non-breastfed children are considered to be fed in accordance with the minimum standards if they consume milk or milk products at least twice a day, are fed four food groups each day, and are fed at least four to five times per day (including milk feeds). Meal frequency is considered a proxy for energy intake from foods other than breast milk; therefore, the feeding frequency indicator for non-breastfed children includes both milk and solid and semi-solid foods (WHO, 2008).

According to the results presented in Table 11.7, seventy two percent of breastfed children aged 6-23 months were given foods from four or more food groups in the 24 hours preceding the interview, and 86 percent were fed the minimum number of times in the preceding 24 hours. About 2 in 3 (63 percent) breastfed children fell into both categories; that is, their feeding practices met minimum standards with respect to food diversity as well as feeding frequency.

Among non-breastfed children aged 6-23 months, 69 percent were given milk or milk products, 86 percent were given food from at least four food groups, and 88 percent were fed four or more times per day. Forty-five percent of non breastfed children aged 6-23 were fed in accordance with all three IYCF practices.

Appropriate feeding practices were more common among breastfed children than non-breastfed children. Overall, 62 percent of Sri Lankan children aged 6-23 months met the minimum standard with respect to all three IYCF feeding practices (Table 11.7). Ninety eight percent of all children aged 6-23 months received breast milk or other milk or milk products during the 24-hour period before the interview, and 86 percent were fed the minimum number of times in the preceding 24 hours. The most common problem with feeding practices was an inadequate number of food groups; only 73 percent of children aged 6-23 months received foods from the minimum number of food groups for their age.

The proportion of children aged 6-23 months, meeting all three recommended IYCF practices increases from 45 percent among children aged 6-8 months to 69 percent among those aged 12-17 months and then declines to 65 percent among those aged 18-23 months. The proportions of children who met the criteria did not vary by sex of the child. On the other hand, urban and rural children were more likely to be fed according to all of the IYCF practices than their counterparts in the estate sector (64 and 62 percent versus 50 percent, respectively). There are no large regional differences in feeding practices. The proportions of children fed in accordance with the recommended IYCF practices increases with the levels of education of the mother and with wealth of the households (three forth among the most educated and richest households compared to less than half of the mothers with primary education or in the poorest of the quintiles, Table 11.7).

**Table 11.7 Infant and young child feeding (IYCF) practices**

Percentage of youngest children age 6-23 months living with their mother who are fed according to three IYCF feeding practices based on breastfeeding status, number of food groups, and times they are fed during the day or night preceding the survey, by background characteristics, Sri Lanka 2016

| | Among breastfed children 6-23 months, percentage fed: | | | | | Among non-breastfed children 6-23 months, percentage fed: | | | | Among all children 6-23 months, percentage fed: | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Background characteristic | 4+ food groups[1] | Minimum meal frequency[2] | Both 4+ food groups and minimum meal frequency | Number of breastfed children 6-23 months | Milk or milk products[3] | 4+ food groups[1] | Minimum meal frequency[4] | With 3 IYCF practices[5] | Number of non-breastfed children 6-23 months | Breast-milk, milk, or milk products[6] | 4+ food groups[1] | Minimum meal frequency[7] | With 3 IYCF practices | Number of all children 6-23 months |
| **Age in months** | | | | | | | | | | | | | | |
| 6-8 | 52.0 | 82.0 | 45.1 | 399 | * | * | * | * | 5 | 100.0 | 52.3 | 82.2 | 45.2 | 404 |
| 9-11 | 69.9 | 83.3 | 59.5 | 364 | * | * | * | * | 16 | 99.1 | 70.1 | 83.7 | 59.5 | 381 |
| 12-17 | 77.9 | 87.9 | 70.4 | 722 | (63.6) | (92.3) | (87.3) | (49.8) | 43 | 97.9 | 78.7 | 87.8 | 69.2 | 766 |
| 18-23 | 77.6 | 88.0 | 68.6 | 651 | 67.7 | 86.0 | 86.1 | 38.6 | 87 | 96.2 | 78.6 | 87.8 | 65.1 | 738 |
| **Sex** | | | | | | | | | | | | | | |
| Male | 71.4 | 86.0 | 63.1 | 1,099 | 73.1 | 84.7 | 82.2 | 46.6 | 67 | 98.5 | 72.2 | 85.8 | 62.1 | 1,165 |
| Female | 71.8 | 86.1 | 63.5 | 1,039 | 65.4 | 87.3 | 91.9 | 43.1 | 85 | 97.4 | 73.0 | 86.5 | 61.9 | 1,123 |
| **Residence** | | | | | | | | | | | | | | |
| Urban | 76.8 | 84.4 | 66.7 | 307 | (66.8) | (85.8) | (86.6) | (43.0) | 43 | 95.9 | 77.9 | 84.7 | 63.8 | 350 |
| Rural | 71.0 | 86.6 | 63.3 | 1,732 | 70.2 | 88.6 | 88.3 | 47.3 | 103 | 98.3 | 72.0 | 86.7 | 62.4 | 1,835 |
| Estate | 65.0 | 81.4 | 52.5 | 98 | * | * | * | * | 5 | 98.0 | 63.7 | 81.5 | 50.1 | 103 |
| **District** | | | | | | | | | | | | | | |
| Colombo | 85.7 | 89.2 | 77.5 | 180 | (71.5) | (87.7) | (96.4) | (51.6) | 36 | 95.2 | 86.0 | 90.4 | 73.2 | 216 |
| Gampaha | 81.4 | 83.4 | 69.7 | 180 | * | * | * | * | 20 | 96.0 | 82.4 | 82.8 | 66.7 | 200 |
| Kalutara | 83.0 | 88.5 | 73.2 | 142 | * | * | * | * | 7 | 100.0 | 83.7 | 88.1 | 73.4 | 149 |
| Kandy | 58.8 | 85.0 | 52.6 | 141 | * | * | * | * | 7 | 99.3 | 59.8 | 85.7 | 53.2 | 148 |
| Matale | 74.3 | 97.5 | 74.3 | 45 | * | * | * | * | 1 | 100.0 | 74.8 | 97.6 | 72.7 | 46 |
| Nuwaraeliya | 73.0 | 80.6 | 61.9 | 76 | * | * | * | * | 4 | 96.7 | 71.7 | 79.3 | 59.0 | 80 |
| Galle | 74.7 | 90.6 | 68.1 | 120 | * | * | * | * | 2 | 100.0 | 75.2 | 90.7 | 68.0 | 122 |
| Matara | 80.7 | 91.5 | 76.2 | 96 | * | * | * | * | 5 | 96.6 | 81.7 | 90.8 | 74.1 | 101 |
| Hambantota | 78.9 | 79.9 | 64.3 | 71 | * | * | * | * | 2 | 97.8 | 79.3 | 80.4 | 62.9 | 73 |
| Jaffna | 53.6 | 80.5 | 42.1 | 48 | * | * | * | * | 9 | 98.3 | 59.4 | 81.8 | 42.6 | 58 |
| Mannar | (66.2) | (87.2) | (57.8) | 7 | * | * | * | * | 1 | (94.4) | (68.5) | (83.5) | (54.8) | 8 |
| Vavuniya | (41.1) | (33.3) | (14.5) | 14 | * | * | * | * | 2 | 96.1 | 45.0 | 38.6 | 12.4 | 16 |
| Mullaitivu | (53.6) | (91.6) | (47.5) | 10 | * | * | * | * | 1 | 98.1 | 53.7 | 90.4 | 45.6 | 11 |
| Killinochchi | (36.5) | (80.7) | (32.9) | 9 | * | * | * | * | 2 | (91.1) | (40.6) | (78.7) | (31.5) | 10 |
| Batticaloa | 48.4 | 74.5 | 38.6 | 60 | * | * | * | * | 10 | 94.9 | 49.1 | 74.5 | 36.4 | 70 |
| Ampara | 63.1 | 74.2 | 56.2 | 83 | * | * | * | * | 11 | 98.2 | 67.0 | 76.6 | 58.3 | 94 |
| Trincomalee | 58.8 | 67.9 | 46.3 | 40 | * | * | * | * | 3 | 95.7 | 58.8 | 67.9 | 45.1 | 43 |
| Kurunegala | 65.0 | 90.5 | 59.9 | 207 | * | * | * | * | 4 | 98.9 | 65.7 | 90.7 | 59.1 | 212 |
| Puttalam | 71.6 | 91.8 | 63.4 | 84 | * | * | * | * | 4 | 98.1 | 73.1 | 90.3 | 62.2 | 89 |
| Anuradhapura | 67.6 | 95.2 | 66.2 | 118 | * | * | * | * | 4 | 98.6 | 68.6 | 95.3 | 65.9 | 122 |
| Polonnaruwa | 68.7 | 88.6 | 62.9 | 55 | * | * | * | * | 2 | 100.0 | 69.8 | 89.1 | 62.6 | 57 |
| Badulla | 66.9 | 87.5 | 58.1 | 67 | * | * | * | * | 2 | 100.0 | 65.4 | 87.9 | 56.8 | 70 |
| Monaragala | 69.9 | 94.2 | 65.6 | 63 | * | * | * | * | 4 | 95.8 | 71.5 | 94.5 | 61.9 | 67 |
| Ratnapura | 75.3 | 95.5 | 72.5 | 128 | * | * | * | * | 3 | 99.2 | 75.8 | 95.6 | 71.1 | 131 |
| Kegalle | 74.6 | 62.3 | 45.5 | 91 | * | * | * | * | 5 | 99.6 | 76.0 | 64.3 | 48.0 | 96 |
| **Mother's education** | | | | | | | | | | | | | | |
| No education | * | * | * | 13 | * | * | * | * | 2 | * | * | * | * | 15 |
| Passed Grade 1-5 | 63.6 | 76.8 | 48.4 | 58 | * | * | * | * | 6 | 96.9 | 63.6 | 76.0 | 46.2 | 64 |
| Passed Grade 6-10 | 64.7 | 86.9 | 58.0 | 935 | (75.1) | (79.5) | (83.3) | (36.3) | 38 | 99.0 | 65.3 | 86.7 | 57.1 | 973 |
| Passed G.C.E.(O/L) or equivalent | 73.0 | 84.1 | 63.6 | 441 | (57.8) | (86.9) | (88.2) | (40.2) | 27 | 97.6 | 73.8 | 84.3 | 62.3 | 468 |
| Passed G.C.E.(A/L) or equivalent | 80.8 | 85.3 | 70.8 | 552 | 66.0 | 89.9 | 89.6 | 46.9 | 56 | 96.9 | 81.6 | 85.7 | 68.6 | 608 |
| Degree and above | 83.4 | 92.0 | 76.0 | 139 | * | * | * | * | 21 | 96.8 | 85.6 | 92.2 | 74.6 | 160 |
| **Wealth quintile** | | | | | | | | | | | | | | |
| Lowest | 56.5 | 84.0 | 48.6 | 395 | (65.1) | (70.0) | (84.0) | (23.0) | 25 | 97.9 | 57.3 | 84.0 | 47.1 | 420 |
| Second | 67.5 | 84.4 | 60.2 | 440 | (69.9) | (58.6) | (70.2) | (22.6) | 17 | 98.9 | 67.1 | 83.9 | 58.8 | 457 |
| Middle | 68.9 | 85.0 | 60.0 | 444 | * | * | * | * | 22 | 98.3 | 70.1 | 84.8 | 59.3 | 466 |
| Fourth | 79.1 | 87.5 | 70.6 | 466 | (72.3) | (87.8) | (96.7) | (56.2) | 28 | 98.4 | 79.6 | 88.0 | 69.7 | 494 |
| Highest | 85.7 | 89.2 | 76.5 | 392 | 70.0 | 96.7 | 92.3 | 54.3 | 59 | 96.1 | 87.1 | 89.6 | 73.6 | 451 |
| **Total** | **71.6** | **86.0** | **63.3** | **2,137** | **68.8** | **86.2** | **87.6** | **44.6** | **152** | **97.9** | **72.6** | **86.1** | **62.0** | **2,289** |

[1] Food groups: a. infant formula, milk other than breast milk, cheese or yogurt or other milk products; b. foods made from grains, roots, and tubers, including porridge and fortified baby food from grains; c. vitamin A-rich fruits and vegetables (and red palm oil); d. other fruits and vegetables; e. eggs; f. meat, poultry, fish, and shellfish (and organ meats); g. legumes and nuts.

[2] For breastfed children, minimum meal frequency is receiving solid or semi-solid food at least twice a day for infants 6-8 months and at least three times a day for children 9-23 months

[3] Includes two or more feedings of commercial infant formula, fresh, tinned, and powdered animal milk, and yogurt

[4] For non-breastfed children aged 6-23 months, minimum meal frequency is receiving solid or semi-solid food or milk feeds at least four times a day

[5] Non-breastfed children aged 6-23 months are considered to be fed with a minimum standard of three Infant and Young Child Feeding Practices if they receive other milk or milk products at least twice a day, receive the minimum meal frequency, and receive solid or semi-solid foods from at least four food groups not including the milk or milk products food group

[6] Breastfeeding, or not breastfeeding and receiving two or more feedings of commercial infant formula, fresh, tinned and powdered animal milk, and yogurt

[7] Children are fed the minimum recommended number of times per day according to their age and breastfeeding status as described in footnotes 2 and 4

**Table 11.7.1. Infant and young child feeding (IYCF) practices according to DHS-V calculation**

Percentage of youngest children aged 6-23 months living with their mother who are fed according to three IYCF practices based on breastfeeding status, number of food groups, and times they are fed during the day or night preceding the survey, by background characteristics, Sri Lanka, 2016

| | Among breastfed children 6-23 months, percentage fed: | | | | Among non-breastfed children 6-23 months, percentage fed: | | | | | Among all children 6-23 months, percentage fed: | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Background characteristic | 3+ food groups[1] | Minimum meal frequency[2] | Both 3+ food groups and minimum meal frequency | Number of breastfed children 6-23 months | Milk or products[3] | 4+ food groups[1] | Minimum meal frequency[4] | With 3 IYCF practices[5] | Number of non-breastfed children 6-23 months | Breast milk, milk, or milk products[6] | 3+ or 4+ food groups[7] | Minimum meal frequency[8] | With all 3 IYCF practices | Number of all children 6-23 months |
| Total | 89.6 | 86.0 | 78.6 | 2,137 | 89.5 | 86.9 | 62.3 | 52.5 | 152 | 99.3 | 89.4 | 84.4 | 76.9 | 2,289 |

[1] Food groups: a. infant formula, milk other than breast milk, cheese or yogurt or other milk products; b. foods made from grains, roots, and tubers, including porridge and fortified baby food from grains; c. vitamin A-rich fruits and vegetables (and red palm oil); d. other fruits and vegetables; e. eggs; f. meat, poultry, fish, and shellfish (and organ meats); g. legumes and nuts; h. foods made with oil, fat, or butter.
[2] For breastfed children, minimum meal frequency is receiving solid or semi-solid food at least twice a day for infants 6-8 months and at least three times a day for children 9-23 months
[3] Includes at least one feeding of commercial infant formula, fresh, tinned and powdered animal milk, yogurt, cheese and other milk products
[4] For non-breastfed children aged 6-23 months, minimum meal frequency is receiving solid or semi-solid food at least four times a day
[5] Non-breastfed children aged 6-23 months are considered to be fed with a minimum standard of three Infant and Young Child Feeding Practices if they receive other milk or milk products at least once a day, receive solid or semi-solid foods at least four times a day, and receive solid or semi-solid foods from at least four food groups (including the milk or milk products food group)
[6] Breastfeeding or not breastfeeding and receiving two or more feedings of commercial infant formula, fresh, tinned, and powdered animal milk, and yogurt
[7] At least 3 food groups for breastfed children and at least 4 food groups for non-breastfed children
[8] Fed solid or semi-solid food at least twice a day for infants 6-8 months, at least 3 times for other breastfed children, and at least 4 times for non-breastfed children

## 11.7 PRESENCE OF IODIZED SALT IN HOUSEHOLDS

Iodine is an important micronutrient and dietary iodine deficiencies are a major public health concern worldwide. A lack of sufficient iodine is known to cause goiter, cretinism (a severe form of neurological defect), spontaneous abortion, premature birth, infertility, stillbirth and increased child mortality. Iodine deficiency disorder is the most common cause of preventable mental retardation and brain damage in the world. In the 2016 SLDHS all visited households were requested to provide a sample of the salt used for cooking to test the level of iodine. The iodine testing was successfully completed in 96 percent of the households included in the sample of the 2016 SLDHS. The remaining 4 percent of the households did not have salt in the household at the time of the survey (Table 11.8).

The results of testing the salt indicate that over ninety-five percent of households have salt with some iodine, a percentage that is very similar across sectors of residence. However, at the district level, the testing found that less than ninety percent of households in Batticaloa and Puttalam Districts had adequately iodized salt (only 85 percent each). The percentage with iodized salt is also greater in the richest households than among the poorest 20 percent of the households.

**Table 11.8 Presence of iodized salt in household**

Among all households, the percentage with salt tested for iodine content and the percentage with no salt in the household; and among households with salt tested, the percentage with iodized salt, according to background characteristics, Sri Lanka 2016

| | Among all households, the percentage | | | Among households with tested salt: | |
|---|---|---|---|---|---|
| Background characteristic | With salt tested | With no salt in the household | Number of households | Percentage with iodized salt | Number of households |
| **Residence** | | | | | |
| Urban | 96.3 | 3.7 | 4,309 | 95.9 | 4,148 |
| Rural | 96.3 | 3.7 | 21,778 | 95.0 | 20,964 |
| Estate | 95.4 | 4.6 | 1,122 | 96.1 | 1,071 |
| **District** | | | | | |
| Colombo | 96.8 | 3.2 | 2,722 | 97.3 | 2,635 |
| Gampaha | 95.4 | 4.6 | 2,815 | 93.8 | 2,684 |
| Kalutara | 97.2 | 2.8 | 1,618 | 96.3 | 1,572 |
| Kandy | 93.6 | 6.4 | 1,872 | 96.3 | 1,752 |
| Matale | 94.7 | 5.3 | 720 | 98.0 | 682 |
| Nuwara Eliya | 95.2 | 4.8 | 895 | 97.9 | 852 |
| Galle | 94.0 | 6.0 | 1,461 | 94.8 | 1,373 |
| Matara | 97.3 | 2.7 | 1,107 | 94.3 | 1,077 |
| Hambantota | 93.3 | 6.7 | 846 | 99.3 | 789 |
| Jaffna | 98.1 | 1.9 | 720 | 98.4 | 706 |
| Mannar | 99.1 | 0.9 | 126 | 97.9 | 125 |
| Vavuniya | 98.3 | 1.7 | 199 | 94.9 | 196 |
| Mullaitivu | 94.8 | 5.2 | 116 | 96.3 | 110 |
| Kilinochchi | 98.3 | 1.7 | 141 | 95.8 | 139 |
| Batticaloa | 99.2 | 0.8 | 699 | 85.1 | 693 |
| Ampara | 98.9 | 1.1 | 909 | 98.7 | 898 |
| Trincomalee | 97.1 | 2.9 | 507 | 96.1 | 492 |
| Kurunegala | 95.9 | 4.1 | 2,416 | 92.3 | 2,317 |
| Puttalam | 92.9 | 7.1 | 1,007 | 85.0 | 936 |
| Anuradhapura | 98.3 | 1.7 | 1,245 | 94.5 | 1,224 |
| Polonnaruwa | 95.3 | 4.7 | 577 | 98.9 | 550 |
| Badulla | 94.7 | 5.3 | 1,114 | 95.7 | 1,056 |
| Moneragala | 98.4 | 1.6 | 678 | 97.6 | 668 |
| Ratnapura | 98.5 | 1.5 | 1,567 | 98.0 | 1,543 |
| Kegalle | 98.1 | 1.9 | 1,134 | 92.6 | 1,113 |
| **Wealth quintile** | | | | | |
| Lowest | 92.2 | 7.8 | 6,149 | 93.5 | 5,670 |
| Second | 96.2 | 3.8 | 5,504 | 94.5 | 5,294 |
| Middle | 97.5 | 2.5 | 5,301 | 95.2 | 5,170 |
| Fourth | 97.8 | 2.2 | 5,164 | 95.9 | 5,050 |
| Highest | 98.2 | 1.8 | 5,094 | 97.1 | 5,000 |
| **Total** | **96.2** | **3.8** | **27,210** | **95.2** | **26,183** |

## 11.8 MICRONUTRIENT INTAKE AMONG CHILDREN

Micronutrient deficiency is a major contributor to childhood morbidity and mortality. Children receive micronutrients from food, food fortification and direct supplementation. The 2016 SLDHS collected information on consumption of foods rich in vitamin A and iron and the coverage status of children receiving vitamin A mega dose capsules, iron supplements (syrup) and a deworming medication.

Vitamin A is an essential micronutrient for the immune system that plays an important role in maintaining the epithelial tissue in the body. Severe vitamin A deficiency (VAD) can cause eye damage. VAD can also increase the severity of infections, such as measles and diarrheal diseases in children and slow recovery from illness. Vitamin A is found in breast milk, other milk, liver, egg yolk, fish, butter, mangoes, papayas, carrots, pumpkins and dark green leafy vegetables. The human liver can store an adequate amount of the vitamin for four to six months.

**Table 11.9.1 Micronutrient intake among children**

Among all children aged 6-59 months who are living with their mother, the percentages who consumed vitamin A-rich and iron-rich foods in the day or night preceding the survey, by background characteristics, Sri Lanka 2016

| Background characteristic | Among youngest children aged 6-23 months living with the mother: Percentage who consumed foods rich in vitamin A in last 24 hours[1] | Percentage who consumed foods rich in iron in last 24 hours[2] | Number of children | Among all children aged 24-59 months living with the mother: Percentage who consumed foods rich in vitamin A in last 24 hours[1] | Percentage who consumed foods rich in iron in last 24 hours[2] | Number of children |
|---|---|---|---|---|---|---|
| **Sex** | | | | | | |
| Male | 93.0 | 60.4 | 1,165 | 89.2 | 60.2 | 2,525 |
| Female | 91.6 | 57.9 | 1,123 | 89.6 | 61.1 | 2,272 |
| **Breastfeeding status** | | | | | | |
| Breastfeeding | 91.9 | 57.9 | 2,137 | 93.5 | 61.4 | 1,918 |
| Not breastfeeding | 97.7 | 76.5 | 152 | 86.6 | 60.2 | 2,879 |
| **Mother's age at birth** | | | | | | |
| 15-19 | (83.1) | (42.7) | 44 | * | * | 11 |
| 20-29 | 91.1 | 59.4 | 1,032 | 86.2 | 58.5 | 1,611 |
| 30-39 | 93.7 | 59.9 | 1,116 | 90.4 | 61.7 | 2,728 |
| 40-49 | 93.8 | 55.1 | 96 | 94.6 | 62.2 | 446 |
| **Residence** | | | | | | |
| Urban | 91.5 | 69.3 | 350 | 89.7 | 70.4 | 742 |
| Rural | 92.5 | 58.1 | 1,835 | 89.5 | 59.4 | 3,852 |
| Estate | 91.4 | 44.5 | 103 | 86.7 | 48.9 | 203 |
| **District** | | | | | | |
| Colombo | 96.4 | 65.0 | 216 | 89.6 | 66.9 | 392 |
| Gampaha | 94.6 | 69.8 | 200 | 88.6 | 64.0 | 466 |
| Kalutara | 96.6 | 67.7 | 149 | 91.7 | 64.4 | 300 |
| Kandy | 83.7 | 42.1 | 148 | 81.3 | 44.9 | 354 |
| Matale | 93.4 | 47.6 | 46 | 89.1 | 49.4 | 141 |
| Nuwara Eliya | 94.7 | 44.5 | 80 | 87.2 | 45.7 | 166 |
| Galle | 92.6 | 51.7 | 122 | 85.0 | 65.9 | 259 |
| Matara | 90.5 | 58.7 | 101 | 89.5 | 62.6 | 192 |
| Hambantota | 88.6 | 55.5 | 73 | 87.1 | 59.5 | 150 |
| Jaffna | 86.8 | 57.2 | 58 | 88.5 | 53.1 | 120 |
| Mannar | (98.6) | (94.0) | 8 | 92.4 | 79.6 | 28 |
| Vavuniya | 79.5 | 58.2 | 16 | 93.4 | 68.8 | 39 |
| Mullaitivu | 86.7 | 68.0 | 11 | 86.9 | 63.7 | 23 |
| Kilinochchi | (80.3) | (54.4) | 10 | 84.6 | 63.7 | 29 |
| Batticaloa | 78.5 | 69.7 | 70 | 89.3 | 72.7 | 148 |
| Ampara | 84.3 | 75.0 | 94 | 89.3 | 78.6 | 217 |
| Trincomalee | 91.6 | 73.6 | 43 | 85.2 | 76.3 | 114 |
| Kurunegala | 93.4 | 50.9 | 212 | 92.7 | 56.0 | 384 |
| Puttalam | 93.3 | 62.7 | 89 | 94.0 | 64.8 | 171 |
| Anuradhapura | 96.5 | 67.2 | 122 | 96.4 | 70.4 | 251 |
| Polonnaruwa | 93.0 | 53.5 | 57 | 91.4 | 50.2 | 101 |
| Badulla | 94.4 | 41.9 | 70 | 89.9 | 48.2 | 189 |
| Moneragala | 97.4 | 67.3 | 67 | 88.2 | 58.2 | 138 |
| Ratnapura | 90.8 | 51.1 | 131 | 89.7 | 49.3 | 247 |
| Kegalle | 100.0 | 61.6 | 96 | 94.0 | 64.2 | 177 |
| **Mother's education** | | | | | | |
| No education | * | * | 15 | (89.9) | (45.6) | 34 |
| Passed Grade 1-5 | 92.9 | 56.7 | 64 | 83.2 | 55.6 | 192 |
| Passed Grade 6-10 | 90.0 | 53.2 | 973 | 87.4 | 56.3 | 2,115 |
| Passed G.C.E.(O/L) or equivalent | 92.4 | 59.2 | 468 | 90.3 | 62.1 | 1,118 |
| Passed G.C.E.(A/L) or equivalent | 94.5 | 66.7 | 608 | 92.5 | 67.0 | 1,089 |
| Degree and above | 98.2 | 69.3 | 160 | 93.0 | 69.3 | 249 |
| **Wealth quintile** | | | | | | |
| Lowest | 87.5 | 53.5 | 420 | 85.2 | 54.1 | 1,007 |
| Second | 90.6 | 53.6 | 457 | 90.2 | 55.6 | 996 |
| Middle | 92.6 | 56.1 | 466 | 88.7 | 56.5 | 944 |
| Fourth | 93.9 | 64.0 | 494 | 91.2 | 65.4 | 1,026 |
| Highest | 96.4 | 68.0 | 451 | 92.0 | 73.5 | 824 |
| **Total** | **92.3** | **59.2** | **2,289** | **89.4** | **60.7** | **4,797** |

Note : An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed and figures in parentheses are based on 25 – 49 unweighted cases
na = Not applicable
1 Includes meat (and organ meat), fish, poultry, eggs, pumpkin, orange or yellow yams or squash, carrots, yellow sweet potatoes, dark green leafy vegetables, mango, papaya, and other locally grown fruits and vegetables that are rich in vitamin A
2 Includes meat (including organ meat), fish, poultry and eggs

According to Table 11.9.1 ninety-two percent of children aged 6-23 months consumed foods rich in vitamin A the day or night preceding the survey. The consumption of foods rich in vitamin A increases with wealth quintile. The consumption of vitamin A rich food the day or night before the survey also varies by district, pointing to the need to target those districts in which children are less protected (Vavuniya and Batticaloa, among others)

Among children aged 24-59 months, eighty-nine percent of children consumed foods rich in vitamin A the day or night preceding the survey. A larger percentage of breastfed children aged 24-59 months consumed foods rich in vitamin A than non-breastfed children in the same age group (94 percent vs 87 percent). Very little variations are observed in the proportion of children who consumed food rich in vitamin A by residence, wealth quintile and districts. Percentage of children aged 24-59 months who consumed foods rich in vitamin A is positively associated with mother's age at birth and mother's education.

Iron is essential for cognitive development and low iron intake can contribute to anemia. Iron requirements are greatest at the age of 6-23 months, when growth is extremely rapid. According to Table 11.9.1, three in five children (59 percent) consumed food rich in iron in the 24 hours prior to the survey. A higher percentage of children in urban areas consume food rich in iron than those in the rural or estates sector (69, 58 and 45 percent respectively).

Among children aged 24-59 months, sixty-one percent of children consumed food rich in iron in the previous 24 hours with a higher percentage in urban sector than in the rural or estate sector. (70, 59 and 49 percent respectively). The highest percentages of children aged 24-59 months who consumed food rich in iron are observed among older mothers (62 percent) , the richest household (74 percent) and mothers with the highest educational level (69 percent).

**Figure 11 .7 Percentage of consuming foods rich in vitamin A and iron by Age Groups**

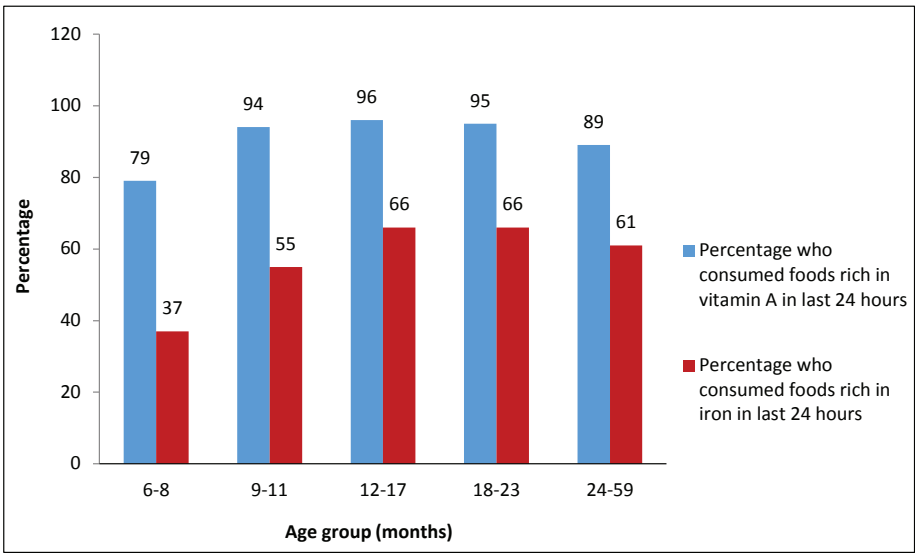



Figure 11.7 - shows the 2016 SLDHS results for infants and young children aged 6-59 months consuming foods rich in vitamin A and iron in the day or night preceding the survey. Trends of both consuming vitamin A rich foods and iron rich foods are positively associated with child age groups from 6 to 23 months. The proportions of children who consumed foods rich in vitamin A in the age group 24-59 months is less than the proportion of children in the age group 18-23 months.

**Table 11.9.2 Micronutrient intake among children**

Among all children 6-59 months, the percentages who were given vitamin A supplements in the six months preceding the survey, who were given iron syrup in the past fourteen days, and who were given deworming medication in the six months preceding the survey, and among all children aged 6-59 months who live in households that were tested for iodized salt, the percentage who live in households with iodized salt, by background characteristics, Sri Lanka 2016

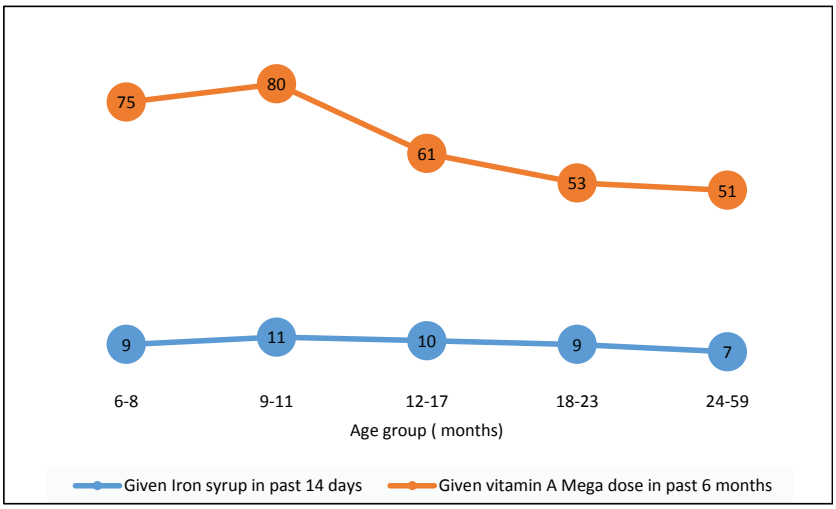
| | Among all children aged 6-59 months: | | | | Among children aged 6-59 months living in households tested for iodized salt | |
|---|---|---|---|---|---|---|
| Background characteristic | Percentage given iron syrup in past 14 days[1] | Percentage given vitamin A supple- ments in past 6 months[2] | Percentage given dewor- ming medica- tion in past 6 months[3], | Number of children | Percentage living in house- holds with iodized salt[4] | Number of children |
| **Sex** | | | | | | |
| Male | 7.3 | 54.7 | 65.7 | 3,844 | 95.6 | 3,790 |
| Female | 7.8 | 55.7 | 64.7 | 3,545 | 95.0 | 3,483 |
| **Breastfeeding status** | | | | | | |
| Breastfeeding | 7.7 | 59.6 | 58.6 | 4,107 | 95.2 | 4,042 |
| Not breastfeeding | 7.3 | 49.7 | 73.4 | 3,282 | 95.5 | 3,231 |
| **Mother's age at birth** | | | | | | |
| 15-19 | 12.3 | 60.2 | 43.6 | 56 | 98.3 | 54 |
| 20-29 | 7.1 | 57.0 | 62.1 | 2,738 | 95.1 | 2,691 |
| 30-39 | 7.7 | 54.2 | 67.0 | 4,034 | 95.5 | 3,976 |
| 40-49 | 7.7 | 53.0 | 69.6 | 562 | 94.4 | 551 |
| **Residence** | | | | | | |
| Urban | 11.6 | 52.9 | 62.3 | 1,149 | 95.0 | 1,133 |
| Rural | 6.9 | 55.8 | 65.7 | 5,914 | 95.3 | 5,819 |
| Estate | 4.2 | 52.0 | 65.3 | 326 | 97.2 | 321 |
| **District** | | | | | | |
| Colombo | 9.0 | 39.3 | 60.8 | 634 | 96.3 | 626 |
| Gampaha | 5.2 | 56.9 | 65.3 | 707 | 93.0 | 700 |
| Kalutara | 4.2 | 34.6 | 69.6 | 466 | 94.6 | 466 |
| Kandy | 4.5 | 45.7 | 59.6 | 519 | 95.7 | 503 |
| Matale | 5.3 | 74.6 | 82.3 | 191 | 97.7 | 187 |
| Nuwara Eliya | 4.2 | 50.0 | 70.5 | 253 | 98.5 | 247 |
| Galle | 5.2 | 47.8 | 60.6 | 392 | 94.9 | 382 |
| Matara | 5.1 | 76.1 | 72.9 | 309 | 95.7 | 308 |
| Hambantota | 1.5 | 66.9 | 72.0 | 232 | 100.0 | 226 |
| Jaffna | 14.4 | 53.8 | 60.8 | 193 | 99.5 | 187 |
| Mannar | 4.1 | 40.4 | 74.8 | 39 | 99.6 | 38 |
| Vavuniya | 11.0 | 39.2 | 43.5 | 58 | 94.8 | 58 |
| Mullaitivu | 1.6 | 68.7 | 50.6 | 35 | 97.8 | 34 |
| Kilinochchi | 13.3 | 64.9 | 62.4 | 41 | 95.5 | 41 |
| Batticaloa | 42.9 | 63.7 | 66.0 | 228 | 89.6 | 227 |
| Ampara | 9.9 | 70.0 | 60.2 | 323 | 98.9 | 323 |
| Trincomalee | 19.0 | 43.2 | 66.1 | 164 | 97.2 | 164 |
| Kurunegala | 5.3 | 37.8 | 64.1 | 618 | 92.7 | 604 |
| Puttalam | 10.0 | 64.7 | 51.2 | 270 | 82.4 | 255 |
| Anuradhapura | 5.9 | 53.3 | 60.2 | 385 | 95.5 | 377 |
| Polonnaruwa | 5.4 | 70.1 | 75.7 | 161 | 98.9 | 159 |
| Badulla | 4.9 | 61.7 | 69.7 | 275 | 95.9 | 265 |
| Moneragala | 7.8 | 69.1 | 69.0 | 217 | 97.2 | 216 |
| Ratnapura | 3.7 | 79.6 | 75.7 | 396 | 98.8 | 396 |
| Kegalle | 6.9 | 65.3 | 61.0 | 283 | 95.2 | 283 |
| **Mother's education** | | | | | | |
| No education | 6.3 | 65.6 | 53.1 | 53 | 90.2 | 52 |
| Passed Grade 1-5 | 7.9 | 57.7 | 58.8 | 271 | 94.7 | 265 |
| Passed Grade 6-10 | 7.3 | 55.3 | 65.9 | 3,219 | 94.4 | 3,173 |
| Passed G.C.E.(O/L) or equivalent | 8.4 | 52.9 | 65.3 | 1,640 | 95.1 | 1,614 |
| Passed G.C.E.(A/L) or equivalent | 6.9 | 57.2 | 66.0 | 1,776 | 97.0 | 1,743 |
| Degree and above | 8.6 | 51.9 | 62.1 | 431 | 96.8 | 426 |
| **Wealth quintile** | | | | | | |
| Lowest | 8.1 | 55.3 | 63.5 | 1,495 | 93.8 | 1,459 |
| Second | 6.8 | 56.4 | 65.5 | 1,520 | 94.1 | 1,492 |
| Middle | 7.1 | 55.1 | 67.4 | 1,460 | 95.4 | 1,440 |
| Fourth | 7.4 | 55.7 | 65.7 | 1,587 | 96.2 | 1,567 |
| Highest | 8.2 | 53.3 | 63.7 | 1,328 | 97.2 | 1,314 |
| **Total** | **7.5** | **55.2** | **65.2** | **7,389** | **95.3** | **7,273** |

[1] Based on mother's recall
[2] Based on both mother's recall and the Child Health Development Record (where available)
[3] Deworming for intestinal parasites is commonly done for helminthes and for schistosomiasis.
[4] Excludes children in households in which salt was not tested.

According to Table 11.9.2 eight percent of all children aged 6-59 months were given iron syrup in the fourteen days preceding the survey. Greater variation in the coverage of giving iron syrup in the past 14 days is observed in Batticaloa with the highest coverage of 43 percent compared to percentages in Mullaitivu and Hambantota Districts (2 percent).

Periodic dosing (every six months) of vitamin A is one method of ensuring that children at risk do not develop VAD. Table 11.9.2 also shows that more than half of the children aged 6-59 months were given vitamin A (55 percent) in the past six months. There are only slight differences in the proportion of children receiving vitamin A by background characteristics.

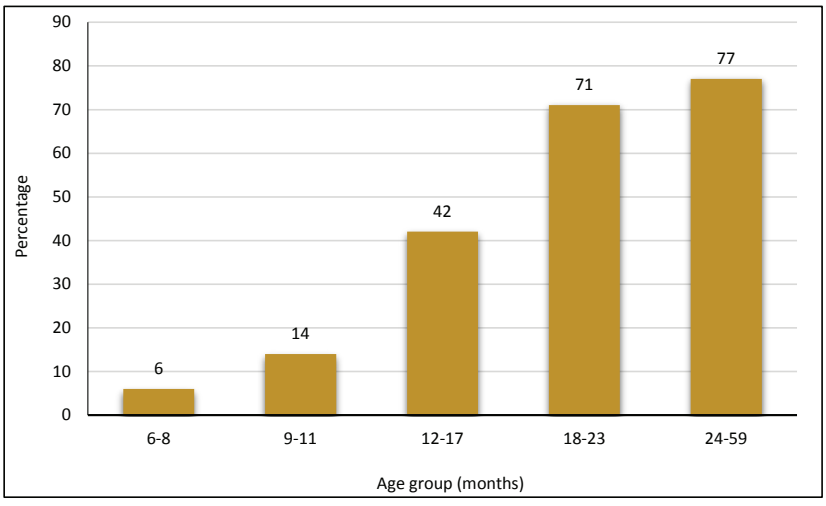
**Figure 11.8 Percentage given Iron syrup and Vitamin A by age group**




According to figure 11.8 , there are no large differences among percentages of children given iron syrup in past 14 days (around 9 percent to 11 percent) up to age group 18-23 months after which it reduces to7 percent in age group 24-59 months. Over 80 percent of children have been given vitamin A before their first birthday. Fifty-one percent of children aged 24-59 months of age received vitamin A in the past six months.

Periodic deworming for organisms such as helminthes can improve children's micronutrient status. Sixty-five percent of children received deworming medication in the six months before the survey. The likelihood of receiving deworming medication increases with the child's age. (see figure 11.9) However it must be noted here that the preventive periodic deworming programme starts from the age of 18 months.

**Figure 11.9 Percentage given deworming medication by age groups**



As mentioned in the previous section, iodine deficiency, most frequently caused by inadequate iodine intake, has serious effects on physical growth and mental development. Fortification of salt with iodine is the most common method of preventing iodine deficiency. Over ninety-five percent of children aged 6-59 months live in households with adequately iodized salt. There are few differentials in this figure by background characteristics. The percentage of children living in households that use adequately iodized salt is lowest in the Puttalam District (eight-two percent).

## 11.9 Nutritional status of women

Low pre-pregnancy BMI and short stature of women are risk factors for poor birth outcomes and delivery complications. The height of a woman is associated with past socio-economic status and nutrition during childhood and adolescence. The cut-off point at which mothers can be considered at- risk because of short stature is normally taken as below 145 cm. In developing countries being underweight during pregnancy is the leading risk factor for preventable death and diseases (WHO, 2002).

The BMI is used to measure underweight or obesity. It is expressed as weight in kilograms divided by height in meters squared (kg/m2). A cut-off point of 18.5 is used to define thinness or acute under-nutrition. A BMI of 25 or above usually indicates being overweight, and 29.9 or above indicates obesity (WHO, 1995). The prevalence of overweight women is a concern because it predisposes them to a wide range of health problems such as diabetes and heart disease, as well as poor birth outcomes. On the other end of the continuum, chronic energy deficiency of women leads to low work productivity and reduced resistance to illness. In the 2016 SLDHS measurements of weight and height was obtained for the majority of the ever-married women included in the sample (92 percent).

Tables 11.10 presents the mean values of the two indicators of nutritional status and the proportion of women falling into high-risk categories according to their background characteristics. Respondents for whom there was no information on height and/or weight, or for whom the values obtained were implausible, are excluded from this analysis. The data analysis on BMI is based on 16,806 ever-married women, while the height analysis is based on 17,888 ever-married women aged 15-49 years (98 percent).

### 11.9.1 Height of women

In 2016, 7 percent of ever-married women fall below the cut-off of 145 cm. This value is slightly lower than the approximately 11 percent reported in 2006. Small stature is higher among women 40 and older than those under that age. The prevalence of shortness decreases as women's education and household wealth increase (11 percent among the poorest quintile compared to only 4 percent for the richest quintile).

The prevalence of short stature among ever-married women in the estate sector is three time shigher than that observed among those residing in the urban sector (15 and 5 percent, respectively). Variations are also observed across districts, with higher percentages of women below 145 cm in Nuwara-Eliya (13 percent) and Ratnapura (15 percent).

### 11.9.2 Body mass index (BMI) of women

**Body mass index (BMI)**

BMI is calculated by dividing weight in kilograms by height in metres squared ($kg/m^2$). A BMI less than 18.5 indicates that the woman is too thin for her height and has a chronic energy deficiency. At the other end of the scale, women are considered overweight if their BMI falls between 25.0 and 29.9 and are obese if their BMI is greater than or equal to 30.0.

***sample :*** Women age15-49 who are not pregnant and who have not had a birth in the 2 months before the survey

The mean BMI for ever-married women age 15-49 years is 24.8. This value is an increase from 23.1 as measured in 2006-07. From the BMI distribution, we can see that only 46 percent of the ever-married women have a normal BMI (between 18.5 and 24.9). Of the 54 percent remaining, 9 percent are considered thin (BMI<18.5), 32 percent overweight (BMI between 25.0 and 29.9), and 13 percent obese (BMI of 30 or higher) (Table 11.10).

The prevalence of thinness varies with the place of residence of the woman (22 percent among ever-married women residing in the estates sector, compared to less than seven percent among those of the urban and rural sectors. Women in the districts of Ratnapura (15 percent) and Killinochci (14 percent) have the highest prevalence of thinness.

Most women who are thin are mildly thin (5 percent); however, 4 percent of women are moderately or severely thin (BMI<17), which indicates chronic energy deficiency. Moderate to severe thinness is highest in the youngest age group (11 percent). Women in the estate sector are three times as likely to be in this category as urban and rural woman. As with low stature, the prevalence of severe and moderate thinness decreases with the level of education of the woman and wealth of the household.

Forty-five percent of ever-married women are overweight or obese (BMI>25). The percentage of women who are overweight or obese increases with the age of the woman, their level of education, and the wealth of their households. Compared to 2006-07, the percentage of ever-married women overweight or obese has increased substantially. Thus, in the last ten years, the percentage of overweight women increased by 33 percent (from 24 percent in 2006-07 to 32 percent in 2016), while the percentage of obese ever-married women increased from 7 percent to 13 percent during the same period.

The prevalence of overweight and obesity is much higher among women living in the urban sector (36 percent and 20 percent, respectively) than in the rural or estates sectors. The prevalence of overweight and obesity is positively associated with the level of education of the woman and the wealth of the household in which they reside (Table 11.10). By district, the prevalence of overweight and obesity is at the highest points in Colombo (37 and 19 percent), Gampaha (35 and 16 percent), and in Mannar (39 and 16 percent).

**Table 11.10 Nutritional status of women**

Among ever married women aged 15-49, the percentage with height under 145 cm, mean Body Mass Index (BMI), and the percentage with specific BMI levels, by background characteristics, Sri Lanka 2016

| | Height | | Body Mass Index[1] | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Background characteristic | Percent-age below 145 cm | Number of ever-married women | Mean Body Mass Index (BMI) | 18.5-24.9 (Total normal) | <18.5 (Total thin) | 17.0-18.4 (Mildly thin) | <17 (Moderately and severely thin) | >=25.0 (Total over-weight or obese) | 25.0-29.9 (Over-weight) | >=30.0 (Obese) | Number of ever-married women |
| **Age** | | | | | | | | | | | |
| 15-19 | 7.2 | 219 | 21.9 | 56.1 | 22.9 | 11.5 | 11.4 | 20.9 | 15.8 | 5.2 | 170 |
| 20-29 | 5.3 | 3,930 | 23.3 | 51.0 | 16.3 | 9.2 | 7.0 | 32.8 | 24.4 | 8.4 | 3,383 |
| 30-39 | 6.1 | 7,406 | 24.9 | 46.3 | 7.8 | 4.8 | 3.0 | 45.9 | 32.3 | 13.6 | 6,943 |
| 40-49 | 9.6 | 6,332 | 25.5 | 41.8 | 6.2 | 3.8 | 2.3 | 52.0 | 36.1 | 15.9 | 6,310 |
| **Residence** | | | | | | | | | | | |
| Urban | 5.2 | 2,790 | 26.1 | 38.6 | 5.6 | 3.0 | 2.6 | 55.8 | 35.8 | 20.1 | 2,629 |
| Rural | 7.2 | 14,427 | 24.6 | 46.6 | 9.1 | 5.5 | 3.6 | 44.2 | 31.9 | 12.4 | 13,558 |
| Estate | 14.9 | 671 | 22.2 | 54.6 | 22.0 | 12.7 | 9.3 | 23.4 | 17.3 | 6.1 | 620 |
| **District** | | | | | | | | | | | |
| Colombo | 5.8 | 1,703 | 26.1 | 39.0 | 4.6 | 2.7 | 1.9 | 56.4 | 37.1 | 19.4 | 1,604 |
| Gampaha | 4.8 | 1,832 | 25.4 | 42.2 | 6.6 | 3.9 | 2.7 | 51.2 | 35.1 | 16.1 | 1,718 |
| Kalutara | 7.2 | 1,095 | 24.8 | 45.9 | 9.0 | 5.6 | 3.3 | 45.1 | 31.3 | 13.8 | 1,043 |
| Kandy | 9.9 | 1,191 | 24.8 | 47.6 | 7.9 | 5.8 | 2.1 | 44.5 | 30.6 | 13.9 | 1,120 |
| Matale | 9.2 | 488 | 24.9 | 44.9 | 8.3 | 4.8 | 3.4 | 46.9 | 31.7 | 15.2 | 454 |
| Nuwara Eliya | 12.7 | 545 | 23.6 | 53.4 | 13.4 | 7.3 | 6.1 | 33.3 | 22.8 | 10.5 | 518 |
| Galle | 7.1 | 902 | 24.2 | 46.0 | 12.3 | 7.5 | 4.9 | 41.7 | 31.0 | 10.7 | 850 |
| Matara | 8.3 | 705 | 24.1 | 49.6 | 12.3 | 6.6 | 5.7 | 38.1 | 26.0 | 12.2 | 665 |
| Hambantota | 6.5 | 478 | 24.1 | 47.7 | 10.7 | 4.0 | 6.7 | 41.5 | 31.6 | 9.9 | 438 |
| Jaffna | 3.7 | 463 | 25.0 | 45.0 | 7.4 | 4.4 | 3.0 | 47.6 | 34.9 | 12.7 | 440 |
| Mannar | 3.0 | 81 | 25.4 | 37.8 | 7.6 | 4.1 | 3.5 | 54.6 | 38.6 | 15.9 | 75 |
| Vavuniya | 5.8 | 135 | 24.8 | 46.6 | 7.9 | 6.4 | 1.5 | 45.5 | 32.4 | 13.0 | 130 |
| Mullaitivu | 5.9 | 80 | 24.2 | 52.0 | 8.9 | 6.1 | 2.9 | 39.1 | 27.7 | 11.3 | 79 |
| Kilinochchi | 3.5 | 93 | 23.8 | 50.1 | 14.0 | 9.9 | 4.1 | 35.9 | 24.0 | 11.8 | 88 |
| Batticaloa | 6.1 | 528 | 25.0 | 40.7 | 10.7 | 5.4 | 5.3 | 48.7 | 31.8 | 16.9 | 496 |
| Ampara | 5.6 | 725 | 25.0 | 45.4 | 8.4 | 5.2 | 3.2 | 46.2 | 31.6 | 14.5 | 669 |
| Trincomalee | 8.0 | 351 | 25.5 | 41.0 | 7.4 | 4.6 | 2.9 | 51.5 | 33.5 | 18.0 | 324 |
| Kurunegala | 7.1 | 1,584 | 24.4 | 48.3 | 9.5 | 5.2 | 4.3 | 42.2 | 32.1 | 10.1 | 1,481 |
| Puttalam | 4.5 | 655 | 25.5 | 41.3 | 7.6 | 3.6 | 4.0 | 51.1 | 32.8 | 18.2 | 617 |
| Anuradhapura | 6.0 | 978 | 24.8 | 47.9 | 7.4 | 4.7 | 2.6 | 44.7 | 32.7 | 12.0 | 917 |
| Polonnaruwa | 5.9 | 392 | 24.1 | 49.3 | 12.0 | 6.3 | 5.6 | 38.7 | 26.6 | 12.1 | 360 |
| Badulla | 8.7 | 708 | 24.1 | 50.1 | 9.7 | 7.7 | 2.0 | 40.2 | 31.9 | 8.3 | 665 |
| Moneragala | 6.5 | 469 | 24.3 | 48.1 | 9.7 | 6.5 | 3.2 | 42.2 | 31.8 | 10.5 | 440 |
| Ratnapura | 11.8 | 1,073 | 23.7 | 46.2 | 15.2 | 8.9 | 6.2 | 38.6 | 29.7 | 8.9 | 1,022 |
| Kegalle | 7.7 | 634 | 24.5 | 48.8 | 8.5 | 5.3 | 3.2 | 42.8 | 32.1 | 10.7 | 594 |
| **Education** | | | | | | | | | | | |
| No education | 23.9 | 279 | 23.3 | 53.1 | 15.9 | 10.2 | 5.7 | 31.0 | 21.4 | 9.6 | 276 |
| Passed Grade 1-5 | 14.2 | 1,229 | 24.4 | 44.8 | 13.3 | 7.3 | 6.0 | 41.9 | 27.3 | 14.6 | 1,202 |
| Passed Grade 6-10 | 8.2 | 7,927 | 24.6 | 46.7 | 9.7 | 5.7 | 4.0 | 43.6 | 30.4 | 13.2 | 7,503 |
| Passed G.C.E.(O/L) or equivalent | 4.9 | 3,958 | 25.0 | 44.1 | 7.7 | 4.8 | 2.9 | 48.2 | 34.5 | 13.6 | 3,691 |
| Passed G.C.E.(A/L) or equivalent | 4.3 | 3,654 | 25.0 | 45.0 | 8.0 | 4.8 | 3.2 | 47.0 | 33.5 | 13.4 | 3,387 |
| Degree and above | 5.2 | 841 | 25.2 | 44.7 | 4.8 | 3.1 | 1.7 | 50.4 | 38.5 | 11.9 | 748 |
| **Wealth quintile** | | | | | | | | | | | |
| Lowest | 10.9 | 3,290 | 23.2 | 50.9 | 16.1 | 8.9 | 7.3 | 33.0 | 24.5 | 8.5 | 3,109 |
| Second | 8.8 | 3,600 | 24.2 | 48.5 | 11.4 | 6.8 | 4.6 | 40.1 | 28.8 | 11.3 | 3,399 |
| Middle | 6.8 | 3,748 | 24.7 | 47.1 | 8.1 | 5.2 | 2.9 | 44.8 | 32.4 | 12.4 | 3,524 |
| Fourth | 5.7 | 3,738 | 25.3 | 43.3 | 6.1 | 3.8 | 2.3 | 50.6 | 35.3 | 15.3 | 3,465 |
| Highest | 4.1 | 3,512 | 26.2 | 38.9 | 4.1 | 2.5 | 1.5 | 57.1 | 38.2 | 18.8 | 3,309 |
| **Total** | **7.2** | **17,888** | **24.8** | **45.7** | **9.1** | **5.4** | **3.7** | **45.3** | **31.9** | **13.3** | **16,806** |

Note: The Body Mass Index (BMI) is expressed as the ratio of weight in kilograms to the square of height in meters (kg/m2).
[1] Excludes pregnant women and women with a birth in the preceding 2 months

## 11.10 Foods consumed by mothers

Mother's consumption of a variety of nutritious foods influences the health condition of mothers and their children. Adequate amounts of carbohydrates, protein, fat, vitamins and minerals are required for a well-balanced diet. The 2016 SLDHS includes a set of questions to inquire about the type of foods consumed by mothers of children under 3 years of age, during the day or night preceding the interview. Food consumption was obtained with a 24-hour dietary recall.

Eighty-eight percent of mothers had eaten vitamin A rich food, and 62 percent had eaten animal protein (other than dairy). Sixty-nine percent of women ate legumes or legume –based food in the previous day. The consumption of animal protein (other than dairy) increases with the level of education of the mother and wealth of the household. In the estate sector, the consumption of all protein sources such as milk, meat/fish/poultry/ eggs, legumes and cheese/ yogurt is lower than in urban and rural areas. Sugary foods and foods made with oil/fat/butter are most commonly consumed by the mothers in urban sectorsrather than rural or estate sector mothers. Mothers in the lowest wealth quintile have less variety in their diets than those in the highest wealth quintile, a diet that is particularly deficient in the consumption of cheese/yogurt. The consumption of cheese/yogurt in the highest wealth quintile mothers is approximately 3 times of that of the lowest wealth quintile.

**Table 11.11 Foods consumed by mothers in the day or night preceding the interview**

Among mothers aged 15-49 with a child under age three years living with them, the percentage who consumed specific types of foods in the day or night preceding the interview, by background characteristics, Sri Lanka 2016

| | Liquids | | | Solid or semi-solid foods | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Background characteristic | Milk | Tea/ coffee | Other liquids | Foods made from grains | Foods made from roots/ tubers | Foods made from legumes | Meat/ fish/ shellfish/ poultry/ eggs | Cheese/ yogurt | Vitamin A - rich fruits/ vegetables | Other fruits/ vegetables | Other solid or semi-solid food | Foods made with oil/ fat/ butter | Sugary foods | Number of women |
| **Age** | | | | | | | | | | | | | | |
| 15-19 | 17.7 | 87.3 | 31.9 | 96.5 | 53.9 | 64.2 | 55.5 | 20.3 | 85.4 | 43.2 | 89.0 | 49.4 | 25.6 | 70 |
| 20-29 | 18.0 | 89.9 | 26.9 | 95.6 | 53.1 | 68.1 | 61.7 | 21.2 | 87.5 | 50.3 | 88.9 | 45.5 | 27.3 | 1,952 |
| 30-39 | 18.6 | 91.8 | 23.7 | 95.9 | 55.3 | 68.8 | 63.4 | 22.1 | 89.1 | 52.6 | 89.0 | 47.5 | 28.0 | 2,272 |
| 40-49 | 16.8 | 92.0 | 24.0 | 97.5 | 60.6 | 73.1 | 54.9 | 20.3 | 86.7 | 56.7 | 93.5 | 56.5 | 33.4 | 223 |
| **Residence** | | | | | | | | | | | | | | |
| Urban | 23.2 | 89.4 | 34.9 | 94.1 | 55.1 | 64.3 | 73.7 | 26.6 | 85.2 | 50.8 | 83.4 | 49.6 | 35.5 | 708 |
| Rural | 17.5 | 91.2 | 23.5 | 96.4 | 54.6 | 69.5 | 60.6 | 21.1 | 89.2 | 51.8 | 90.4 | 46.7 | 26.4 | 3,620 |
| Estate | 14.5 | 92.7 | 21.5 | 93.6 | 52.0 | 68.0 | 47.4 | 12.6 | 81.1 | 52.6 | 86.8 | 45.6 | 28.9 | 189 |
| **District** | | | | | | | | | | | | | | |
| Colombo | 17.3 | 90.5 | 39.0 | 96.7 | 58.1 | 68.1 | 71.1 | 29.6 | 88.9 | 49.2 | 83.1 | 53.1 | 37.5 | 412 |
| Gampaha | 15.1 | 91.5 | 25.8 | 98.7 | 55.7 | 72.6 | 63.8 | 23.4 | 85.1 | 50.8 | 87.1 | 56.1 | 26.2 | 383 |
| Kalutara | 10.4 | 97.8 | 15.8 | 98.9 | 56.5 | 86.1 | 61.7 | 17.2 | 92.4 | 63.9 | 86.5 | 44.5 | 15.0 | 285 |
| Kandy | 36.2 | 88.9 | 26.5 | 99.2 | 45.4 | 68.8 | 46.4 | 23.9 | 83.9 | 55.1 | 89.5 | 65.6 | 34.1 | 322 |
| Matale | 10.9 | 94.4 | 28.3 | 98.5 | 42.8 | 75.0 | 58.4 | 25.5 | 95.5 | 46.9 | 98.5 | 84.3 | 36.0 | 113 |
| Nuwara Eliya | 13.1 | 92.4 | 16.5 | 92.6 | 57.5 | 66.7 | 50.3 | 16.3 | 88.4 | 55.9 | 89.0 | 43.2 | 30.4 | 146 |
| Galle | 6.0 | 86.3 | 20.2 | 98.9 | 45.9 | 78.4 | 57.6 | 24.7 | 88.5 | 63.1 | 94.8 | 65.3 | 33.0 | 236 |
| Matara | 6.2 | 94.5 | 16.7 | 90.5 | 53.7 | 83.3 | 68.9 | 26.2 | 91.2 | 69.5 | 97.1 | 62.2 | 30.7 | 183 |
| Hambantota | 15.8 | 85.1 | 31.5 | 97.9 | 63.3 | 83.7 | 76.8 | 47.2 | 92.6 | 84.8 | 97.2 | 68.0 | 28.4 | 149 |
| Jaffna | 68.7 | 85.9 | 38.2 | 88.7 | 57.4 | 43.4 | 58.0 | 15.8 | 73.2 | 48.1 | 81.1 | 39.4 | 30.7 | 115 |
| Mannar | 48.9 | 80.0 | 33.6 | 94.3 | 46.9 | 36.5 | 87.9 | 20.8 | 69.0 | 30.1 | 83.4 | 56.4 | 25.1 | 20 |
| Vavuniya | 57.7 | 83.9 | 24.9 | 90.3 | 46.5 | 19.7 | 60.8 | 6.7 | 75.5 | 36.7 | 68.5 | 13.2 | 28.5 | 30 |
| Mullaitivu | 65.6 | 95.6 | 19.7 | 99.2 | 50.3 | 37.0 | 68.1 | 4.0 | 75.6 | 40.0 | 72.9 | 30.9 | 9.1 | 21 |
| Kilinochchi | 60.9 | 82.6 | 29.7 | 74.6 | 39.8 | 29.9 | 67.0 | 8.4 | 79.8 | 21.1 | 61.6 | 39.8 | 16.6 | 21 |
| Batticaloa | 35.7 | 92.6 | 28.2 | 94.1 | 53.5 | 38.9 | 80.9 | 19.1 | 78.7 | 44.1 | 80.8 | 16.5 | 41.6 | 137 |
| Ampara | 25.1 | 85.0 | 19.4 | 73.4 | 56.7 | 49.4 | 80.6 | 22.8 | 78.4 | 53.0 | 84.9 | 29.7 | 24.6 | 197 |
| Trincomalee | 20.5 | 83.4 | 44.1 | 95.0 | 54.4 | 34.7 | 86.7 | 19.4 | 78.9 | 58.0 | 88.5 | 19.4 | 24.5 | 106 |
| Kurunegala | 11.5 | 90.6 | 19.9 | 97.5 | 54.9 | 68.6 | 54.1 | 17.4 | 89.5 | 45.8 | 93.4 | 32.8 | 29.1 | 388 |
| Puttalam | 14.7 | 97.0 | 26.7 | 97.4 | 68.9 | 65.1 | 63.1 | 13.1 | 97.7 | 37.3 | 86.5 | 30.4 | 25.8 | 156 |
| Anuradhapura | 14.8 | 97.2 | 51.7 | 98.1 | 72.0 | 71.9 | 75.4 | 24.4 | 97.3 | 53.0 | 93.3 | 18.2 | 27.6 | 250 |
| Polonnaruwa | 30.9 | 88.2 | 12.7 | 97.8 | 58.0 | 66.3 | 58.7 | 20.3 | 94.4 | 40.8 | 94.0 | 51.4 | 30.0 | 114 |
| Badulla | 9.3 | 89.9 | 17.6 | 96.5 | 35.6 | 63.4 | 45.5 | 12.9 | 92.3 | 47.8 | 86.6 | 30.6 | 21.4 | 168 |
| Moneragala | 2.0 | 93.6 | 13.8 | 97.8 | 40.1 | 80.5 | 53.5 | 6.6 | 90.7 | 23.2 | 82.1 | 52.8 | 7.1 | 140 |
| Ratnapura | 20.0 | 92.4 | 16.2 | 100.0 | 49.3 | 77.8 | 50.5 | 17.5 | 82.1 | 61.0 | 95.2 | 66.9 | 33.3 | 249 |
| Kegalle | 4.3 | 88.9 | 14.3 | 95.9 | 65.7 | 74.3 | 53.6 | 24.4 | 98.1 | 28.3 | 92.9 | 46.0 | 12.9 | 178 |
| **Education** | | | | | | | | | | | | | | |
| No education | (16.0) | (98.3) | (6.0) | (100.0) | (58.8) | (63.3) | (46.8) | (8.1) | (69.3) | (31.7) | (73.0) | (49.9) | (20.5) | 32 |
| Passed Grade 1-5 | 17.9 | 90.6 | 22.6 | 91.1 | 39.6 | 59.9 | 56.4 | 11.8 | 74.6 | 41.3 | 78.8 | 38.3 | 27.7 | 143 |
| Passed Grade 6-10 | 17.1 | 91.0 | 19.6 | 95.3 | 48.6 | 64.1 | 56.3 | 15.6 | 85.2 | 48.3 | 88.1 | 42.0 | 24.8 | 1,931 |
| Passed G.C.E.(O/L) or equivalent | 19.2 | 91.0 | 28.8 | 95.4 | 56.9 | 66.5 | 64.2 | 23.1 | 88.5 | 51.4 | 90.1 | 46.7 | 27.9 | 979 |
| Passed G.C.E.(A/L) or equivalent | 17.9 | 91.0 | 29.5 | 97.3 | 61.4 | 76.6 | 67.6 | 28.4 | 93.7 | 57.5 | 91.8 | 54.2 | 31.5 | 1,134 |
| Degree and above | 24.0 | 90.1 | 36.8 | 97.9 | 66.4 | 79.9 | 76.4 | 35.9 | 94.8 | 59.1 | 89.6 | 58.9 | 35.4 | 298 |
| **Wealth quintile** | | | | | | | | | | | | | | |
| Lowest | 19.7 | 91.0 | 18.3 | 93.9 | 45.3 | 57.7 | 55.5 | 12.7 | 79.3 | 46.3 | 85.3 | 37.6 | 21.6 | 859 |
| Second | 17.9 | 89.7 | 22.3 | 95.8 | 50.3 | 66.7 | 55.7 | 14.3 | 87.0 | 47.2 | 89.3 | 41.2 | 22.9 | 903 |
| Middle | 17.3 | 91.6 | 24.5 | 95.7 | 57.5 | 70.0 | 58.5 | 18.4 | 89.6 | 52.5 | 92.0 | 48.6 | 30.1 | 905 |
| Fourth | 15.3 | 90.6 | 27.7 | 96.5 | 58.8 | 72.1 | 67.0 | 27.6 | 92.3 | 54.4 | 90.7 | 50.4 | 31.3 | 990 |
| Highest | 21.5 | 91.9 | 33.1 | 97.4 | 60.4 | 76.3 | 73.7 | 34.6 | 92.3 | 57.8 | 88.1 | 57.5 | 33.3 | 861 |
| **Total** | **18.2** | **90.9** | **25.2** | **95.9** | **54.6** | **68.7** | **62.1** | **21.6** | **88.2** | **51.7** | **89.2** | **47.1** | **27.9** | **4,518** |

Note: Foods consumed in the last "24-hour" period (yesterday and last night).

[1] Includes [list fruits and vegetables included in the questionnaire such as pumpkin, or yellow yams or squash, carrots, yellow sweet potatoes, green leafy vegetables, mangoes, papayas, and other locally grown fruits and vegetables that are rich in vitamin A]

## 11.11 MICRONUTRIENT INTAKE AMONG MOTHERS

Low nutritional status is one of the most important health and welfare problems in Sri Lanka. Young children and women of reproductive age are especially vulnerable to nutritional deficits and micronutrient deficiencies. Micronutrient intake can improve the nutritional and immune status of pregnant women and consequently, prevent maternal and neonatal deaths. Micronutrient deficiencies during pregnancy may be caused by inadequate intake of meat, fruits and vegetables or by infections (WHO, 2011).

Parasitic infections may cause iron-deficiency anemia. Deworming during pregnancy is an effective preventive measure against this type of anemia and can improve both the health of the woman and her unborn child. In the 2016 SLDHS, all ever married women aged 15-49 with a birth in the five years preceding the survey were asked if they ever took any drug for intestinal worms during the pregnancy of their last birth. Table 11.12 shows that, overall, 97 percent of these women took deworming medication during the pregnancy of their last birth. This high percentage presents small variations by background characteristics of the mother, in particular for younger mothers (less than age 20) who appear to be more likely to take deworming medication during pregnancy than older women. No reasonable variations are observed among mother's residential sector nor in the wealth quintiles from lowest to highest.

**Table 11.12 Micronutrient intake among mothers**

Among ever-married women age 15-49 with a child born in the 5 years preceding the survey, percentage who took deworming medication during the pregnancy of the last child; and among women age 15-49 with a child born in the 5 years preceding the survey and who live in households that were tested for iodized salt, percentage who live in households with iodized salt, according to background characteristics, Sri Lanka 2016

| Background characteristic | Percentage of women who took deworming medication during pregnancy of last birth | Number of women | Among women with a child born in the last five years, who live in households that were tested for iodized salt: Percentage living in households with iodized salt1 | Number of women |
|---|---|---|---|---|
| **Age** | | | | |
| 15-19 | 100.0 | 75 | 98.7 | 74 |
| 20-29 | 97.3 | 2,727 | 95.3 | 2,684 |
| 30-39 | 96.6 | 3,788 | 95.6 | 3,734 |
| 40-49 | 97.0 | 548 | 94.2 | 538 |
| **Residence** | | | | |
| Urban | 95.4 | 1,114 | 95.2 | 1,098 |
| Rural | 97.3 | 5,728 | 95.3 | 5,640 |
| Estate | 95.9 | 296 | 97.6 | 291 |
| **District** | | | | |
| Colombo | 94.0 | 631 | 96.5 | 624 |
| Gampaha | 95.9 | 666 | 93.8 | 658 |
| Kalutara | 98.1 | 443 | 95.4 | 442 |
| Kandy | 93.9 | 489 | 96.4 | 474 |
| Matale | 98.8 | 192 | 97.5 | 188 |
| Nuwara Eliya | 97.0 | 232 | 98.7 | 229 |
| Galle | 98.5 | 380 | 94.8 | 372 |
| Matara | 98.7 | 291 | 95.1 | 290 |
| Hambantota | 99.5 | 233 | 100.0 | 228 |
| Jaffna | 96.2 | 170 | 99.5 | 165 |
| Mannar | 98.0 | 35 | 99.6 | 35 |
| Vavuniya | 96.6 | 53 | 95.6 | 53 |
| Mullaitivu | 99.8 | 32 | 97.6 | 31 |
| Kilinochchi | 97.0 | 40 | 93.9 | 39 |
| Batticaloa | 98.9 | 217 | 88.6 | 217 |
| Ampara | 99.4 | 305 | 98.6 | 304 |
| Trincomalee | 97.8 | 168 | 96.0 | 168 |
| Kurunegala | 98.7 | 613 | 92.4 | 598 |
| Puttalam | 97.8 | 262 | 83.7 | 248 |
| Anuradhapura | 99.3 | 369 | 96.0 | 363 |
| Polonnaruwa | 100.0 | 167 | 99.0 | 164 |
| Badulla | 98.3 | 271 | 95.0 | 263 |
| Moneragala | 98.3 | 208 | 97.6 | 208 |
| Ratnapura | 99.5 | 393 | 98.8 | 393 |
| Kegalle | 80.9 | 275 | 94.6 | 275 |
| **Education** | | | | |
| No education | 93.9 | 51 | 92.2 | 49 |
| Passed Grade 1-5 | 97.4 | 257 | 94.6 | 253 |
| Passed Grade 6-10 | 97.9 | 3,104 | 94.6 | 3,059 |
| Passed G.C.E.(O/L) or equivalent | 96.6 | 1,608 | 95.2 | 1,581 |
| Passed G.C.E.(A/L) or equivalent | 96.4 | 1,706 | 96.9 | 1,679 |
| Degree and above | 92.6 | 413 | 97.1 | 408 |
| **Wealth quintile** | | | | |
| Lowest | 96.5 | 1,413 | 93.6 | 1,382 |
| Second | 97.4 | 1,457 | 94.3 | 1,432 |
| Middle | 98.0 | 1,463 | 95.7 | 1,442 |
| Fourth | 97.6 | 1,524 | 96.3 | 1,505 |
| Highest | 94.7 | 1,280 | 97.1 | 1,268 |
| **Total** | **96.9** | **7,138** | **95.4** | **7,029** |

1 Excludes women in households where salt was not tested.