

This chapter looks at several important aspects of the nutritional status of Egyptian children and their mothers. Anthropometric data (height and weight) was collected in the survey for all EDHS respondents, children under age 6, and never-married youth and young adults age 10-19. These data are used to assess the current nutritional status of these populations. The chapter then considers information collected on the prevalence of anemia in these groups.

14.1 COLLECTION OF ANTHROPOMETRIC AND ANEMIA DATA

Height and weight measures were collected in all households included in the EDHS survey for ever-married women age 15-49, children under age six, and never-married youth and young adults age 10-19. The measuring boards used for the collection of the height data are specially produced by Shorr Productions for use in survey settings. Children younger than 24 months were measured lying on a measuring board, while standing height was measured for older children, adolescents, and women. Weight data were obtained using lightweight, bathroom-type scales with a digital screen designed and manufactured under the authority of the United Nations Children's Fund (UNICEF).

The 2005 EDHS included direct measurement of hemoglobin levels in a subsample of one-third of all EDHS households for three groups: ever-married women age 15-49, children age 6-71 months, and never-married young adults and young adults age 10-19. Prior to the testing, ever-married women and never-married youth age 18-19 were asked to consent to the testing. In the case of young children or youth age 10-17, the consent of an adult or other caretaker also was obtained for the test. During the fieldwork, each respondent or parent/caretaker was given the results of the test immediately. In cases in which the hemoglobin reading was below 9.0 g/dl (grams per deciliter), the respondent or parent/caretaker was asked to visit the nearest Ministry of Health and Population facility for follow-up.

The HemoCue system was used for hemoglobin testing. This system consists of a battery-operated photometer and a disposable microcuvette,¹ coated with a dried reagent that serves as the blood-collection device. For the test, a drop of capillary blood taken from a person's fingertip or heel was drawn into a microcuvette. The blood in the microcuvette was analyzed using the photometer, which displayed the hemoglobin concentration. As described in Chapter 1, medically trained personnel, primarily doctors, assigned to each of the EDHS teams conducted the testing. The personnel responsible for the testing received extensive classroom training and field practice prior to the survey.

14.2 NUTRITIONAL STATUS OF CHILDREN

Nutritional status is a primary determinant of a child's health and well-being. Both inadequate or unbalanced diets and chronic illness are associated with poor nutritional status among children. The anthropometric data collected in the 2005 EDHS permit an assessment of the nutritional status of young children in Egypt.

Measurement of Nutritional Status among Young Children

The anthropometric measurements as well as information on the ages of the children are used to construct the following three standard indices of physical growth:

¹ A *microcuvette* is a small, transparent laboratory vessel.

- height-for-age
- weight-for-height
- weight-for-age

As recommended by the World Health Organization (WHO), evaluation of nutritional status in this report is based on the comparison of these three indices for the population of children in the survey with those reported for a reference population of well-nourished children. The use of a reference population to identify malnourished children is based on the finding that well-nourished children in all population groups follow similar growth patterns and thus exhibit similar distributions of height and weight at given ages (Martorell and Habicht, 1986). One of the most commonly used reference populations, and the one used in this report, is the international reference population defined by the U.S. National Center for Health Statistics (NCHS) and accepted by WHO and the U.S. Centers for Disease Control.

Each of the three nutritional indicators is expressed in standard deviations (Z-scores) from the mean of the reference population.² The indices measure somewhat different aspects of nutritional status. The height-for-age index provides an indicator of linear growth retardation. Children whose height-for-age is below minus two standard deviations (-2 SD) from the median of the reference population are considered short for their age, or *stunted*. Children who are below minus three standard deviations (-3 SD) from the reference population are considered *severely stunted*. Stunting of a child's growth may be the result of a failure to receive adequate nutrition over a long period of time or of the effects of recurrent or chronic illness. Height-for-age therefore represents a measure of the outcome of malnutrition in a population over a long period and does not vary appreciably with the season of data collection.

The weight-for-height index measures body mass in relation to body length. Children whose weight-for-height measures are below minus two standard deviations (-2 SD) from the median of the reference population are too thin for their height, or *wasted*, while those whose measures are below minus three standard deviations (-3 SD) from the reference population median are *severely wasted*. Wasting represents the failure to receive adequate nutrition during the period immediately before the survey. It may be the result of recent episodes of illness or acute food shortages.

Weight-for-age is a composite index of height-for-age and weight-for-height. Children whose weight-for-age measures are below minus two standard deviations (-2 SD) from the median of the reference population are *underweight* for their age, while those whose measures are below minus three standard deviations (-3 SD) from the reference population median are *severely underweight*. A child can be underweight for his age, because he is stunted, because he is wasted, or because he is both stunted and wasted.

² The distribution of the standard reference population has been normalized and hence the mean and median coincide.

Results of Data Collection

Measurements of height and weight were obtained for all children under age 6 living in the households selected for the EDHS sample. The results include children who were not biological offspring of the women interviewed in the survey.

Although data were collected for all children under age six, for purposes of comparability with prior EDHS surveys, the analysis is limited to children under age five. Height and weight measurements were obtained for 99 percent of the 13,030 children in that age range present in EDHS households at the time of the survey. Of these children, six percent were considered to have implausibly high or low values for the height or weight measures or lacked data on the child's age in months (not shown in table). The following analysis focuses on the 12,131 children for whom complete and plausible anthropometric and age data were collected.

Levels of Child Malnutrition

An examination of the data on height-for-age in Table 14.1 indicates that there is considerable chronic malnutrition among Egyptian children. Overall, 18 percent of children under age five are stunted, and six percent are severely stunted. A child's age is associated with the likelihood of stunting. Stunting increases rapidly with age, from only 13 percent among children less than six months of age to 24 percent among children 18-23 months, before falling to 14 percent among children age four and older. Levels of stunting are slightly higher for male children than for female children. Stunting is higher among children of birth order six or higher compared to other children. The prevalence of stunting varies inversely with the length of the birth interval; a child born less than 24 months after an elder sibling is around 40 percent more likely to be stunted than a child born 48 months or longer after an elder sibling.

Table 14.1 Nutritional status of children by children's characteristics

Percentage of children under five who are classified as malnourished according to three anthropometric indices of nutritional status: height-for-age, weight-for-height, and weight-for-age, by background characteristics of the child, Egypt 2005

Background characteristic	Height-for-age			Weight-for-height			Weight-for-age			Number of children
	Percentage below -3 SD	Percentage below -2 SD ¹	Mean Z-score (SD)	Percentage below -3 SD	Percentage below -2 SD ¹	Mean Z-score (SD)	Percentage below -3 SD	Percentage below -2 SD ¹	Mean Z-score (SD)	
Child's age										
Under 6 months	2.5	13.0	(0.4)	1.2	6.7	0.6	0.4	4.7	(0.2)	1,066
6-9	6.5	20.3	(0.8)	1.5	4.8	0.4	2.7	9.8	(0.3)	852
10-11	5.4	22.0	(0.7)	0.5	6.1	0.4	3.3	8.7	(0.4)	360
12-17	6.9	21.3	(0.6)	0.7	4.5	0.3	0.9	7.0	(0.3)	1,222
18-23	10.3	24.2	(1.0)	1.1	4.9	0.1	1.3	9.3	(0.5)	1,184
24-35	8.3	18.6	(0.7)	1.2	3.9	0.1	1.3	6.4	(0.4)	2,520
36-47	6.8	16.1	(0.8)	0.7	2.8	0.3	0.7	4.2	(0.3)	2,519
48-59	3.5	13.6	(0.7)	0.3	2.3	0.2	0.3	4.9	(0.3)	2,409
Sex										
Male	6.7	18.8	(0.8)	0.7	4.0	0.2	1.1	6.8	(0.4)	6,150
Female	6.0	16.4	(0.6)	1.0	3.8	0.3	0.9	5.5	(0.2)	5,980
Birth order										
1	6.2	16.6	(0.6)	1.0	4.1	0.3	1.1	5.9	(0.2)	3,648
2-3	6.4	17.5	(0.7)	0.9	4.0	0.3	0.9	5.6	(0.3)	5,458
4-5	6.1	17.7	(0.8)	0.6	3.2	0.2	1.0	7.0	(0.3)	1,932
6+	7.2	22.1	(1.0)	0.5	3.1	0.2	1.3	8.2	(0.5)	960
Birth interval in months										
First birth ²	6.3	16.7	(0.6)	1.0	4.0	0.3	1.1	5.8	(0.2)	3,717
Under 24 months	7.7	20.6	(0.9)	1.4	4.9	0.2	1.5	7.8	(0.5)	1,719
24-47	6.5	19.0	(0.8)	0.6	3.3	0.3	0.9	6.1	(0.3)	4,174
48+	5.5	14.6	(0.5)	0.7	3.7	0.3	0.8	5.5	(0.2)	2,388
Size at birth³										
Very small	8.6	23.2	(0.9)	1.4	5.9	0.1	2.3	12.2	(0.5)	416
Small	7.6	21.0	(0.9)	1.6	4.8	0.0	1.6	9.5	(0.6)	1,113
Average or larger	6.2	17.0	(0.7)	0.8	3.7	0.3	0.9	5.5	(0.2)	10,416
Mother's interview status										
Interviewed	6.4	17.6	(0.7)	0.9	3.9	0.3	1.0	6.1	(0.3)	11,998
Not interviewed	5.0	16.5	(0.4)	0.1	8.0	0.3	0.0	8.4	(0.1)	133
In the household	7.0	17.3	(0.5)	0.3	7.7	0.3	0.0	7.0	(0.0)	62
Not in the household ⁴	3.2	15.9	(0.4)	0.0	8.3	0.2	0.0	9.5	(0.2)	71
Total	6.4	17.6	(0.7)	0.9	3.9	0.3	1.0	6.2	(0.3)	12,131

Note: Table is based on children who stayed in the household the night before the interview. Each of the indices is expressed in standard deviation units (SD) from the median of the NCHS/CDC/WHO International Reference Population. The percentage of children who are more than three or more than two standard deviations below the median of the International Reference Population (-3 SD and -2 SD) are shown according to background characteristics. Table is based on children with valid dates of birth (month and year) and valid measurement of both height and weight. The total includes children whose mothers were not interviewed in the survey. Information on the background characteristics shown in the table is not available for these children. The total also includes 6 children for whom information on the child's size at birth was not available.

¹ Includes children who are below -3 standard deviations (SD) from the International Reference Population median.

² First born twins (triplets, etc.) are counted as first births because they do not have a previous birth interval.

³ Excludes children whose mothers were not interviewed or for whom size at birth information is not available.

⁴ Includes children whose mothers are deceased.

Table 14.2 shows that there are marked socioeconomic differentials in stunting. Children in rural areas are somewhat more likely to be stunted than urban children (18 percent and 16 percent, respectively). The percentage stunted varies more markedly by place of residence, ranging from only 13 percent in rural Lower Egypt to 23 percent in rural Upper Egypt.

Table 14.2 Nutritional status of children by mother's characteristics

Percentage of children under five who are classified as malnourished according to three anthropometric indices of nutritional status: height-for-age, weight-for-height, and weight-for-age, by selected background characteristics, Egypt 2005

Background characteristic	Height-for-age			Weight-for-height			Weight-for-age			Number of children
	Percentage below -3 SD	Percentage below -2 SD ¹	Mean Z-score (SD)	Percentage below -3 SD	Percentage below -2 SD ¹	Mean Z-score (SD)	Percentage below -3 SD	Percentage below -2 SD ¹	Mean Z-score (SD)	
Mother's age²										
15-19	5.1	16.7	(0.8)	1.0	5.6	0.4	0.6	5.8	(0.3)	387
20-24	7.3	20.0	(0.8)	1.1	4.2	0.3	1.2	6.2	(0.3)	2,939
25-29	6.3	16.7	(0.7)	0.8	3.5	0.3	1.0	5.9	(0.3)	4,097
30-34	5.7	17.7	(0.6)	0.6	3.9	0.3	0.7	5.3	(0.2)	2,559
35-49	6.3	16.3	(0.7)	0.8	3.9	0.2	1.1	7.6	(0.3)	2,077
Urban-rural residence										
Urban	5.6	16.2	(0.6)	1.5	5.2	0.2	1.1	6.5	(0.3)	4,430
Rural	6.8	18.4	(0.8)	0.5	3.1	0.3	0.9	6.0	(0.3)	7,700
Place of residence										
Urban Governorates	6.1	16.9	(0.4)	2.8	7.7	0.1	1.8	8.2	(0.2)	1,668
Lower Egypt	5.4	13.7	(0.4)	0.6	2.9	0.4	0.9	4.0	(0.0)	4,837
Urban	5.7	15.1	(0.6)	0.6	2.7	0.3	1.1	4.2	(0.2)	1,160
Rural	5.3	13.3	(0.4)	0.6	3.0	0.4	0.9	3.9	0.0	3,677
Upper Egypt	7.3	21.4	(1.1)	0.5	3.5	0.2	0.8	7.5	(0.6)	5,482
Urban	5.0	16.6	(0.8)	0.7	4.2	0.1	0.4	6.5	(0.4)	1,514
Rural	8.2	23.2	(1.2)	0.5	3.3	0.2	1.0	7.8	(0.6)	3,968
Frontier Governorates	5.8	14.1	0.6	0.7	5.2	0.2	0.4	4.3	0.4	143
Mother's education²										
No education	7.9	21.5	(0.9)	0.6	3.5	0.2	1.3	7.3	(0.5)	3,763
Some primary	6.7	19.7	(0.8)	0.3	2.5	0.3	0.9	7.4	(0.3)	1,047
Primary complete/some secondary	5.6	16.7	(0.7)	1.4	4.6	0.2	0.8	5.7	(0.4)	1,809
Secondary complete/higher	5.5	14.8	(0.5)	1.0	4.1	0.3	0.9	5.2	(0.1)	5,439
Work status³										
Working for cash	6.6	17.0	(0.5)	1.1	4.1	0.3	0.9	5.8	(0.1)	1,400
Not working for cash	6.3	17.7	(0.7)	0.8	3.8	0.3	1.0	6.2	(0.3)	10,598
Wealth quintile										
Lowest	8.7	23.6	(1.0)	0.9	3.7	0.3	0.8	7.7	(0.5)	2,452
Second	6.9	18.5	(0.8)	0.5	2.8	0.3	1.1	6.1	(0.4)	2,539
Middle	6.2	17.3	(0.8)	0.7	3.4	0.3	1.0	5.9	(0.3)	2,616
Fourth	4.3	13.8	(0.5)	1.0	3.9	0.2	0.8	4.7	(0.2)	2,498
Highest	5.6	14.4	(0.3)	1.3	6.2	0.3	1.4	6.4	(0.1)	2,025
Total	6.4	17.6	(0.7)	0.9	3.9	0.3	1.0	6.2	(0.3)	12,131

Note: Table is based on children who stayed in the household the night before the interview. Each of the indices is expressed in standard deviation units (SD) from the median of the NCHS/CDC/WHO International Reference Population. The percentage of children who are more than three or more than two standard deviations below the median of the International Reference Population (-3 SD and -2 SD) are shown according to background characteristics. Table is based on children with valid dates of birth (month and year) and valid measurement of both height and weight.

¹ Includes children who are below -3 standard deviations (SD) from the International Reference Population median.

² For women who were not interviewed, information is taken from the Household Questionnaire. Excludes children whose mothers were not listed in the household schedule.

³ Excludes children whose mothers were not interviewed.

The educational level of the mother is inversely related to the level of stunting. Among children whose mothers never attended school, 22 percent are stunted compared to 15 percent of mothers who completed the secondary level or higher. The rate of stunting among children in the lowest wealth quintile is 24 percent compared to 14 percent among children in the highest quintile.

The weight-for-height index provides a measure of wasting, or acute malnutrition. As described above, the weight-for-height index reflects the effects on a child’s nutritional status of recent food shortages or recent episodes of diarrheal or other illness that contribute to malnutrition. Overall, around four percent of Egyptian children are wasted (Table 14.2). Wasting is more common among children under age two than among older children. Levels of wasting are highest for children in the Urban Governorates.

Reflecting the effects of both chronic and short-term malnutrition, six percent of children under age five are underweight for their age. Low weight-for-age is more common among children 6-23 months than among older or younger children (Table 14.1). It generally increases with birth order and is higher among children born less than 24 months after a prior birth and children whose mothers considered them to be “very small” at the time of their birth.

Considering socioeconomic characteristics, low weight-for-age is slightly more common among children from the Urban Governorates and children from rural Upper Egypt than other children (Table 14.2).

Trends in Child Nutrition

Table 14.3 looks at recent trends in the nutritional status of children in Egypt using anthropometric data from EDHS surveys undertaken between 1992 and 2005. There are a number of factors that should be kept in mind in looking at the trends in the indicators. The trends may be influenced by differences in the quality of the anthropometric data collected in the surveys or in the reporting of children’s ages. Particularly where they are small, the differences in the levels for the various indicators may be simply a result of sampling variability rather than of a genuine change in children’s nutritional status.

Index of nutritional status	1992 EDHS	1995 EDHS	1997 Interim EDHS	1998 Interim EDHS	2000 EDHS	2003 EIDHS	2005 EDHS
Height-for-age	26.0	29.8	24.9	20.6	18.7	15.6	17.6
Weight-for-height	3.4	4.6	6.1	5.1	2.5	4.0	3.9
Weight-for-age	9.9	12.5	11.7	10.7	4.0	8.6	6.1

Note: Figures are based on children of respondents under age five.
Source: El-Zanaty and Associates and Macro International Inc., 1999, Table 9.7

Although the changes are not uniform, the overall trend in the nutritional status indicators suggests that the nutritional status of young children in Egypt improved during the period between 1992 and 2005. Looking at the height-for-age measures, for example, there was a decrease in the percentage of children who were considered stunted, from 26 percent at the time of the 1992 EDHS to 18 percent in the 2005 EDHS (Table 14.3). Although exhibiting more fluctuation, the weight-for-age measure also has declined, with the levels observed for the 2005 EDHS being considerably lower than the level in surveys conducted during the 1990s. The trend in the weight-for-height indicator is the most erratic, as it reflects the influences of shorter-term dietary deficiency.

14.3 NUTRITIONAL STATUS OF NEVER-MARRIED YOUTH AND YOUNG ADULTS

Height and weight measures were collected for never-married youth and young adults age 10-19 in the 2005 EDHS.

Measurement of Nutritional Status among Youth and Young Adults

The assessment of the nutritional status of adolescents using height and weight measures is complicated by the fact that adolescents undergo significant changes in their body stature and mass as they go through puberty. Moreover, body proportions may deviate more across populations for adolescents than for young children making it difficult to establish a reference population (Woodruff and Duffield 2000). Approaches to assessing adolescent nutritional status are, thus, less standardized than those for assessing the status of young children. However, WHO has recommended the use of body-mass index (BMI) for age to assess the nutritional status of adolescents (WHO 1995). This approach is adopted in this report using the 2000 CDC Growth Charts (CDC 2000).

The body-mass index (BMI) is calculated by dividing the weight in kilograms by the height in meters squared (kg/m^2). BMI is calculated using the same formula for children, adolescents, and adults, but the results for children and adolescents are interpreted differently. For adults, BMI is used to define nutritional status without reference to age or gender. For children and adolescents age 2-20, assessments of nutritional status using the CDC BMI growth charts are age- and gender-specific. The growth charts are used to rank individuals according to the percent of the reference population that the individual's BMI equals or exceeds, i.e., according to the percentile in which the individual falls. For example, on the BMI-for-age growth charts, the BMI for a 10-year-old boy ranked in the 75th percentile, is the same or more than the BMI of 75 percent of the reference population of 10-year-old boys, and less than 25 percent of the 10-year-old boys in the reference population. The following established percentile cutoff points are used to identify underweight and overweight adolescents using the CDC Growth charts:

Underweight	BMI-for-age <5th percentile
Normal	BMI-for-age 5th percentile to <85th percentile
At risk of overweight	BMI-for-age 85th percentile to < 95th percentile
Overweight	BMI-for-age 95th percentile or higher

Results of Data Collection

Height and weight measurements were obtained for 97 percent of the 12,144 males age 10-19 and 98 percent of the 11,169 females age 10-19 who were eligible for the collection of the anthropometric data. The following analysis focuses on the 11,837 males and 10,990 females for whom complete anthropometric data were collected.

Levels of Malnutrition among Never-Married Youth and Young Adults

Tables 14.4.1 and 14.4.2 show the BMI-for-age percentile rankings for never-married male and female adolescents, respectively, according to selected background characteristics. The results indicate that six percent of never-married males age 10-19 and eight percent of never-married females age 10-19 in Egypt may be classified overweight, i.e., their BMI values at or above the 95th percentile on the age and sex-specific BMI growth charts. The BMI values for an additional 15 percent of males and 23 percent of females fall between the 85th and 95th percentiles, indicating that they are at risk of becoming overweight. At the other end of the scale, three percent of males and two percent of females are considered to be underweight, i.e., their BMI values fall below the 5th percentile on the growth charts.

Table 14.4.1 Nutritional status of never-married male youth and young adults by background characteristics

Percentage with specific BMI levels among never-married males age 10-19 by background characteristics, Egypt 2005

Background characteristic	Percentage of males				Total percent	Number of males
	Underweight (<5 th percentile)	Normal (5 th -85 th percentile)	At risk of overweight (85 th -<95 th percentile)	Overweight (≥95 th percentile)		
Age						
10-11	3.6	69.1	17.8	9.5	100.0	2,321
12-13	4.2	70.5	18.4	6.9	100.0	2,228
14-15	3.6	73.2	17.2	6.1	100.0	2,402
16-17	2.6	79.8	13.8	3.8	100.0	2,484
18-19	2.4	87.0	8.1	2.5	100.0	2,403
Mother's age						
< 30	4.1	73.9	15.7	6.3	100.0	223
30-34	4.6	72.9	15.9	6.7	100.0	1,408
35-49	2.9	76.0	15.3	5.7	100.0	8,103
50+	3.9	72.8	16.6	6.7	100.0	1,012
Mother not in household/ no information available	3.3	84.0	9.8	2.9	100.0	1,092
Urban-rural residence						
Urban	2.8	75.0	15.2	7.0	100.0	4,675
Rural	3.5	76.8	14.9	4.8	100.0	7,162
Place of residence						
Urban Governorates	3.5	77.9	11.7	6.9	100.0	1,897
Lower Egypt	2.2	74.7	18.1	5.0	100.0	4,757
Urban	1.4	69.7	22.1	6.8	100.0	1,223
Rural	2.5	76.4	16.8	4.3	100.0	3,533
Upper Egypt	4.2	77.0	12.9	5.9	100.0	5,056
Urban	3.3	76.3	13.2	7.2	100.0	1,480
Rural	4.6	77.2	12.8	5.3	100.0	3,575
Frontier Governorates	2.2	62.8	27.7	7.3	100.0	127
Mother's education						
No education	3.6	75.8	15.0	5.6	100.0	5,351
Some primary	3.5	78.3	14.1	4.1	100.0	1,650
Primary complete/some secondary	3.7	75.6	13.8	6.9	100.0	1,192
Secondary complete/higher	2.2	71.9	18.3	7.6	100.0	2,552
Mother not in household/no information available	3.3	84.0	9.8	2.9	100.0	1,092
Work status						
Working for cash	2.8	76.1	15.7	5.4	100.0	1,874
Not working for cash	3.3	75.4	15.3	6.0	100.0	7,804
Mother not in household/no information available	3.5	78.5	13.3	4.7	100.0	2,160
Wealth quintile						
Lowest	4.0	78.4	13.9	3.7	100.0	2,698
Second	3.8	77.0	14.5	4.7	100.0	2,540
Middle	3.2	77.2	14.3	5.3	100.0	2,284
Fourth	2.5	74.6	15.6	7.3	100.0	2,124
Highest	2.7	72.3	16.9	8.1	100.0	2,191
Total	3.3	76.1	15.0	5.7	100.0	11,837

Note: Table is based on adolescents who stayed in the household the night before the interview.

Table 14.4.2 Nutritional status of never-married female youth and young adults by background characteristics
 Percentage with specific BMI levels among never-married females age 10-19 by background characteristics, Egypt 2005

Background characteristic	Percentage of females				Total percent	Number of females
	Underweight (<5 th percentile)	Normal (5 th -85 th percentile)	At risk of overweight (85 th -<95 th percentile)	Overweight (≥95 th percentile)		
Age						
10-11	3.4	70.9	16.8	9.0	100.0	2,189
12-13	2.2	66.8	22.6	8.3	100.0	2,140
14-15	1.3	67.5	23.8	7.4	100.0	2,342
16-17	1.1	68.4	23.4	7.1	100.0	2,372
18-19	0.5	67.2	25.9	6.4	100.0	1,948
Mother's age						
< 30	2.9	71.7	16.1	9.3	100.0	206
30-34	2.8	71.2	19.4	6.6	100.0	1,313
35-49	1.6	67.1	23.4	8.0	100.0	7,605
50+	1.0	70.7	19.8	8.5	100.0	870
Mother not in household/no information available	1.6	69.9	23.4	5.1	100.0	996
Urban-rural residence						
Urban	1.4	67.0	23.4	8.3	100.0	4,389
Rural	1.9	69.0	21.9	7.2	100.0	6,601
Place of residence						
Urban Governorates	1.4	70.2	20.5	7.9	100.0	1,733
Lower Egypt	1.3	62.5	27.5	8.8	100.0	4,498
Urban	1.2	57.8	31.6	9.4	100.0	1,164
Rural	1.3	64.1	26.0	8.6	100.0	3,334
Upper Egypt	2.3	73.2	18.0	6.5	100.0	4,622
Urban	1.5	71.1	19.2	8.2	100.0	1,411
Rural	2.6	74.1	17.5	5.8	100.0	3,211
Frontier Governorates	1.1	60.9	34.8	3.2	100.0	136
Mother's education¹						
No education	1.8	69.4	22.0	6.8	100.0	4,865
Some primary	2.3	69.6	21.6	6.4	100.0	1,528
Primary complete/Some secondary	1.1	67.2	22.1	9.6	100.0	1,149
Secondary complete/higher	1.4	64.7	23.8	10.1	100.0	2,452
Mother not in household/no information available	1.6	69.9	23.4	5.1	100.0	996
Work status						
Working for cash	1.5	67.3	23.3	8.0	100.0	1,843
Not working for cash	1.8	67.9	22.5	7.8	100.0	7,221
Mother not in household/no information available	1.3	70.2	21.8	6.7	100.0	1,926
Wealth quintile						
Lowest	2.2	74.4	17.0	6.4	100.0	2,451
Second	2.0	69.0	22.8	6.2	100.0	2,315
Middle	1.7	68.3	22.9	7.1	100.0	2,143
Fourth	1.4	62.7	26.2	9.7	100.0	2,008
Highest	1.0	65.2	24.6	9.3	100.0	2,072
Total	1.7	68.2	22.5	7.6	100.0	10,990

Note: Table is based on adolescents who stayed in the household the night before the interview.

The proportions of both males and female classified in the overweight and at risk of overweight categories are higher among urban residents, especially those living in urban areas in Lower Egypt, and among residents of the Frontier Governorates. These proportions also increase with mother's education status and with wealth quintiles. For example, 34 percent of adolescent females in the highest wealth quintile are overweight or at risk of being overweight compared to 23 percent of adolescent females in the lowest wealth quintile.

14.4 NUTRITIONAL STATUS OF WOMEN

The height and weight data collected for ever-married women 15-49 can be used to assess their nutritional status. Table 14.5 shows the distribution of women according to height, weight, and body mass (BMI) along with the means for these indicators. The BMI index used for classifying women is calculated from information on height and weight in the same manner as the index is calculated for adolescents. However, the cutoffs defining women's status do not vary with the woman's age. For the BMI, a cutoff of 18.5 has been recommended for assessing chronic energy deficiency among nonpregnant women. At the other end of the BMI scale, women are considered overweight if their BMI ranges between 25.0 and 29.9 and obese if their BMI exceeds 30.0.

In looking at the results in Table 14.5, it is important to recognize that the anthropometric data are not representative of all women age 15-49 in Egypt. In particular, the results do not include information for women age 15-49 who were not married. Women who were pregnant or less than two months postpartum were also excluded from the analysis of women's weight and body mass. Finally, maternal anthropometric measures are not available for 219 eligible women (0.9 percent of the sample) who were not home when the EDHS staff visited the household to collect the anthropometric measures.

Maternal height is an outcome of nutrition during childhood and adolescence. It is useful in predicting the risk of difficult delivery, since small stature is frequently associated with small pelvis size. The risk of low birth weight babies is also higher for short women. The cutoff point, i.e., the height below which a woman is considered to be at nutritional risk, is defined as 145 centimeters. The mean height of mothers measured in the 2005 EDHS was 159 centimeters. One percent of women were shorter than 145 centimeters and, thus, classified as at nutritional risk.

As Table 14.5 shows, excluding those who are pregnant or less than two months postpartum, the mean BMI of ever-married women in the reproductive ages is 30.1. The majority of women have a BMI of 25.0 or higher and are considered overweight (33 percent) or obese (47 percent). Less than one percent of women have a BMI below 18.5, the level indicating chronic energy deficiency.

Table 14.5 Anthropometric indicators of nutritional status of adult women

Percent distribution of ever-married women 15-49 interviewed in the survey by selected anthropometric indicators, Egypt 2005

Anthropometric indicators	Total
Height's in centimeters	
130.0-134.9	0.0
135.0-139.9	0.1
140.0-144.9	0.7
145.0-149.9	5.5
150.0-154.9	18.0
155.0-159.9	34.8
160.0-164.9	27.3
165.0-169.9	11.3
170.0-174.9	1.8
175.0-179.9	0.3
≥180.0	0.1
Total percent	100.0
Number of women	19,308
Mean height	158.8
Weight in kilograms¹	
Mean	75.9
Standard deviation	15.7
35.0-39.9	0.1
40.0-49.9	2.6
50.0-59.9	12.9
60.0-69.9	23.8
≥70.0	60.6
Total percent	100.0
Number of women	17,175
Mean	75.9
BMI¹	
Thin	
12.0-15.9 (Severely)	0.1
16.0-16.9 (Moderately)	0.0
17.0-18.4 (Mildly)	0.4
Normal	
18.5-20.4 (Normal)	2.1
20.5-22.9 (Normal)	7.3
23.0-24.9 (Normal)	10.4
Overweight	
25.0-26.9	13.2
27.0-28.9	13.2
29.0-29.9	6.7
Obese	
≥30.0 (Obese)	46.6
Total percent	100.0
Number of women	17,169
Mean	30.1

¹ Excludes pregnant women and women with a birth in the preceding 2 months

Differentials in the maternal height and body mass measures for ever-married women in Egypt are shown in Table 14.6. There is little variation in women's mean height. The proportions classified as obese rise directly with age, from a level of 12 percent among ever-married women age 15-19 to nearly 70 percent among women in the 45-49 age group. Urban women are more likely to be classified as obese than rural women, and the percentage classified as obese ranges from 28 percent in rural Upper Egypt to 62 percent in the Frontier Governorates. Women in the highest wealth quintile are almost twice as likely as women in the lowest quintile to be obese.

Table 14.6 Nutritional status of ever-married women by background characteristics

Mean height and percentage under 145 cm among ever-married women 15-49 and mean body mass index (BMI), and percentage with specific BMI levels among ever-married women who were not pregnant and had not given birth within two of the interview, by background characteristics, Egypt 2005

Background characteristic	Height			BMI (kg/m ²) ¹									Number of women
	Mean height in cm	Percent-age below 145 cm	Number of women	Mean BMI	18.5-24.9 (normal)	<18.5 (thin)	17.0-18.4 (mildly thin)	16.0-16.9 (moderately thin)	<16.0 (severely thin)	≥25.0 (over-weight or obese)	25.0-29.9 (over-weight)	≥30.0 (obese)	
Age													
15-19	157.9	0.9	797	25.4	48.5	1.1	1.1	0.0	0.0	50.4	38.4	12.1	495
20-24	158.7	0.6	2,942	26.8	38.9	0.7	0.7	0.0	0.0	60.3	37.6	22.7	2,222
25-29	159.0	0.6	3,753	28.0	27.6	0.7	0.5	0.0	0.2	71.7	40.5	31.2	3,093
30-34	159.2	0.7	3,181	29.7	17.6	0.6	0.5	0.1	0.0	81.8	37.8	44.0	2,886
35-39	159.0	0.7	3,157	30.8	14.0	0.3	0.3	0.0	0.0	85.7	32.7	53.0	3,037
40-44	158.4	1.3	2,841	32.3	10.6	0.2	0.2	0.0	0.0	89.2	26.0	63.2	2,799
45-49	158.4	1.1	2,637	33.3	7.4	0.2	0.2	0.1	0.0	92.4	23.5	68.9	2,637
Urban-rural residence													
Urban	158.9	0.7	7,937	31.4	12.8	0.4	0.3	0.0	0.0	86.8	31.6	55.2	7,158
Rural	158.7	0.9	11,371	29.1	24.7	0.5	0.4	0.0	0.1	74.8	34.4	40.4	10,013
Place of residence													
Urban Governorates	159.2	0.7	3,251	32.3	11.3	0.3	0.3	0.0	0.0	88.4	28.9	59.5	2,949
Lower Egypt	159.9	0.5	8,354	30.6	14.8	0.2	0.2	0.0	0.0	85.0	32.9	52.1	7,456
Urban	159.9	0.3	2,174	31.2	10.2	0.2	0.2	0.0	0.0	89.6	33.2	56.4	1,959
Rural	159.8	0.6	6,181	30.4	16.4	0.2	0.2	0.0	0.0	83.4	32.8	50.6	5,496
Upper Egypt	157.3	1.3	7,485	28.5	29.4	0.9	0.6	0.1	0.1	69.7	35.7	34.0	6,580
Urban	157.5	1.1	2,383	30.4	17.5	0.7	0.5	0.2	0.1	81.8	34.2	47.5	2,138
Rural	157.2	1.3	5,102	27.5	35.2	0.9	0.7	0.1	0.2	63.9	36.4	27.5	4,442
Frontier Governorates	159.9	0.1	217	32.0	9.0	0.0	0.0	0.0	0.0	91.0	28.7	62.2	186
Education													
No education	158.0	1.1	6,692	29.7	23.1	0.5	0.4	0.0	0.1	76.4	31.9	44.5	6,142
Some primary	158.0	1.3	2,190	30.9	17.2	0.7	0.5	0.0	0.1	82.1	31.6	50.5	2,047
Primary complete/ some secondary	158.8	0.9	2,701	30.2	21.0	0.6	0.6	0.0	0.0	78.4	32.7	45.7	2,358
Secondary complete/ higher	159.6	0.4	7,726	30.2	16.9	0.4	0.3	0.0	0.0	82.7	35.1	47.6	6,623
Work status													
Working for cash	159.4	0.6	3,248	30.9	12.9	0.3	0.3	0.0	0.1	86.7	31.8	54.9	3,034
Not working for cash	158.7	0.9	16,060	29.9	21.2	0.5	0.4	0.0	0.1	78.3	33.5	44.8	14,136
Wealth quintile													
Lowest	157.5	1.3	3,548	27.9	33.9	1.1	1.0	0.0	0.1	65.0	33.1	31.8	3,153
Second	158.4	1.0	3,742	29.2	23.2	0.6	0.4	0.1	0.1	76.2	36.9	39.3	3,316
Middle	158.8	0.9	3,905	30.1	19.1	0.4	0.3	0.0	0.0	80.5	33.5	47.0	3,444
Fourth	159.2	0.6	4,098	31.1	14.1	0.1	0.1	0.0	0.0	85.7	31.3	54.4	3,602
Highest	159.8	0.5	4,015	31.7	10.4	0.3	0.2	0.1	0.0	89.3	31.6	57.8	3,654
Total	158.8	0.8	19,308	30.1	19.7	0.5	0.4	0.0	0.1	79.8	33.2	46.6	17,169

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

14.5 PREVALENCE OF ANEMIA

Anemia is a condition characterized by a decrease in the concentration of hemoglobin in the blood. Hemoglobin is necessary for transporting oxygen to tissues and organs in the body. The reduction in oxygen available to organs and tissues when hemoglobin levels are low is responsible for many of the symptoms experienced by anemic persons. The consequences of anemia include general body weakness, frequent tiredness, and lowered resistance to disease. Anemia can be a particularly serious problem for pregnant women, leading to premature delivery and low birth weight. It is of concern in children since anemia is associated with impaired mental and physical development. Overall, morbidity and mortality risks increase for individuals suffering from anemia.

Anemia is classified as mild, moderate, or severe based on the concentrations of hemoglobin in the blood. The cutoffs values used in defining each of these levels vary according to age and, for ever-married women, pregnancy status. The following summarizes the cutoffs used in the analysis of the anemia data:

	Mild (g/dl)	Moderate (g/dl)	Severe (g/dl)	Any (g/dl)
<u>Children age 6-59 months</u>	10.0-10.9	7.0-9.9	<7.0	<11.0
<u>Ever-married women age 15-49</u>				
Not pregnant	10.0-11.9	7.0-9.9	<7.0	<12.0
Pregnant	10.0-10.9	7.0-9.9	<7.0	<11.0
<u>Never-married youth and young adults</u>				
Girls				
Age 10-11	10.5-11.4	7.5-10.4	<7.5	<11.5
Age 12-19	10.0-11.9	7.0-9.9	<7.0	<12.0
Boys				
Age 10-11	10.5-11.4	7.5-10.4	<7.5	<11.5
Age 12-14	10.0-11.9	7.0-9.9	<7.0	<12.0
Age 15-19	12.0-12.9	9.0-11.9	<9.0	<13.0

Prevalence of Anemia among Young Children

Tables 14.7 and 14.8 present anemia levels for children 6-59 months by selected background characteristics. Overall, about one in two children suffer from some degree of anemia. A very small proportion (less than one percent) is classified as having severe anemia. However, around one in five children are moderately anemic.

Table 14.7 Prevalence of anemia in children by child's characteristics

Percentage of children age 6 to 59 months classified as having anemia, by background characteristics relating to the child, Egypt 2005

Background characteristic	Mild	Moderate	Severe	Any anemia	Number of children
Child's age					
Under 6 months	31.1	29.2	0.0	60.3	290
6-9	28.6	37.8	0.5	66.9	131
10-11	26.8	32.5	0.2	59.4	447
12-17	31.5	22.6	0.3	54.4	398
18-23	28.4	19.7	0.4	48.5	792
24-35	25.1	15.8	0.4	41.3	864
36-47	27.0	13.3	0.2	40.5	836
48-59					
Sex					
Male	26.0	20.1	0.2	46.3	1,904
Female	29.4	21.1	0.4	50.9	1,855
Birth order					
1	26.2	20.6	0.4	47.2	1,094
2-3	27.6	21.2	0.3	49.1	1,670
4-5	30.0	20.5	0.1	50.6	609
6+	27.7	19.5	0.2	47.5	344
Birth interval in months					
First birth ¹	26.0	21.0	0.4	47.4	1,112
Under 24 months	29.9	24.4	0.4	54.7	552
24-47	27.1	20.4	0.3	47.8	1,363
48+	29.4	18.1	0.0	47.6	691
Mother's interview status					
Mother interviewed	27.6	20.8	0.3	48.6	3,718
Mother not interviewed ²	(35.5)	(3.8)	(0.0)	(39.4)	41
Total	27.7	20.6	0.3	48.5	3,759

Note: Table is based on children who stayed in the household the night before the interview. The cutoffs for specific anemia levels are: mild: 10.0-10.9 g/dl; moderate: 7.0-9.9 g/dl; severe: <7.0 g/dl; any: <11.0 g/dl

¹ First-born twins (triplets, etc.) are counted as first births because they do not have a previous birth interval.

² Includes children whose mothers are deceased.

Table 14.8 Prevalence of anemia in children by background characteristics

Percentage of children age 6 to 59 months classified as having anemia, by selected background characteristics of the mother, Egypt 2005, and trends in percentage of children classified as having anemia, Egypt 2000 and 2005

Background characteristic	Mild	Moderate	Severe	Any anemia	Number of children
Mother's age¹					
15-19	29.2	36.5	0.1	65.9	101
20-24	29.2	24.8	0.8	54.7	861
25-29	27.1	19.7	0.2	47.0	1,262
30-34	26.0	20.3	0.0	46.3	793
35-49	27.7	15.9	0.2	43.8	713
Urban-rural residence					
Urban	28.5	15.1	0.1	43.7	1,380
Rural	27.2	23.7	0.4	51.3	2,379
Place of residence					
Urban Governorates	30.8	11.7	0.2	42.7	528
Lower Egypt	22.6	20.3	0.1	43.0	1,470
Urban	22.9	15.5	0.0	38.4	351
Rural	22.5	21.8	0.1	44.4	1,119
Upper Egypt	31.2	23.6	0.5	55.3	1,714
Urban	30.6	18.7	0.0	49.3	471
Rural	31.4	25.5	0.6	57.6	1,242
Frontier Governorates	24.5	17.9	0.7	43.1	47
Mother's education¹					
No education	30.3	24.8	0.4	55.5	1,221
Some primary	26.3	20.4	0.0	46.7	310
Primary complete/some secondary	30.2	20.6	0.2	51.0	539
Secondary complete/ higher	24.8	17.8	0.3	43.0	1,661
Work status²					
Working for cash	28.2	14.7	0.4	43.3	453
Not working for cash	27.5	21.6	0.3	49.4	3,265
Wealth quintile					
Lowest	29.5	25.3	0.4	55.2	792
Second	30.3	25.1	0.4	55.8	741
Middle	26.6	21.4	0.6	48.6	797
Fourth	26.6	18.4	0.0	44.9	748
Highest	25.2	11.6	0.0	36.9	682
Total 2005 EDHS	27.7	20.6	0.3	48.5	3,759
Total 2000 EDHS	18.8	11.3	0.2	30.3	4,045

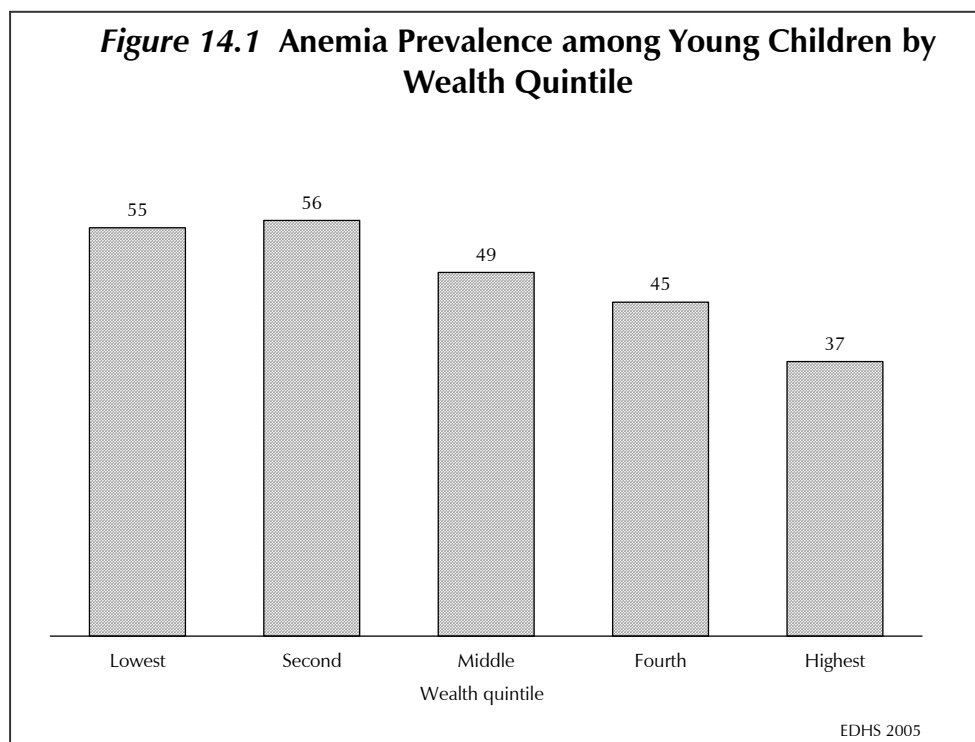
Note: Table is based on children who stayed in the household the night before the interview. The cutoffs for specific anemia levels are: mild: 10.0-10.9 g/dl; moderate: 7.0-9.9 g/dl; severe: < 7.0 g/dl; any: <11.0 g/dl

¹ For women who were not interviewed, information is taken from the Household Questionnaire. Excludes children whose mothers were not listed in the Household Questionnaire.

² Excludes children whose mothers were not interviewed.

Table 14.1 shows that children under age two were more likely to be anemic than older children. Female children are slightly more likely than males to be anemic. Short birth intervals (less than 24 months) are also associated with a higher than average likelihood of being anemic. According to the results in Table 14.8, rural children are more likely to be anemic than urban children (51 percent and 44 percent, respectively). Considering place of residence, children in rural Upper Egypt have the highest anemia levels (58 percent), and children in urban Lower Egypt have the lowest levels (38 percent). Looking at the mother's education level, children whose mothers never attended school have the highest anemia level and children whose mothers completed at least secondary school have the lowest level (56 and 43 percent, respectively). Slightly more than one-third of children in the highest wealth quintile are anemic compared to more than half of children in the two lowest wealth quintiles (Figure 14.1).

Information on anemia levels also was obtained in the 2005 EDHS, allowing for an assessment of the trend in the prevalence of anemia among young children since 2000. Table 14.8 shows that the level of anemia among children age 6-59 months was much higher in 2005 than in 2000 (49 percent and 30 percent, respectively). Changes are evident between the two surveys in the prevalence of both mild and moderate anemia; however, in both surveys, less than one percent of children were found to be severely anemic.



Prevalence of Anemia among Never-Married Youth and Young Adults

Tables 14.9.1 and 14.9.2 show the level of anemia among never-married adolescents age 10-19. Overall, around one-quarter of males age 10-19 and one-third of females age 10-19 are anemic. Most were considered to be mildly anemic, with six percent of males and five percent of females classified as moderately anemic.

Anemia levels among males age 11-19 generally increase with age although there is a drop in the rate among males age 18-19. The age differentials for females are less marked than for males, with the level peaking among females age 12-15. Anemia levels are higher among rural than urban residents, especially among males. For both sexes, the levels generally declined with both the mother's education and the wealth quintile. The decline across wealth quintiles is especially notable for males, with the rate for those in the highest quintile less than half the level for those in the lowest quintile.

Tables 14.9.1 and 14.9.2 also show include information on the levels of anemia found among youth and young adults age 11-19 at the time of the 2000 EDHS and the 2005 EDHS. The results indicate that there was little change between the two surveys in the proportions of male youth and young adults classified as anemic. On the other hand, the level of anemia among female youth and young adults increased between the two surveys from 28 percent to 36 percent. Almost all of the change was due to an increase in the proportion of girls who are mildly anemic.

Table 14.9.1 Prevalence of anemia in never-married male youth and young adults by background characteristics

Percentage of never-married males age 10-19 classified as having anemia, by selected background characteristics, Egypt 2005, and trends in the percentage of never-married males age 11-19 classified as having anemia, Egypt 2000 and 2005

Background characteristic	Mild	Moderate	Severe	Any anemia	Number of males
Age					
10-11	14.2	4.4	0.1	18.7	764
12-13	25.2	2.6	0.0	27.8	709
14-15	21.7	7.0	0.5	29.3	821
16-17	21.7	11.0	0.2	32.9	815
18-19	12.6	5.4	0.2	18.2	762
Mother's age¹					
< 30	12.7	0.0	0.3	13.0	62
30-34	19.7	5.7	0.0	25.4	513
35-49	19.2	6.6	0.3	26.0	2,675
50+	23.2	5.1	0.0	28.3	299
Mother not in household/no information available	14.7	6.2	0.5	21.4	322
Urban-rural residence					
Urban	14.8	3.6	0.2	18.7	1,492
Rural	21.7	7.8	0.2	29.7	2,380
Place of residence					
Urban Governorates	15.9	4.4	0.0	20.2	581
Lower Egypt	18.0	4.4	0.0	22.4	1,587
Urban	10.4	2.9	0.0	13.2	419
Rural	20.7	5.0	0.0	25.7	1,167
Upper Egypt	21.4	8.4	0.5	30.2	1,656
Urban	17.6	2.9	0.7	21.3	465
Rural	22.8	10.5	0.4	33.7	1,191
Frontier Governorates	14.8	12.8	0.4	28.0	48
Mother's education¹					
No education	22.5	6.7	0.3	29.6	1,752
Some primary	20.0	8.0	0.3	28.3	566
Primary complete/some secondary	16.3	6.7	0.0	23.0	378
Secondary complete/higher	14.2	3.7	0.0	17.9	853
Mother not in household/no information available	14.7	6.2	0.5	21.4	322
Work status					
Working for cash	18.2	5.1	0.0	23.3	652
Not working for cash	19.4	6.6	0.3	26.3	2,582
Mother not in household/no information available	18.6	5.5	0.3	24.4	639
Wealth quintile					
Lowest	23.9	10.4	0.2	34.5	888
Second	21.2	6.9	0.6	28.7	811
Middle	19.2	5.9	0.2	25.3	767
Fourth	15.9	4.2	0.0	20.2	723
Highest	13.3	2.3	0.0	15.7	683
Total age 10-19 2005 EDHS	19.1	6.2	0.2	25.5	3,872
Total age 11-19 2005 EDHS	19.5	6.3	0.2	26.0	3,481
Total age 11-19 2000 EDHS	18.9	7.5	0.1	26.6	4,848

Note: Table is based on male adolescents who stayed in the household the night before the interview. The cutoffs for anemia levels for male youth and young adults vary by age as follows: (1) 10-11 years: mild 10.5-11.4 g/dl; moderate 7.5-10.4 g/dl; severe <7.5 g/dl; any <11.5 g/dl (2) 12-14 years: mild 10.0-11.9 g/dl; moderate 7.0-9.9 g/dl; severe <7.0 g/dl; any <12.0 g/dl (3) 15-19 years: mild 12.0-12.9 g/dl; moderate 9.0-11.9 g/dl; severe <9.0 g/dl; any <13.0 g/dl.

¹ For women who are not interviewed, information is taken from the Household Questionnaire.

Table 14.9.2 Prevalence of anemia in never-married female youth and young adults by background characteristics

Percentage of never-married females age 10-19 classified as having anemia, by selected background characteristics, Egypt 2005, and trends in percentage of never-married females age 11-19 classified as having anemia, Egypt 2000 and 2005

Background characteristic	Mild	Moderate	Severe	Any anemia	Number of females
Age					
10-11	19.7	8.3	0.0	28.0	734
12-13	31.8	5.2	0.0	37.0	694
14-15	33.5	3.7	0.0	37.2	756
16-17	30.9	4.1	0.4	35.4	760
18-19	31.8	3.5	0.3	35.6	621
Mother's age¹					
< 30	29.6	4.2	0.0	33.8	70
30-34	21.1	8.3	0.0	29.4	439
35-49	30.3	4.7	0.2	35.1	2,491
50+	33.7	4.1	0.0	37.8	263
Mother not in household/no information available	31.3	3.8	0.0	35.1	303
Urban-rural residence					
Urban	29.2	3.6	0.1	32.9	1,346
Rural	29.6	5.8	0.2	35.6	2,219
Place of residence					
Urban Governorates	27.1	3.8	0.3	31.2	505
Lower Egypt	31.9	3.5	0.1	35.5	1,503
Urban	33.8	0.8	0.0	34.6	365
Rural	31.3	4.3	0.1	35.8	1,138
Upper Egypt	27.2	6.8	0.1	34.1	1,509
Urban	26.4	5.5	0.0	32.0	452
Rural	27.6	7.3	0.2	35.1	1,057
Frontier Governorates	48.4	7.6	0.0	56.0	49
Mother's education¹					
No education	28.9	6.0	0.1	35.0	1,519
Some primary	32.2	4.7	0.3	37.2	511
Primary complete/some secondary	26.7	6.0	0.4	33.1	389
Secondary complete/higher	29.5	3.3	0.0	32.7	844
Mother not in household/no information available	31.3	3.8	0.0	35.1	303
Work status					
Working for cash	34.4	4.7	0.2	39.3	624
Not working for cash	27.4	5.3	0.1	32.9	2,360
Mother not in household/no information available	32.5	3.9	0.0	36.4	581
Wealth quintile					
Lowest	33.5	6.1	0.0	39.6	818
Second	28.5	5.9	0.5	34.9	716
Middle	27.9	5.6	0.2	33.7	693
Fourth	27.1	3.7	0.0	30.8	686
Highest	29.6	3.2	0.0	32.9	653
Total age 10-19 2005 EDHS	29.5	5.0	0.1	34.6	3,566
Total age 11-19 2005 EDHS	30.8	4.6	0.2	35.6	3,169
Total age 11-19 2000 EDHS	24.1	3.2	0.1	27.5	4,402

Note: Table is based on female adolescents who stayed in the household the night before the interview. The cutoffs for anemia levels for female youth and young adults vary by age as follows: (1) 10-11 years: mild 10.5-11.4 g/dl; moderate 7.5-10.4 g/dl; severe <7.5 g/dl; any <11.5 g/dl (2) 12-19 years: mild 10.0-11.9 g/dl; moderate 7.0-9.9 g/dl; severe <7.0 g/dl; any <12.0 g/dl.

¹ For women who are not interviewed, information is taken from the Household Questionnaire.

Prevalence of Anemia among Ever-Married Women age 15-49

Table 14.10 shows anemia levels among the ever-married women 15-49 interviewed in the 2005 EDHS. Around four in ten women had some degree of anemia. The level of anemia was severe in less than one percent of the women, while seven percent were moderately anemic.

Pregnant women who provide the developing fetus with iron are at greater risk of anemia than nonpregnant women. Anemia during pregnancy increases the risks of maternal and infant death, premature delivery, and low birth weight. Table 14.10 shows anemia levels were highest for breastfeeding mothers and lowest for women pregnant at the time of the survey.

Studies also suggest that IUD use can lead to iron depletion and iron deficiency anemia. There is an association between IUD use and anemia among Egyptian women; 43 percent of IUD users were at least mildly anemic compared to 37 percent of other women.

The other differentials presented in Table 14.10 are generally modest. The largest differences are observed by place of residence, with the prevalence of anemia varying from a low of 35 percent among women living in urban Lower Egypt to a high of 47 percent among women from the Frontier Governorates.

Table 14.10 also compares the prevalence of anemia among women age 15-49 at the time of the 2000 EDHS and the 2005 EDHS. Anemia levels rose from 28 percent in 2000 to 39 percent in 2005. Almost all of the change in anemia prevalence during the period between the two surveys was due to an increase in the percentage of women who were mildly anemic.

Table 14.10 Prevalence of anemia in ever-married women by background characteristics

Percentage of ever-married women age 15-49 classified as having anemia, by selected background characteristics, Egypt 2005, and trends in the percentages of ever-married women age 15-49 classified as having anemia, Egypt 2000 and 2005

Background characteristic	Mild	Moderate	Severe	Any anemia	Number of women
Age					
15-19	36.3	8.6	0.0	44.9	281
20-24	33.7	6.5	0.3	40.5	949
25-29	33.3	6.2	0.2	39.7	1,197
30-34	31.9	6.8	0.4	39.0	1,048
35-39	30.7	7.6	0.2	38.5	1,031
40-44	34.6	5.6	0.4	40.5	911
45-49	30.6	5.4	0.3	36.3	873
Children ever born					
None	27.1	6.8	0.0	33.9	618
1	35.2	7.4	0.6	43.2	873
2-3	33.6	6.3	0.2	40.1	2,564
4-5	32.8	5.7	0.3	38.8	1,400
6+	31.0	7.1	0.2	38.3	835
Maternity status					
Pregnant	19.7	14.2	0.3	34.2	596
Breastfeeding (not pregnant)	38.4	5.1	0.2	43.6	1,326
Neither	32.7	5.8	0.3	38.8	4,367
Using IUD					
Yes	36.7	6.3	0.2	43.2	2,150
No	30.6	6.6	0.3	37.4	4,139
Urban-rural residence					
Urban	34.1	5.5	0.2	39.7	2,620
Rural	31.7	7.2	0.3	39.2	3,669
Place of residence					
Urban Governorates	34.5	5.6	0.1	40.1	1,037
Lower Egypt	29.7	6.1	0.3	36.1	2,733
Urban	31.0	3.7	0.0	34.7	737
Rural	29.2	7.0	0.4	36.6	1,997
Upper Egypt	35.0	7.2	0.3	42.6	2,446
Urban	36.0	7.1	0.4	43.4	802
Rural	34.6	7.3	0.2	42.1	1,643
Frontier Governorates	39.0	7.8	0.4	47.2	73
Education					
No education	32.7	7.5	0.2	40.5	2,156
Some primary	32.9	7.1	0.4	40.4	708
Primary complete/some secondary	30.0	6.8	0.5	37.3	874
Secondary complete/higher	33.4	5.3	0.2	38.9	2,551
Work status					
Working for cash	35.0	4.3	0.2	39.6	1,065
Not working for cash	32.2	6.9	0.3	39.4	5,224
Wealth quintile					
Lowest	32.6	7.8	0.7	41.0	1,171
Second	32.9	7.7	0.2	40.8	1,151
Middle	31.1	6.5	0.1	37.7	1,264
Fourth	33.9	6.6	0.2	40.7	1,378
Highest	32.7	4.0	0.2	37.0	1,325
Total 2005 EDHS	32.7	6.5	0.3	39.4	6,289
Total 2000 EDHS	22.7	4.6	0.3	27.7	7,575

Note: Table is based on women who stayed in the household the night before the interview. The cutoffs for anemia levels vary by pregnancy status as follows: (1) non-pregnant: mild 10.0-11.9 g/dl; moderate 7.0-9.9 g/dl; severe <7.0 g/dl; any <12.0 g/dl (2) pregnant: mild 10.0-10.9 g/dl; moderate 7.0-9.9 g/dl; severe <7.0 g/dl; any <11.0 g/dl.