

**Egypt
Demographic
and Health
Survey
2008**

**Preliminary
Report**

Ministry of Health and Population

El-Zanaty and Associates

The 2008 Egypt Demographic and Health Survey (2008 EDHS) was conducted on behalf of the Ministry of Health and Population by El-Zanaty and Associates. The Central Laboratory of the Ministry of Health and Population was responsible for the hepatitis C testing component of the survey.

The 2008 EDHS is part of the worldwide MEASURE DHS project which is funded by the United States Agency for International Development (USAID). USAID/Cairo was the main contributor of funding for the survey. Support for the survey also was provided by UNICEF. The opinions expressed herein are those of the authors and do not necessarily reflect the views of USAID or UNICEF.

Additional information about the 2008 EDHS may be obtained from the Ministry of Health and Population, 3 Magles El Shaab Street, Cairo, Egypt; Telephone: 20-2-27948555 and Fax: 20-2-27924156.

Information about DHS surveys may be obtained from the Measure DHS Project, ORC Macro, 11785 Beltsville Drive, Calverton, MD 20705 USA; Telephone: 301-572-0200, Fax: 301-572-0999, E-mail: reports@orcmacro.com, Internet: <http://www.measuredhs.com>.



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September 2008

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PREFACE

Health for all is the main health objective of the Egyptian government. To monitor and evaluate progress toward the achievement of this goal, reliable data are needed. These data come from two primary sources: the health service delivery system (service-based data) and the community (household-based data). The two types of data complement each other in enhancing the information available to monitor progress in the health sector.

Beginning in 1980, a number of household surveys have been carried out in Egypt to obtain data from the community on the current health situation, including a series of Demographic and Health Surveys in which 2008 EDHS is the most recent. The preliminary results of the 2008 EDHS show that key maternal and child health indicators, antenatal care coverage, medical assistance at delivery, and infant and child mortality have improved. The survey also found that family planning use is rising and fertility is continuing to decline although at a slow pace. In addition, the 2008 Egypt DHS collected information relating to other health issues that Egypt is facing including knowledge and practices relating to avian influenza and the prevalence of high blood pressure among the adult population. By collecting and testing blood samples for the hepatitis C virus from respondents, the survey also provides the first nation-wide data on the prevalence of infection with the hepatitis C virus among the Egyptian population age 15-59 years.

The findings of the 2008 EDHS together with service-based data are very important for measuring the achievements of the health program to date as well as for planning future interventions to address Egypt's health challenges. Based on the above-mentioned considerations, the results of the 2008 EDHS should be disseminated at different levels of health management, in the central offices as well as local governments, and to the community at large.

Prof. Dr. Hatem El-Gabaly
Minister of Health and Population

ACKNOWLEDGMENTS

The 2008 Egypt Demographic and Health Survey continues the long-standing commitment and efforts in Egypt to obtain data on fertility, contraceptive practice and maternal and child health. The focus on avian influenza, hepatitis C and adult health issues including hypertension reflects the need to obtain data to better address these challenges. Overall, the wealth of demographic and health data that the survey provides will help in charting future directions for the population and health programs.

This important survey could not have been implemented without the active support and dedicated efforts of a large number of institutions and individuals. The support and approval of H.E. Prof. Dr. Hatem El-Gabaly was instrumental in securing the implementation of the EDHS.

USAID/Cairo through its bilateral health and population projects was the main contributor of funding for the survey. UNICEF also provided financial support. Technical assistance came from the USAID-sponsored MEASURE DHS project.

I am deeply grateful to the Ministry of Health and Population (MOHP) staff who contributed to the successful completion of this project, especially Dr. Nasr EL-Sayed, Minister Assistant of Primary Health Care, Prevention, and Family Planning, who provided strong continuing support to the project and has shown great interest in the survey results. Special thanks also go to Dr. Amr Kandil, Director General, Communicable Diseases Control Department for his continuous support during the survey implementation.

I also gratefully acknowledge the Population and Health Office staff at USAID/Cairo, especially Ms. Holly Fluty Dempsey, Director of the Population and Health Office, and Ms. Shadia Attia, Research and Monitoring Advisor, Population and Health Office, for their support and valuable comments throughout the survey activities. I would like to thank the administrative staff at USAID and the American Embassy who helped to ensure that the equipment and supplies used for the hepatitis C testing component were available on time to start the fieldwork.

I also acknowledge with gratitude Mr. Dennis Arends, Chief of Social Policy Monitoring and Evaluation, and Ms. Manar Soliman, Senior Program Assistant, UNICEF, for their support.

The Hepatitis C testing was carried out at the Central Health Laboratory (MOHP). I would like to thank Dr. Aly Abdelstar, Dr. Amal Naguib, and Dr. Ahmed Safwat at the Central Laboratory for their dedication in completing the testing in a very timely fashion. I would also like to thank Dr. Mohamed Aly Saber and Dr. Effat El-Sherbiny at the Theodor Bilharz Research Institute (TBRI) for the support that TBRI provided during the quality assurance testing.

Dr. Ann Way of Macro International, who worked closely with us on all phases of EDHS, deserves special thanks for all her efforts throughout the survey. My thanks also are extended to Dr. Alfredo Aliaga for his advice and guidance in designing the sample. Ms. Jeanne Cushing deserves my deepest thanks for her assistance in data processing and tabulation required for this report. Ms. Jasbir Sangha provided invaluable assistance with the hepatitis C testing component of the survey.

Special thanks are extended to the staff at the population and family planning sector at the MOHP for their financial and administrative support.

I would like to express my appreciation for all the senior, office, and field staff at El-Zanaty and Associates for the dedication and skill with which they performed their tasks.

Finally, I would like to express my appreciation to all households and participants who responded in the survey; without their participation this survey would have been impossible.

Fatma El-Zanaty
Technical Director

I. Background

The 2008 Egypt Demographic and Health Survey (2008 EDHS) is the most recent in a series of national-level population and health surveys in Egypt.¹ The 2008 EDHS was conducted under the auspices of the Ministry of Health and Population. Macro International Inc. provided technical support for the survey through the MEASURE DHS project. The MEASURE DHS project is sponsored by the United States Agency for International Development (USAID) to assist countries worldwide to obtain information on key population and health indicators. USAID/Cairo was the main contributor of funding for the survey under its bilateral population and health projects. UNICEF also provided financial support for the survey.

The 2008 EDHS was undertaken in order to obtain data on fertility and family planning behavior, child mortality, the utilization of maternal and child health care services and other issues relating to the health and welfare of women and children in Egypt. The survey obtained detailed information on these issues from a sample of ever-married women in the reproductive ages. Additional information on several other health topics was obtained during interviews with all women and men age 15-59 in a subsample of one-quarter of all the households selected for the survey. Data were obtained during these interviews on health care expenditures; attitudes and practice of female circumcision; knowledge and practices relating to the prevention of avian influenza; awareness and attitudes about HIV/AIDS; and other adult health issues, particularly relating to cardiovascular disease. To obtain insights into the prevalence of hypertension, blood pressure measurements were taken during the interviews. Finally, information on the level of awareness and the modes of prevention and treatment of hepatitis C was obtained during the survey interview. In addition, all women and men who were eligible for the special health issues interviews were also asked to provide a blood sample for subsequent testing for the hepatitis C virus.

This preliminary report presents initial findings relating to the principal topics in the survey. The early publication of these results is intended to facilitate use of the information in the planning and management of population and health programs in Egypt. A more detailed report will be issued in the first half of 2009. The figures in this preliminary report are not expected to differ markedly from the findings presented in the more detailed report; nevertheless, the results presented here should be considered provisional and subject to modification.

¹ Full-scale DHS surveys were conducted in 1988, 1992, 1995, 2000, AND 2005. In addition, interim DHS surveys were carried out in 1997, 1998, and 2003. Other national-level surveys for which results are shown in this report include the Egyptian Fertility Survey (1980 EFS), the 1984 Egypt Contraceptive Prevalence Survey (1984 ECPS) and the 1991 Egypt Maternal and Child Health Survey (1991 EMCHS).

II. Survey Implementation

A. Sample Design

The sample for the 2008 EDHS was designed to provide estimates of population and health indicators including fertility and mortality rates for the country as a whole and for six major subdivisions (Urban Governorates, urban Lower Egypt, rural Lower Egypt, urban Upper Egypt, rural Upper Egypt and the Frontier Governorates²). The sample selected for the main survey from the four Urban Governorates and the 18 governorates in Lower Egypt and Upper Egypt³ is sufficiently large to allow for governorate-level estimates for many of the major variables for which information was obtained in the household and ever-married women interviews, with the exception of fertility and mortality rates. The sample size is not, however, sufficiently large to allow for separate governorate-level estimates for these indicators for the five Frontier Governorates. Because the special health issues interviews were conducted in only one-quarter of the EDHS survey households, it is not possible to obtain governorate-level results for any indicators for which data were collected in those interviews.

In order to allow for the regional and governorate-level estimates, the number of households selected from each of the sampling domains was disproportionate to the size of the population in the domain. Thus, the 2008 EDHS sample is not self-weighted at the national level.

B. Sample Selection

The sample for the 2008 EDHS was selected in three stages. A list of shiakhass/towns constituted the primary sampling frame for urban areas, and a list of villages served as the frame for rural areas. Information from the Central Agency of Public Mobilization and Statistics (CAPMAS) was used to update these lists, which had been originally prepared for the 2006 census.

In order to provide for implicit geographic stratification, the lists of shiakhass/towns and villages in each governorate were arranged in serpentine order according to their location from north to south within the governorate. During the first stage selection, a total of 610 primary sampling units (275 shiakhass/towns and 335 villages) were chosen for the 2008 EDHS sample.

The second stage of selection involved several steps. First, for each of the primary sampling units (PSU), maps were obtained and divided into a number of parts of roughly equal size (assuming approximately 5000 persons per part). The procedure was modified slightly, with two parts selected from each PSU in shiakhass/towns or villages with 20,000 and more population and three parts selected from each PSU in shiakhass/towns and villages with approximately 100,000 or more population. In the remaining smaller shiakhass/towns and villages, one part was selected. A quick count was carried out in the selected parts in each PSU to provide the information needed to divide the parts into a number of segments of roughly equal size. After the quick count was completed, two segments were then selected from each PSU. In large shiakhass/towns and villages where there was more than one part, one segment was chosen from each part. In small shiakhass/towns and villages where only one part had been selected, two segments were chosen from that part.

A household listing was obtained for each segment. Using the household lists, a systematic sample of 19,397 households was chosen for the 2008 EDHS. All ever-married women 15-49 who

² The Frontier Governorates were not included in 1988 and 1992 DHS surveys nor in the 1997, 1998 and 2003 interim surveys. However, they were part of the 1995, 2000, and 2005 EDHS samples. The inclusion of the Frontier Governorates will not affect comparisons of the 2008 DHS results with earlier surveys in which these governorates were not part of the samples since only around one percent of the Egyptian population resides in the Frontier Governorates.

³ Separate estimates are not available for Helwan and Sixth October Governorates since these governorates were not established until after fieldwork for the 2008 EDHS had begun.

were present in the sampled households on the night before the survey team visited were eligible for the main DHS interview. In addition, in a subsample of one-quarter of the households in each segment, all women and men age 15-59 who were present in the household on the night before the interview were eligible for the health issues interviews and the hepatitis C testing.

C. Questionnaires

Three questionnaires were used in the 2008 EDHS: a household questionnaire, an ever-married woman questionnaire, and a health issues questionnaire. The household and ever-married woman's questionnaires were based on the questionnaires that had been used in earlier EDHS surveys and on model survey instruments developed in the MEASURE DHS program. The majority of the content of the health issues questionnaire was developed especially for the 2008 EDHS although some sections (e.g., the questions on female circumcision and HIV/AIDS knowledge and attitudes) were also based on questionnaires used in earlier EDHS surveys or were drawn from the model instruments from the MEASURE DHS program. The questionnaires were developed in English and translated into Arabic. A pretest of the household and individual questionnaires that involved around 150 households was conducted in December 2007. The hepatitis C testing component of the survey was also pretested in a limited subsample of the households covered in the pretest.

The first part of the household questionnaire was used to enumerate all usual members of and visitors to the selected households and to collect information on the age, sex, marital status, educational attainment, and relationship to the household head of each household member or visitor. This information provided basic demographic data for Egyptian households. It was also used to identify the women who were eligible for the individual interview (i.e., ever-married women 15-49) as well as individuals eligible for the special health issues interviews and the hepatitis testing. In the second part of the household questionnaire, there were questions relating to the socioeconomic status of the household including questions on housing characteristics (e.g., the number of rooms, the flooring material, the source of water and the type of toilet facilities) and on ownership of a variety of consumer goods. A special module was included in the household questionnaire on ownership of poultry and birds. In addition, height and weight measurements of respondents, youth, and children under age six were taken during the survey and recorded in the household questionnaire. The informed consent for the hepatitis C testing obtained from eligible respondents age 15-59 was also recorded in the household questionnaire.

The ever-married woman's questionnaire obtained information on the following topics: respondent's background characteristics, reproduction, contraceptive knowledge and use, fertility preferences and attitudes about family planning, pregnancy and breastfeeding, child immunization and health, female circumcision, husband's background, and women's work and decision-making.

The health issues questionnaire collected information similar to that obtained in the ever-married woman's questionnaire on the background characteristics of men age 15-59, never-married women age 15-59, and ever-married women age 50-59. It obtained information from all women and men age 15-59 on female circumcision; health insurance coverage and health care costs; knowledge and attitudes about HIV/AIDS; lifetime experience with surgery, blood transfusion and other medical procedures; safe injections; hepatitis C; smoking, hypertension, heart disease and diabetes; and avian influenza. Blood pressure readings were also obtained for respondents at three points during the health issues interview.

D. Biomarker Data Collection in the 2008 EDHS

As noted earlier, the 2008 EDHS included the collection of three types of biomarkers: (1) anthropometric (height and weight) measurements; (2) venous blood samples for hepatitis C testing; and (3) blood pressure measurements. A specially trained team of three individuals including at least

one physician and one laboratory technician were responsible for obtaining the anthropometric measurements for all eligible respondents and the venous blood samples. The EDHS survey interviewers were trained to collect the blood pressure measurements.

Anthropometric measurements. Height and weight measures were collected in all households included in the EDHS survey for children under age six and adolescents age 10-19 years in all households. In the subsample of households selected for the health issues survey, the measurements were also obtained for all women and men age 20-59 while in the remaining households in the sample, measurements were recorded only for ever-married women age 20-49. The measuring boards used for the collection of the height data were 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 adults. 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).

Hepatitis C testing. The hepatitis C testing component of the EDHS involved the collection of venous blood samples for later testing in the Central Laboratory from all individuals age 15-59 years living in the subsample of households selected for the health issues survey. The blood specimen was collected only after informed consent to the hepatitis C testing was obtained from each respondent and, in the case of an unmarried minor age 15-17, from a parent or other guardian. Additionally, all individuals providing a blood sample were asked to consent to anonymous storage of their dried blood spot (DBS) sample to be used for further research at a later date. Respondents were told during the consent process that, if they tested positive, they would be given a referral to a special Liver Treatment Center for additional screening and counseling. They also were advised during the consent process that the hepatitis C testing would be conducted at the Central Laboratory of the Ministry of Health in Cairo and that the result of the test would not be returned to them for around three months. Permission was requested from each respondent to leave the hepatitis C test result in a sealed envelope with another household member if the respondent was not at home at the time the call back visits were made to return the test results. At the time of the survey, all respondents, whether or not they consented to the testing, also were provided with an informational brochure about the hepatitis C virus. The protocol for the hepatitis C testing was approved by the Scientific and Research Ethics Committee of the Ministry of Health and Population and the International Institutional Review Board at Macro International.

If a respondent consented to the testing, the laboratory technician drew approximately 7 ml of venous blood in an EDTA Vacutainer tube. The blood tube was labeled with a preprinted bar-coded identification number; labels with the same bar code ID were also pasted on the Household Questionnaire and on the form used by EDHS biomarker staff to track the collection of specimens from eligible respondents. Before starting work in a given area, each of the EDHS biomarker team established a temporary field laboratory. The tubes of blood collected during the fieldwork each day were stored in cool boxes prior to their transfer to the temporary field laboratory. In the field laboratory, the EDHS biomarker staff centrifuged the blood and transferred the serum to three microvials, labeled with the same bar code identification as the original vacutainer tube. The microvials containing the serum were stored in liquid nitrogen tanks. Samples were collected twice weekly or oftener and transferred in coolers on dry ice to the Central Health Laboratory in Cairo.

The hepatitis C testing protocol at the Central Laboratory included an initial round of testing to detect the presence of antibodies to the hepatitis C virus. The presence of antibodies indicated that the individual had been exposed to the hepatitis C virus at some point. A third generation Enzyme Immunoassay (ELISA), Adlatis EIAgen HCV Ab test was used for the determination of antibodies to Hepatitis C Virus (anti-HCV). A more specific assay, Chemiluminescent Microplate Immunoassay (CIA) was used to test for antibodies to HCV for all positive samples and approximately 5% of the

negative samples from the first ELISA screening test. Any discordant samples after the initial screening were retested with ELISA and CIA.

The ELISA and CIA tests can detect the presence of antibodies against HCV but not able to confirm if an individual has an active viral infection. Samples that were found to be positive on both ELISA and CIA tests, or that remained discordant after retesting, were further tested to identify individuals with active (current) hepatitis infection. Quantitative Real Time PCR was used for the detection of HCV RNA at the Central Laboratory.

As a quality control measure, the ELISA test was repeated at the Theodor Bilharz Institute (TBRI) for five percent of all samples. In addition, all samples that were found to be negative and five percent of the samples that were found to be positive during the PCR testing at the Central Laboratory were retested at TBRI using the Abbott m2000 Real Time PCR system. Primarily due to the greater sensitivity of the equipment at TBRI, some of the samples that were negative on the PCR test at the Central Laboratory were found to be positive at TBRI. Some additional retesting was carried out on a subsample of the samples for which the results at the Central Laboratory and TBRI were discordant. Based on the results of this further retesting, it was decided to accept the TBRI result for all of the discordant samples.

Blood Pressure Measurements. In the 2008 EDHS, blood pressure measurements were taken during the special health issues interviews. The survey interviewers were provided with a fully automatic, digital oscillometric blood pressure measuring device with automatic upper-arm inflation and automatic pressure release. Interviewers were trained in the use of this device according to the manufacturer's recommended protocol. Three measurements of systolic and diastolic blood pressure (measured in millimeters of mercury (mmHg)) were taken during the survey interview, with an interval of at least 10 minutes between measurements. At the end of the interview, respondents were provided information about the average blood pressure reading and advised to see a medical provider for further screening if that reading fell outside the normal ranges according to internationally recommended guidelines (WHO, 1999a).

E. Training, Data Collection, and Data Processing

Data were conducted by 14 teams; each team consisted of three female interviewers, a male interviewer, a female field editor and a male team supervisor. In addition, three staff (with medical or laboratory backgrounds) were assigned to each team to collect data on height and weight and the venous blood samples. The field staff was trained during a five-week period beginning in the second week of February 2008.

The main fieldwork began in March and was completed by June 2008, including all reinterviews. The callback phase of the survey to return the hepatitis C test results commenced in August and was completed by early September.

As soon as possible after a team had completed interviewing in a PSU, questionnaires were returned to the EDHS survey office in Cairo for data processing. The office editing staff first checked that questionnaires for all selected households and eligible respondents had been received from the field staff. In addition, a few questions that had not been precoded (e.g., occupation) were coded at this time. Using the CSPro software, a specially trained team of data processing staff then entered the questionnaires and edited the resulting dataset on microcomputers. The process of office editing and data processing was initiated almost immediately after the beginning of fieldwork and was completed by the end of July.

Special computer programs were also set up to facilitate the tracking of the results of the testing of the blood samples collected during the survey at the Central Health Laboratory. The bar codes

attached to the samples in the field were used for logging in and identifying the samples throughout the processing, which took place at three separate locations within the Central Laboratory. The bar code also served as the means to link the laboratory test results and the survey data file.

F. Coverage of the Sample

Table 1 presents information on the results of the household, ever-married woman, and health issues interviews. A total of 19,739 households were selected for the 2008 EDHS sample. Household interviews were completed for 18,968 households. The household response rate was 99.1 percent.

As noted above, an eligible respondent was defined as an ever-married woman age 15-49 who was present in the household on the night before the interview. A total of 16,571 eligible ever-married women were identified in the households in the 2008 EDHS sample. Of these women, 16,527 were successfully interviewed. The ever-married women response rate was 99.7 percent.

A total of 4,953 households were selected for the health issues subsample. Of these, 4,757 were found and 4,662 interviewed. The household response rate in the health issues subsample was only slightly lower than the response rate in the entire EDHS sample (98 percent).

As noted, women and men were eligible for the health issues interview if they were age 15-59 years (regardless of marital status) and were present in the household on the night before the interview. A total of 12,780 individuals (6,702 women and 6,078 men) who met these criteria were identified in the subsample of households selected for the special health issues interviews, of which 12,008 were successfully interviewed. Taking into account both eligible women and men, the response rate for the health issues was 94 percent. As expected, the response rate among women (98 percent) was higher than the rate among men (89 percent), with the principal reason being the fact that men were more likely to be working and, thus, not as easy to contact for interview as women.

Table 1 Sample results											
Result of the household, ever-married woman, and health issues interviews and response rates according to urban-rural residence and place of residence (unweighted), Egypt 2008											
Result of interview and response rate	Urban	Rural	Urban Governorates	Lower Egypt			Upper Egypt			Frontier Governorates	
				Total	Urban	Rural	Total	Urban	Rural	Total	Total
Main EDHS sample											
Household											
Sampled	9,395	10,344	3,627	7,578	2,401	5,177	7,500	2,614	4,886	1,034	19,739
Found	9,002	10,145	3,484	7,352	2,287	5,065	7,340	2,524	4,816	971	19,147
Interviewed	8,852	10,116	3,391	7,303	2,256	5,047	7,310	2,504	4,806	964	18,968
HH response rate	98.3	99.7	97.3	99.3	98.6	99.6	99.6	99.2	99.8	99.3	99.1
Ever-married women											
Identified	6,699	9,872	2,421	6,522	1,742	4,780	6,703	1,927	4,776	925	16,571
Interviewed	6,677	9,850	2,419	6,515	1,738	4,777	6,682	1,920	4,762	911	16,527
EMW response rate	99.7	99.8	99.9	99.9	99.8	99.9	99.7	99.6	99.7	98.5	99.7
Health issues subsample											
Households											
Sampled	2,357	2,596	916	1,897	597	1,300	1,880	655	1,225	260	4,953
Found	2,224	2,533	864	1,812	554	1,258	1,832	625	1,207	249	4,757
Interviewed	2,141	2,521	813	1,787	538	1,249	1,819	615	1,204	243	4,662
HI-HH response rate	96.3	99.5	94.1	98.6	97.1	99.3	99.3	98.4	99.8	97.6	98.0
All women age 15-59											
Identified	2,827	3,875	1,079	2,486	668	1,818	2,749	829	1,920	388	6,702
Interviewed	2,747	3,831	1,043	2,460	657	1,803	2,705	809	1,896	370	6,578
HI-W response rate	97.2	98.9	96.7	99.0	98.4	99.2	98.4	97.6	98.8	95.4	98.1
All men age 15-59											
Identified	2,660	3,418	979	2,259	608	1,651	2,433	795	1,638	407	6,078
Interviewed	2,319	3,111	826	2,072	546	1,526	2,186	709	1,477	346	5,430
HI-M response rate	87.2	91.0	84.4	91.7	89.8	92.4	89.8	89.2	90.2	85.0	89.3
Total age 15-59											
Identified	5,487	7,293	2,058	4,745	1,276	3,469	5,182	1,624	3,558	795	12,780
Interviewed	5,066	6,942	1,869	4,532	1,203	3,329	4,891	1,518	3,373	716	12,008
HI-T response rate	92.3	95.2	90.8	95.5	94.3	96.0	94.4	93.5	94.8	90.1	94.0

III. Preliminary Findings from the 2008 EDHS

A. Background Characteristics

The distribution of the ever-married women 15-49 interviewed in the 2008 EDHS by selected background characteristics is presented in Table 2. Almost all of the respondents (93 percent) were married at the time of the interview, four percent were widowed, and three percent divorced or separated. Considering the age distribution, 19 percent of the respondents were under age 25, 37 percent were in the 25-34 age group, and 44 percent were age 35 and over. The relatively small proportion of young women in the sample reflects the fact that the age at first marriage has been steadily increasing.

Background characteristic	Weighted percent	Number of women	
		Weighted number	Unweighted number
Marital status			
Currently married	93.2	15,396	15,406
Widowed	4.1	670	660
Divorced	2.1	353	351
Separated	0.7	107	110
Age			
15-19	3.8	620	636
20-24	15.6	2,584	2,621
25-29	20.4	3,367	3,318
30-34	16.1	2,664	2,703
35-39	15.6	2,586	2,553
40-44	15.0	2,473	2,440
45-49	13.5	2,234	2,256
Urban-rural residence			
Urban	41.2	6,809	6,677
Rural	58.8	9,718	9,850
Place of residence			
Urban Governorates	17.7	2,931	2,419
Lower Egypt	46.1	7,618	6,515
Urban	11.7	1,936	1,738
Rural	34.4	5,682	4,777
Upper Egypt	34.8	5,751	6,682
Urban	10.8	1,792	1,920
Rural	24.0	3,959	4,762
Frontier Governorates	1.4	227	911
Education			
No education	32.1	5,302	5,542
Some primary	8.4	1,394	1,427
Primary complete/Some secondary	14.6	2,413	2,382
Secondary complete/Higher	44.9	7,418	7,176
Work status			
Working for cash	14.9	2,459	2,456
Not working for cash	85.1	14,068	14,071
Total	100.0	16,527	16,527

Forty-one percent of the 2008 EDHS respondents live in urban areas, while nearly 60 percent live in rural areas. By place of residence, 18 percent reside in the Urban Governorates, 46 percent in Lower Egypt, 35 percent in Upper Egypt, and 1 percent in the Frontier Governorates.

Although the majority of women in the sample had some education, 32 percent of the respondents reported that they had never attended school. An additional eight percent attended but did not complete primary school, 15 percent completed at least the primary level or had some secondary education, and 45 percent completed the secondary or higher level.

A minority of 2008 EDHS respondents (15 percent) were working at a job for which they were paid in cash.

B. Fertility

In the 2008 EDHS, retrospective reproductive histories were obtained from all ever-married respondents. In collecting these histories, each woman was first asked about the number of sons and daughters living with her, the number living elsewhere and the number who had died. She was then asked for a history of all her births, including the month and year in which each child was born, the child's name, sex and, if dead, the age at death, and, if alive, the current age and whether the child was living with the mother.

Current and cumulative fertility

The fertility measures presented in Table 3 include the total and age-specific fertility rates and the mean number of children ever born.⁴ The total fertility rate represents the number of children the average woman would have by the end of her reproductive years if she were to bear children throughout the period at the age-specific rates observed during the 36-month period before the survey. The total fertility rate in Table 3 indicates that, if fertility were to remain constant at levels prevailing during the period (approximately mid-2003 through mid-2008), an Egyptian woman would bear 3.0 children over her lifetime.

Egyptian women tend to have children early in the reproductive period. At the current age-specific rates shown in Table 3, an Egyptian woman will give birth to 1.1 children—more than one-third of her lifetime births—by age 25 and to 2.0 children—two-thirds of her lifetime births—by age 30.

The effect of past high fertility among Egyptian women is evident in the mean number of children ever born in Table 3. On average, women in their early 30s have had 3 births and women nearing the end of the childbearing period have given birth to more than four children. The difference between the mean number of children ever born to women 45-49 and the total fertility rate is 1.4 children, indicating the rapid transition to lower fertility which Egypt has experienced in the past several decades.

Table 3 Current and cumulative fertility

Age-specific fertility rates (per 1000 women) and total fertility rate for the three years preceding the survey and the mean number of children ever born by age of the mother, Egypt 2008

Age	Age specific fertility rates	Mean number of children ever born (all women)	Number (all women)
15-19	50	0.1	4,618
20-24	169	0.6	4,806
25-29	185	1.7	4,090
30-34	122	2.7	2,862
35-39	59	3.4	2,683
40-44	17	3.9	2,527
45-49	2	4.4	2,277
Total 15-44	3.0	1.7	21,586
Total 15-49	3.0	2.0	23,863

⁴ Fertility measures for the 2008 EDHS are calculated directly from the birth history data. Although information on fertility was obtained only from ever-married women, estimates are presented for all women regardless of marital status. Data from the household questionnaire on the age structure of the population of never-married women are used to calculate the all-women factors. This procedure assumes that women who have never been married have had no births.

Trends in fertility

Using data from earlier surveys as well as from the 2008 EDHS, Table 4 examines the trend in fertility in Egypt since the late 1970s. During the period, fertility has fallen by more than 40 percent, from 5.3 births at the time of the Egypt Fertility Survey to 3.0 births at the time of the 2008 EDHS. Between the 2005 and 2008 EDHS surveys, fertility fell by 0.1 births.

Age	EFs	ECPS	1988 EDHS	1991 EMCHS	1992 EDHS	1995 EDHS	1997 Interim EDHS	1998 Interim EDHS	2000 EDHS	2003 Interim EDHS	2005 EDHS	2008 EDHS
	1979-1980 ¹	1983-1984 ¹	1986-1988 ²	1990-1991 ¹	1990-1992 ²	1993-1995 ²	1995-1997 ²	1996-1998 ²	1997-2000 ²	2000-2003 ²	2002-2005 ²	2005-2008 ²
15-19	78	73	72	73	63	61	52	64	51	47	48	50
20-24	256	205	220	207	208	200	186	192	196	185	175	169
25-29	280	265	243	235	222	210	189	194	208	190	194	185
30-34	239	223	182	158	155	140	135	135	147	128	125	122
35-39	139	151	118	97	89	81	65	73	75	62	63	59
40-44	53	42	41	41	43	27	18	22	24	19	19	17
45-49	12	13	6	14	6	7	5	1	4	6	2	2
TFR 15-49	5.3	4.9	4.4	4.1	3.9	3.6	3.3	3.4	3.5	3.2	3.1	3.0

¹Rates are for the 12-month period preceding the survey.
²Rates are for the 36-month period preceding the survey.
Note: Rates for the age group 45-49 may be slightly biased due to truncation.
Source: El-Zanaty and Way, 2006, Table 4.4

Fertility by residence

As Table 5 shows, rural women are having more children than urban women. At the fertility levels prevailing at the time of the 2008 EDHS, rural women will have nearly 3.2 births by the end of the childbearing period while urban women will have an average of 2.7 births. By place of residence, fertility levels vary from a low of 2.6 births per woman in the Urban Governorates and urban Lower Egypt to 3.6 births in rural areas in Upper Egypt (Figure 1).

Using information from earlier surveys as well as the 2008 EDHS, Table 6 examines the trend in fertility in Egypt by residence since the mid-1980s. In urban areas, fertility fell from a level of 3.5 births at the time of the 1988 EDHS to the current level of 2.7 births per woman. In rural areas, fertility fell more rapidly from a level of 5.4 births at the time of the 1988 survey to 3.2 births in the 2008 survey. Considering the trend during the period between the 2005 and 2008 surveys, urban fertility has remained stable at 2.7 births and rural fertility has declined by 0.2 births (from 3.4 to 3.2 births).

Looking at the trends between 2005 and 2008 by place of residence, there were small declines in fertility or fertility levels remained stable in all residential categories, except the Urban Governorates. Rural areas in Upper Egypt experienced the largest decline, from 3.9 births in 2005 to 3.6 births in 2008.

Figure 1
Fertility by Place of Residence, Egypt 2008

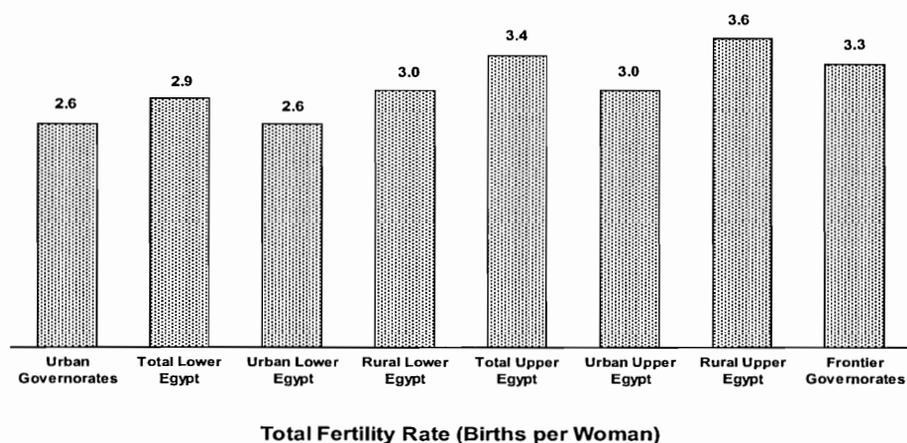


Table 5 Current fertility by residence

Age-specific and total fertility rates, the general fertility rate, and the crude birth rate for the three years preceding the survey, by urban-rural residence and place of residence, Egypt 2008

Age	Urban	Rural	Urban Governorates	Lower Egypt			Upper Egypt			Frontier Governorates	Total
				Total	Urban	Rural	Total	Urban	Rural		
15-19	32	64	24	52	25	60	60	41	68	55	50
20-24	132	196	127	180	142	191	179	130	204	160	169
25-29	175	193	166	183	173	188	197	191	201	201	185
30-34	127	117	119	105	114	101	145	154	140	147	122
35-39	61	58	61	49	58	46	71	65	74	73	59
40-44	15	19	23	8	5	10	24	10	32	23	17
45-49	2	2	2	0	0	0	5	4	6	6	2
TFR	2.7	3.2	2.6	2.9	2.6	3.0	3.4	3.0	3.6	3.3	3.0
GFR	93	117	87	104	88	110	118	100	127	116	106
CBR	23.3	29.1	22.3	26.7	22.5	28.1	28.7	25.2	30.5	27.8	26.6

Note: Age-specific fertility rates are per 1,000 women. Rates for age group 45-49 may be slightly biased due to truncation.

TFR: Total fertility rate for ages 15-49, expressed per woman

GFR: General fertility rate (births divided by the number of women age 15-44), expressed per 1,000 women

CBR: Crude birth rate, expressed per 1,000 population

Table 6 Trend in fertility by residence

Total fertility rates by urban-rural residence and place of residence, Egypt 1986-2008

Residence	1988	1991	1992	1995	Interim	1998	2000	2003	2005	2008
	EDHS 1986- 1988 ²	EMCHS 1990- 1991 ¹	EDHS 1990- 1992 ²	EDHS 1993- 1995 ²	EDHS 1995- 1997 ²	Interim EDHS 1996- 1998 ²	EDHS 1997- 2000 ²	Interim EDHS 2000- 2003 ²	EDHS 2002- 2005 ²	EDHS 2005- 2008 ²
Urban-rural residence										
Urban	3.5	3.3	2.9	3.0	2.7	2.8	3.1	2.6	2.7	2.7
Rural	5.4	5.6	4.9	4.2	3.7	3.9	3.9	3.6	3.4	3.2
Place of residence										
Urban Governorates	3.0	2.9	2.7	2.8	2.5	2.7	2.9	2.3	2.5	2.6
Lower Egypt	4.5	U	3.7	3.2	3.0	3.1	3.2	3.1	2.9	2.9
Urban	3.8	3.5	2.8	2.7	2.6	2.4	3.1	2.8	2.7	2.6
Rural	4.7	4.9	4.1	3.5	3.2	3.2	3.3	3.2	3.0	3.0
Upper Egypt	5.4	U	5.2	4.7	4.2	4.3	4.2	3.8	3.7	3.4
Urban	4.2	3.9	3.6	3.8	3.3	3.3	3.4	2.9	3.1	3.0
Rural	6.2	6.7	6.0	5.2	4.6	4.5	4.7	4.2	3.9	3.6
Frontier Governorates	U	U	U	4.0	U	U	3.8	U	3.3	3.3
TFR 15-49	4.4	4.1	3.9	3.6	3.3	3.4	3.5	3.2	3.1	3.0

Note: Rates for the age group 45-49 may be slightly biased due to truncation.

U-Unavailable

¹Rates are for the 12-month period preceding the survey.

²Rates are for the 36-month period preceding the survey.

Source: El-Zanaty and Way, 2006, Table 4..5

C. Family Planning

The 2008 EDHS collected information on the knowledge and use of family planning. To obtain these data, respondents were first asked to name all of the methods that they had heard about. For methods not mentioned spontaneously, a description of the method was read, and the respondents were asked if they had heard of the method. For each method that they recognized, respondents were asked if they had ever used the method. Finally, women were asked if they were currently using a method, and, if so, where they had obtained the method that they were using.

Knowledge and ever use

Knowledge of family planning methods is universal among Egyptian women (Table 7). With regard to specific methods, almost all currently married women have heard about the pill, IUD, and injectables. More than nine in ten married women know about the implant. Somewhat more than half of women know about female sterilization (58 percent), while slightly less than half (49 percent) have heard about condoms. Prolonged breastfeeding is the most widely known traditional method (70 percent).

Table 7 Knowledge and ever use of family planning methods

Percentage of currently married women 15-49 who know a family planning method and who have ever used a family planning method, by method, Egypt 2008

Method	Percent knowing method	Percent ever using method
Any method	100.0	81.9
Any modern method	100.0	79.4
Pill	99.7	36.9
IUD	99.8	60.4
Injectables	99.4	21.6
Implants	93.7	1.9
Diaphragm/foam/jelly	12.6	0.3
Condom	48.7	2.5
Female sterilization	57.6	1.0
Male sterilization	8.5	0.0
Emergency contraception	5.6	0.1
Any traditional method	75.9	13.7
Periodic abstinence	28.1	1.3
Withdrawal	21.4	1.0
Prolonged breastfeeding	70.1	12.1
Other	0.5	0.1
Number of women	15,396	15,396

The 2008 EDHS found that 82 percent of currently married women in Egypt have had some experience in using family planning methods (Table 7). Almost all of the women who have ever used a method have used a modern contraceptive; 79 percent of currently married women have ever used a modern method, while 14 percent have used a traditional method.

Looking at ever use of specific methods, the IUD is the most widely adopted method; 60 percent of currently married women have used the IUD at some point in their lives. Thirty-seven percent of currently married women have ever used the pill, while 22 percent have ever used injectables. Relatively few women have experience with using other modern methods. For example, only three percent report ever use of condoms. Among traditional methods, prolonged breastfeeding is the most frequently used method. Twelve percent of currently married women have ever used prolonged breastfeeding.

A comparison of the 2008 EDHS results with the 2005 EDHS indicates that, overall, the level of ever use of contraception in Egypt has remained essentially stable at a high level (not shown in table). However, small declines are evident in the level of ever use of some methods among currently married women, notably, the IUD (from 62 percent in 2005 to 60 percent in 2008) and the pill (from 40 percent in 2005 to 37 percent in 2008).

Current contraceptive use

Overall, the 2008 EDHS found that 60 percent of currently married women in Egypt are currently using a contraceptive method (Table 8). The most widely used method is the IUD (36 percent) followed by the pill (12 percent) and injectables (7 percent).

Method	Urban	Rural	Urban Governorates	Lower Egypt			Upper Egypt			Frontier Governorates	Total
				Total	Urban	Rural	Total	Urban	Rural		
Any method	64.3	57.5	65.2	64.3	65.5	63.9	52.7	62.4	48.4	52.3	60.3
Any modern method	61.6	54.8	62.6	62.4	63.8	62.0	48.9	58.4	44.7	48.6	57.6
Pill	12.9	11.2	11.5	11.7	14.0	11.0	12.2	14.1	11.4	13.3	11.9
IUD	41.2	32.6	43.4	41.6	43.3	41.1	25.3	36.3	20.4	26.6	36.1
Injectables	4.8	9.2	4.7	6.9	4.4	7.7	9.5	5.5	11.4	5.5	7.4
Implants	0.4	0.5	0.5	0.3	0.0	0.4	0.6	0.7	0.6	1.1	0.5
Diaphragm/foam/jelly	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0
Condom	1.4	0.3	1.8	0.4	0.9	0.3	0.5	1.2	0.2	1.1	0.7
Female sterilization	0.8	1.2	0.7	1.4	1.1	1.5	0.7	0.7	0.7	1.0	1.0
Any traditional method	2.7	2.7	2.6	1.9	1.7	2.0	3.7	4.0	3.7	3.7	2.7
Periodic abstinence	0.9	0.1	0.9	0.4	0.9	0.2	0.3	0.9	0.0	0.2	0.4
Withdrawal	0.3	0.2	0.4	0.2	0.1	0.2	0.2	0.4	0.1	0.1	0.2
Prolonged breastfeeding	1.5	2.3	1.1	1.3	0.7	1.5	3.3	2.7	3.5	3.3	2.0
Other	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Not currently using	35.7	42.5	34.8	35.7	34.5	36.1	47.3	37.6	51.6	47.7	39.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	6,316	9,080	2,727	7,128	1,801	5,326	5,326	1,646	3,680	216	15,396

As expected, there are differences in the level of current use of family planning methods by residence (Table 8). Urban women are more likely to be using than rural women (64 percent and 58 percent, respectively). Use rates are higher in the Urban Governorates (65 percent) and Lower Egypt (64 percent) than in Upper Egypt (53 percent) and the Frontier Governorates (52 percent).

Within Upper Egypt, the use rate among urban women (62 percent) is markedly higher than the rate among rural women (48 percent). Within Lower Egypt, the urban-rural differential is much narrower; 66 percent of married women living in urban areas in Lower Egypt are using a family planning method compared to 64 percent of rural women.

Other differentials in current use are presented in Table 9. Current use rises rapidly with age, from a level of 23 percent among currently married women 15-19 to a peak of 74 percent among women 35-39. Use rates also are related to family size. Few women use before having the first birth.

After the first child, contraceptive use increases sharply with the number of living children, peaking at 76 percent among women with 3-4 children, after which it declines.

Looking at education status, the main differential is between women who never attended school and those who had at least some schooling; among the latter group, there are only minor variations in use rates by the level of schooling. Women employed in a job for which they are paid in cash are more likely to use than other women (68 percent and 59 percent, respectively).

Trend in contraceptive use

Table 10 uses data from earlier surveys as well as the 2008 EDHS to examine trends in contraceptive use in Egypt since 1980. The table shows that contraceptive use levels rose rapidly in the 1980s, and, by 1992, the overall use rate was 47 percent, almost twice the rate reported in the 1980 Egypt Fertility Survey (24 percent). The use rate continued to rise after 1992—although at a more moderate rate—reaching 56 percent by the time of the 2000 EDHS. Since 2000, the rate has risen slowly, with the increase averaging a comparatively modest 0.5 percentage points per year.

Looking at the trends in use of the three most popular methods, IUD use rose from a rate of four percent in 1980 to a level of 37 percent during the period 2003-2005. Since 2005, IUD use appears to have fallen off very slightly to a current level of 36 percent. Looking at the trend in pill use, use of the pill declined steadily from 17 percent in the early 1980s to a rate of around 10 percent in 1995, where it remained for the next decade. Between 2005 and 2008, however, the pill registered a modest increase to 12 percent. Finally, injectables first became available in the early 1990s, and Table 10 shows that use of this method increased rapidly between the 1995 and 2003 EDHS surveys, before apparently stabilizing at a level of seven percent during the five-year period since the 2003 survey.

Trends by residence

Table 11 summarizes the trend in contraceptive use by residence since 1984. Urban prevalence rose steadily during the 1980s, appeared to plateau in the early 1990s, and then resumed a steady pattern of growth, peaking at 66 percent in 2003 before falling off slightly.

Looking more closely at the urban trends, although the Urban Governorates, urban Lower Egypt and urban Upper Egypt all experienced substantial increases in contraceptive use during the period between 1984 and 2005, the pace of change was more rapid and consistently upward in urban Upper Egypt compared to the pattern in the Urban Governorates and in urban Lower Egypt.

Overall, in rural Egypt, contraceptive use levels tripled between 1984 and 2005, increasing from 19 percent to 58 percent in 2008. The upward trend in contraceptive use in rural Egypt has clearly slowed markedly after 2000, with rural areas in Lower Egypt actually experiencing a modest decrease in the use rate from the peak of 67 percent in the 2003 EDHS. Rural areas in Upper Egypt continued to show a small gain in contraceptive use during the period 2000 through 2008. Nevertheless, only 48 percent of married women were currently using family planning at the time of the 2008 EDHS, a level only very slightly higher than the rate for Egypt as a whole in 1992 (47 percent).

Table 9 Current use of family planning methods by selected demographic and social characteristics

Percent distribution of currently married women 15-49 by family planning method currently used according to selected demographic and social characteristics, Egypt 2008

Background characteristics	Any method	Any modern	Pill	IUD	Injec-ables	Implant	Vagin-als	Con-Dom	Female sterili-zation	Any tradi-tional	Peri-odic absti-nence	With-drawal	Pro-longed breast-feeding	Other	Not using	Total percent	Number of women
Age																	
15-19	23.4	19.8	4.9	14.1	0.7	0.0	0.0	0.0	0.0	3.7	0.0	0.2	3.5	0.0	76.6	100.0	605
20-24	44.6	40.9	11.1	24.5	4.7	0.2	0.0	0.3	0.0	3.8	0.2	0.0	3.6	0.0	55.4	100.0	2,527
25-29	59.8	56.3	13.3	34.7	7.6	0.4	0.0	0.3	0.1	3.5	0.3	0.1	3.1	0.0	40.2	100.0	3,264
30-34	67.6	64.8	13.9	39.7	9.1	0.7	0.0	0.9	0.6	2.7	0.3	0.3	2.1	0.0	32.4	100.0	2,551
35-39	74.3	72.4	13.4	46.4	9.9	0.5	0.0	0.9	1.4	1.9	0.5	0.3	1.1	0.1	25.7	100.0	2,406
40-44	72.5	70.7	12.7	44.6	9.1	0.7	0.0	1.1	2.4	1.9	0.8	0.5	0.5	0.1	27.5	100.0	2,188
45-49	51.9	50.5	7.2	33.3	5.3	0.4	0.1	1.5	2.7	1.4	1.0	0.3	0.0	0.0	48.1	100.0	1,855
Number of living children																	
0	0.4	0.4	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	99.6	100.0	1,612
1-2	59.2	55.8	13.6	36.5	4.4	0.4	0.0	0.7	0.2	3.5	0.6	0.3	2.6	0.0	40.8	100.0	5,961
3-4	76.4	73.6	13.0	47.7	10.1	0.5	0.0	1.0	1.3	2.8	0.5	0.3	2.0	0.0	23.6	100.0	5,627
5+	65.8	63.6	13.0	31.5	14.0	1.0	0.0	0.7	3.4	2.2	0.1	0.2	1.7	0.1	34.2	100.0	2,196
Education																	
No education	57.7	55.5	10.2	30.8	11.9	0.5	0.0	0.4	1.6	2.2	0.1	0.1	2.0	0.0	42.3	100.0	4,758
Some primary	62.4	59.6	11.3	35.0	9.9	0.4	0.0	0.7	2.3	2.8	0.1	0.0	2.6	0.0	37.6	100.0	1,259
Primary comp./some sec.	59.5	56.4	13.0	33.8	7.7	0.6	0.0	0.6	0.8	3.1	0.3	0.3	2.5	0.1	40.5	100.0	2,273
Secondary comp./higher	61.9	59.0	12.8	40.5	3.8	0.4	0.0	1.0	0.5	2.9	0.8	0.3	1.7	0.0	38.1	100.0	7,106
Work status																	
Working for cash	68.0	64.7	11.8	43.7	5.5	0.3	0.0	1.9	1.5	3.3	1.6	0.6	1.1	0.1	32.0	100.0	2,182
Not working for cash	59.0	56.4	11.9	34.8	7.7	0.5	0.0	0.5	0.9	2.6	0.3	0.2	2.1	0.0	41.0	100.0	13,215
Total	60.3	57.6	11.9	36.1	7.4	0.5	0.0	0.7	1.0	2.7	0.4	0.2	2.0	0.0	39.7	100.0	15,396

Note: If more than one method is used, only the most effective method is considered in this tabulation

Table 10 Trends in current use of family planning

Percent distribution of currently married women 15-49 by the family planning method currently used, Egypt 1980-2008

Method	1980 EFS	1984 ECPS	1988 EDHS	1991 EMCHS	1992 EDHS	1995 EDHS	1997 EIDHS	1998 EIDHS	2000 EDHS	2003 EIDHS	2005 EDHS	2008 EDHS
Any method	24.2	30.3	37.8	47.6	47.1	47.9	54.5	51.8	56.1	60.0	59.2	60.3
Any modern method	22.8	28.7	35.4	44.3	44.8	45.5	51.8	49.5	53.9	56.6	56.5	57.6
Pill	16.6	16.5	15.3	15.9	12.9	10.4	10.2	8.7	9.5	9.3	9.9	11.9
IUD	4.1	8.4	15.7	24.2	27.9	30.0	34.6	34.3	35.5	36.7	36.5	36.1
Injectables	na	0.3	0.1	na	0.5	2.4	3.9	3.9	6.1	7.9	7.0	7.4
Implants	na	na	na	na	0.0	0.0	0.1	0.0	0.2	0.9	0.8	0.5
Diaphragm/foam/jelly	0.3	0.7	0.4	na	0.4	0.1	0.2	0.1	0.2	0.1	0.0	0.0
Condom	1.1	1.3	2.4	na	2.0	1.4	1.5	1.1	1.0	0.9	1.0	0.7
Female sterilization	0.7	1.5	1.5	na	1.1	1.1	1.4	1.3	1.4	0.9	1.3	1.0
Any traditional method	1.4	1.6	2.4	3.3	2.3	2.4	2.7	2.3	2.2	3.4	2.7	2.7
Periodic abstinence	0.5	0.6	0.6	na	0.7	0.8	0.6	0.8	0.6	0.8	0.7	0.4
Withdrawal	0.4	0.3	0.5	na	0.7	0.5	0.4	0.3	0.2	0.4	0.3	0.2
Prolonged breastfeeding	na	0.6	1.1	na	0.9	1.0	1.5	1.1	1.2	2.1	1.6	2.0
Other	0.3	0.1	0.2	na	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0
Not using	75.8	69.7	62.2	62.2	52.9	52.1	45.5	48.2	43.9	40.0	40.8	39.7
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	8,012	9,158	8,221	8,406	9,153	13,710	5,157	5,971	14,382	8,445	18,187	15,396

na = Information on the method was not collected or was not reported.

Source: El-Zanaty and Way, 2006, Table 6.4

Table 11 Trends in family planning use by residence

Percentage of currently married women 15-49 currently using any family planning method by urban-rural residence and place of residence, Egypt 1984-2008

Residence	1984 ECPS	1988 EDHS	1992 EDHS	1995 EDHS	1997 EIDHS	1998 EIDHS	2000 EDHS	2003 EIDHS	2005 EDHS	2008 EDHS
Urban-rural residence										
Urban	45.1	51.8	57.0	56.4	63.1	59.3	61.2	65.5	62.6	64.3
Rural	19.2	24.5	38.4	40.5	47.1	45.6	52.0	55.9	56.8	57.5
Place of residence										
Urban Governorates	49.6	56.0	59.1	58.1	67.0	62.1	62.7	68.5	63.9	65.2
Lower Egypt	34.1	41.2	53.5	55.4	61.6	59.2	62.4	65.2	65.9	64.3
Urban	47.6	54.5	60.5	59.1	65.9	62.2	64.9	66.3	64.1	65.5
Rural	28.5	35.6	50.5	53.8	59.9	58.1	61.4	64.8	66.5	63.9
Upper Egypt	17.3	22.1	31.4	32.1	37.4	36.5	45.1	49.4	49.9	52.7
Urban	36.8	41.5	48.1	49.9	52.1	50.8	55.4	59.8	60.0	62.4
Rural	7.9	11.5	24.3	24.0	30.3	29.9	40.2	44.7	45.2	48.4
Frontier Governorates	na	na	na	44.0	na	na	43.0	na	49.3	52.3
Total	30.3	37.8	47.1	47.9	54.5	51.8	56.1	60.0	59.2	60.3

na = Information on the method was not collected or was not reported

Source: El-Zanaty and Way, 2006, Table 6.6

Table 12 shows current use rates by governorate. At the time of the 2008 EDHS, use rates were 60 percent or higher in all of the Urban Governorates, except Post Said (55 percent), and in all of the nine governorates in Lower Egypt, except Ismailia (57 percent). In Upper Egypt, only Giza governorate, of which a large part is included in the Cairo Metropolitan area, had a use rate over 60 percent. Among the other governorates in Upper Egypt, use rates ranged from 36 percent in Souhag to 57 percent in Beni-Suef.

Looking at the trend in current use by governorate between the 2005 and 2008 DHS surveys, use levels increased in 12 governorates. In Lower Egypt, the largest gain in use (around four percentage points) was observed in Sharkia. In Upper Egypt, the absolute change in use rates was largest in Assuit (9 percentage points).

Family planning sources

The 2008 EDHS obtained information from current users of modern methods about the source from which they had gotten their method. Table 13 presents the results of these questions. Overall, family planning users in Egypt are more likely to obtain their method from a public sector source than a private provider. The majority of both IUD and injectable users rely on public sector providers for their method. In the case of the IUD, two-thirds of all current users had the method inserted at a public sector provider, principally at urban and rural health units and maternal health centers. Among injectable users, 89 percent got the method from a public sector provider. Rural health units are a particularly important source for injectables, supplying more 47 percent of all current injectable users.

In contrast to IUD and injectable users, the majority of pill users and of the small number of users of the condom and female sterilization reported they obtained their method from a private sector source. Pharmacies are the principal source for the pill and condoms. Around three-quarters of women relying on female sterilization reported the procedure was performed by a private medical provider.

Figure 2 shows that the proportion of users of modern family planning methods who obtained their method from a public health facility has risen from just over one-third of users in 1995 to 60 percent of users in 2008.

Governorate	1988 EDHS	1992 EDHS	1995 EDHS	2000 EDHS	2005 EDHS	2008 EDHS
Urban Governorates	56.0	59.1	58.1	62.7	63.9	65.2
Cairo	58.9	58.1	56.9	62.3	63.8	66.8
Alexandria	51.6	62.1	59.8	64.7	64.5	63.7
Port Said	48.2	60.5	59.7	57.7	61.6	54.7
Suez	50.3	57.3	62.4	58.0	64.0	65.8
Lower Egypt	41.2	53.5	55.4	62.4	65.9	64.3
Damietta	54.1	53.4	57.4	58.8	63.9	64.2
Dakhalia	41.3	52.8	54.9	62.8	64.4	64.4
Sharkia	35.2	49.2	53.1	61.4	61.2	65.7
Kalyubia	42.3	57.9	55.6	64.0	69.4	59.9
Kafr-El-Sheikh	41.7	47.2	54.4	64.2	65.8	62.1
Gharbia	50.1	55.9	55.9	65.7	69.7	67.1
Menoufia	43.9	55.7	54.3	61.3	64.2	66.3
Behera	32.5	54.7	58.7	59.8	68.7	66.1
Ismailia	41.0	50.2	58.5	58.9	59.6	56.5
Upper Egypt	22.1	31.4	32.1	45.1	49.9	52.7
Giza	45.7	49.9	50.9	60.5	62.1	62.4
Beni-Suef	15.3	29.2	30.4	53.0	56.0	56.9
Fayoum	20.2	33.3	34.0	50.4	55.9	55.7
Menya	16.6	21.9	24.3	46.7	51.4	54.1
Assuit	12.7	28.2	22.1	32.9	37.9	47.4
Souhag	16.2	19.8	21.7	27.5	32.7	36.3
Luxor	na	na	na	na	na	54.5
Qena	12.2	24.7	26.3	34.6	47.2	48.0
Aswan	18.6	31.9	36.0	44.9	49.0	53.4
Total	37.8	47.1	47.9	56.1	59.2	60.3

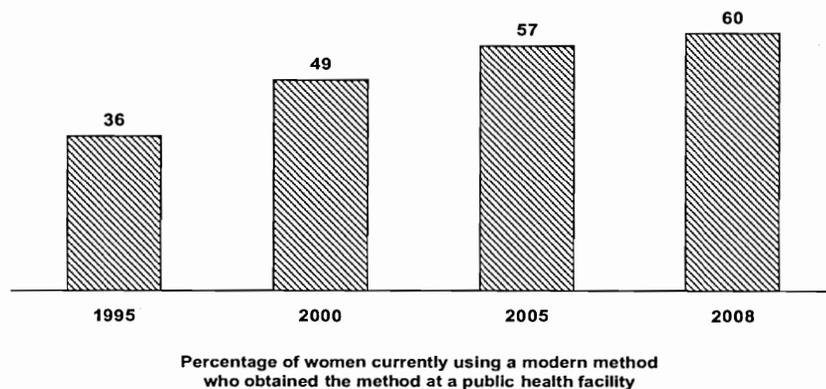
na = Information not available
Source: El-Zanaty and Way, 2006, Table 6.8

Table 13 Source for modern family planning methods

Percent distribution of current users of modern family planning methods by most recent source, according to specific methods, Egypt 2008

Source	Pill	IUD	Injectable	Condom	Female sterilization	Total
Public sector	24.5	66.6	89.0	19.2	26.2	59.6
Urban hospital(general/district)	1.5	6.3	5.4	0.2	15.4	5.6
Urban health unit	3.6	15.2	15.0	9.7	0.0	12.4
Health office	0.9	4.0	2.4	2.9	0.0	3.0
Rural hospital(complementary)	2.1	5.4	9.2	0.3	0.2	5.0
Rural health unit	12.3	18.9	46.5	1.6	0.0	20.4
MCH center	2.7	11.9	7.1	3.8	0.0	9.0
Mobile unit	0.9	3.2	2.8	0.7	0.0	2.6
University/teaching hospital	0.2	1.0	0.5	0.0	8.9	0.9
Health Insurance Organization	0.1	0.6	0.1	0.0	0.8	0.4
Other governmental	0.1	0.1	0.0	0.0	0.8	0.1
Private sector	75.4	33.4	10.5	79.5	73.8	40.3
Nongovernmental organization (NGO)	0.3	1.8	0.2	0.0	0.5	1.3
Private medical	75.1	31.6	10.3	79.5	73.3	39.1
Private hospital/clinic	0.3	2.7	0.9	1.3	14.4	2.2
Private doctor	4.8	27.3	3.3	4.0	58.2	19.7
Nurse	0.0	0.0	0.5	0.0	0.0	0.1
Pharmacy	69.6	0.0	5.3	74.3	0.0	16.0
Mosque health unit	0.3	1.4	0.3	0.0	0.7	1.0
Church health unit	0.0	0.1	0.1	0.0	0.0	0.1
Other non-medical	0.1	0.0	0.4	0.0	0.0	0.1
Friends/relative	0.1	0.0	0.4	0.0	0.0	0.1
Don't know	0.0	0.0	0.0	1.3	0.0	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	1,831	5,557	1,140	112	165	8,877

Figure 2
Trend in Reliance on Public Sector for Modern Family Planning Methods, Egypt 1995-2008



D. Fertility Preferences

In order to obtain an insight into women's childbearing intentions, respondents were asked in the 2008 EDHS whether they wanted to have another child and, if so, how soon. Table 14 summarizes the information on women's reproductive preferences. The majority of all married women express a desire to control future childbearing, with 62 percent reporting they do not want another child and one percent using female sterilization. An additional 17 percent say that they want another child, but indicate that they want to wait at least two years before the birth of their next child.

Desire for children	15-19	20-24	25-29	30-34	35-39	40-44	45-49	Total
Have another soon ¹	36.1	25.1	17.8	12.8	9.3	5.6	3.2	14.1
Have another later ²	56.0	47.6	25.0	9.4	2.0	0.8	0.0	17.3
Have another, undecided when	0.4	0.9	1.1	0.7	0.3	0.1	0.1	0.6
Undecided	2.1	3.9	5.4	2.8	1.8	0.6	0.2	2.7
Want no more	5.2	22.5	50.5	73.2	84.3	87.2	79.8	61.9
Sterilized	0.0	0.0	0.1	0.6	1.4	2.4	2.7	1.0
Declared infecund	0.0	0.0	0.1	0.5	0.8	3.3	13.9	2.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	605	2,527	3,264	2,551	2,406	2,188	1,855	15,396

¹ Wants next birth within 2 years
² Wants to delay next birth for 2 or more years

The desire to delay childbearing is largely concentrated among women under age 30. As expected, the proportion wanting no more children increases rapidly with age, with around half of married women age 25-29 saying that they do not want another birth.

E. Maternal Health

Proper care during pregnancy and childbirth are important to the health of both a mother and her baby. To obtain data on these issues, the 2008 EDHS included questions on antenatal care, tetanus toxoid vaccinations, and assistance received at delivery for each birth that a woman reported during the five-year period before the survey.

Antenatal care

Antenatal care from a trained provider is important in order to monitor the pregnancy and reduce the risks for the mother and child during pregnancy and at delivery. To be most effective, it is recommended that all mothers see a trained provider at least four times for antenatal checkups during pregnancy.

According to the 2008 EDHS results, antenatal care was received from a trained provider for 74 percent of the births during the five-year period before the survey (Table 15). Women reported having regular antenatal care for 65 percent of the births during the period. Mothers under age 20 and mothers age 35 and older are slightly less likely than mothers in the prime childbearing ages to get antenatal care. The percentage getting antenatal care declines directly with the child's birth order.

Urban mothers are more likely to receive care than rural mothers. Considering place of residence, antenatal care coverage remains substantially lower in Upper Egypt than in other areas. For example, the percentage of births in which the mother received regular antenatal care ranged from 48

percent in rural Upper Egypt to 85 percent in the Urban Governorates. Education status also is strongly related to the likelihood of receiving antenatal care; for example, regular antenatal care was received in the case of 77 percent of births to women with at least a secondary education compared to only 44 percent of births to women with no education.

Table 15 Maternal health indicators by selected demographic and social characteristics

Percentage of births in the five-year period whose mothers received any and regular antenatal care from a trained medical provider and at least one tetanus toxoid vaccination and percentage whose mothers were assisted at delivery by a medical provider and whose mother had a Caesarean delivery, Egypt 2008

Background Characteristic	Any antenatal care	Regular antenatal care ¹	Tetanus toxoid injection(s)	Medically-assisted delivery	Caesarean delivery	Number of births
Mother's age at birth						
<20	72.9	63.3	89.9	76.2	23.0	1,235
20-34	74.5	65.9	81.4	79.1	27.8	8,392
35+	68.8	60.2	65.0	80.0	32.0	963
Birth order						
1	82.0	75.1	87.1	87.1	33.4	3,468
2-3	73.8	64.3	81.6	78.4	27.8	4,922
4-5	63.5	55.4	72.4	68.9	19.6	1,608
6+	53.3	39.2	62.2	61.3	14.0	593
Urban-rural residence						
Urban	84.8	79.5	71.4	90.2	37.1	3,924
Rural	67.3	56.6	86.5	72.2	22.0	6,666
Place of residence						
Urban Governorates	89.5	84.6	68.0	92.3	38.5	1,679
Lower Egypt	74.7	66.9	84.8	85.3	30.9	4,587
Urban	82.2	79.0	73.2	92.0	43.2	1,011
Rural	72.6	63.5	88.1	83.4	27.4	3,576
Upper Egypt	66.5	55.3	82.1	66.4	19.9	4,173
Urban	80.9	73.6	74.5	85.6	30.9	1,141
Rural	61.1	48.4	84.9	59.2	15.8	3,032
Frontier Governorates	71.8	64.0	73.5	79.1	20.0	151
Education						
No education	55.4	43.9	81.6	59.7	17.8	2,735
Some primary	68.7	57.8	81.2	73.1	18.4	721
Primary complete/some secondary	74.5	63.8	81.5	79.3	24.9	1,624
Secondary complete/higher	83.3	76.9	80.3	89.0	34.5	5,510
Work status						
Working for cash	83.4	76.8	75.8	89.8	42.3	1,168
Not working for cash	72.6	63.6	81.5	77.5	25.8	9,422
Total	73.8	65.1	80.9	78.9	27.6	10,590

¹A woman is considered to have had regular antenatal care if she had 4 or more visits during the pregnancy.

Tetanus toxoid coverage

Tetanus toxoid injections are given during pregnancy in order to prevent neonatal tetanus, a frequent cause of infant deaths when sterile procedures are not observed in cutting the umbilical cord following delivery. Table 15 shows that the mother had received at least one tetanus toxoid injection in the case of 81 percent of births in the five-year period before the survey. Births to older mothers (age 35 and over), high order births (birth order 6 and over) and births in the Urban Governorates had the lowest levels of tetanus toxoid injections, while the levels were highest for young mothers (under age 20), first births, and births in rural Lower Egypt.

Assistance at delivery

A doctor or trained nurse/midwife assisted at the delivery of 79 percent of all births in the five-year period before the 2008 EDHS. Most of the remaining births were assisted by *dayas* (traditional birth attendants). Medically assisted deliveries are most common for urban births and births to highly educated mothers. Births of order 6 and higher and births in rural Upper Egypt are least likely to be assisted by a trained health professional.

Caesarean Deliveries

The 2008 EDHS also obtained information on the frequency of caesarean sections. Table 15 shows that more than one-quarter of deliveries in the five-year period before the survey were by caesarean section. The likelihood of a caesarean delivery increased with the age of the mother and decreased with the child's birth order. Caesarean deliveries were more common in urban areas than in rural areas (37 percent and 22 percent, respectively). Around four in ten births in urban Lower Egypt and the Urban Governorates were caesarean deliveries. The likelihood of a caesarean delivery increased with the mother's educational status and was greater among women working for cash than among other women.

Trends in maternal health indicators

Figure 3 and Table 16 presents the trend in key maternal health indicators by residence for the period between the 1988 and 2008 DHS surveys. The results document the marked improvement in maternal health indicators during the period. For example, the percentage of medically-assisted births more than doubled between the 1988 and 2008 DHS surveys, from 35 percent to 79 percent.

Focusing on the trend in the last three years (i.e., between the 2005 and 2008 surveys), there were increases in all of the maternal health indicators. The percentage of births in which the mother reported receiving any antenatal care rose from 70 percent in 2005 to 74 percent in 2008, and the percentage of births having regular antenatal care (i.e., at least four visits) rose from 59 percent in 2005 to 65 percent in 2008. The percentage of births in which the mother received a TT injection also increased, from 79 percent in 2005 to 81 percent in 2008. Seventy-nine percent of deliveries were assisted by medical personnel (almost always a doctor) in 2008 compared to 74 percent in 2005. The Caesarean delivery rate continued to increase, from 20 percent in 2005 to 28 percent in 2008.

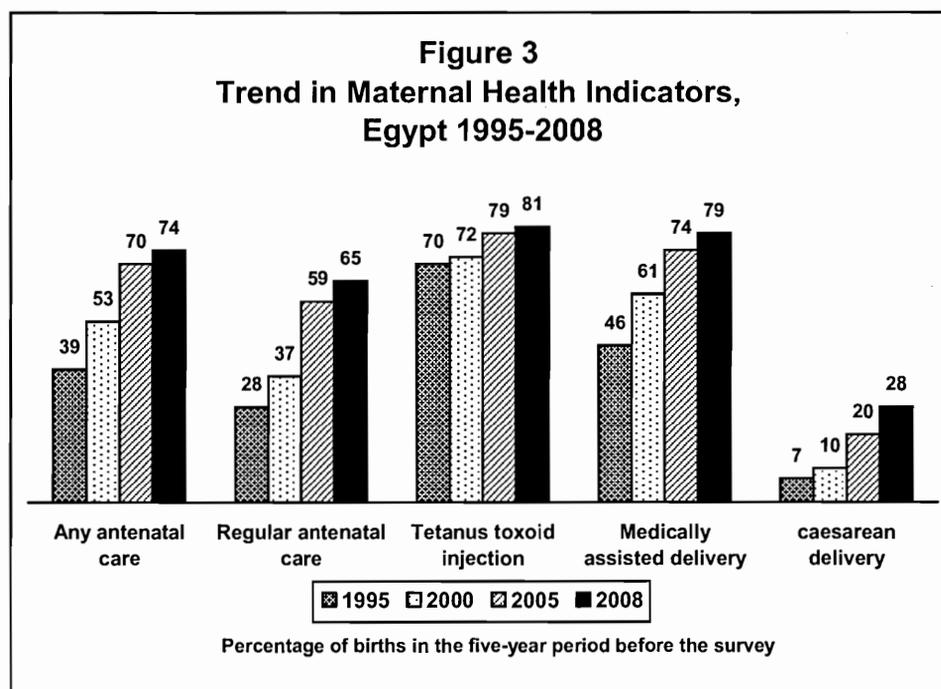


Table 16 Trends in maternal health indicators by residence

Percentage of births in the five years preceding the survey whose mothers had at least one tetanus toxoid injection, antenatal care from a doctor or trained nurse-midwife, four or more antenatal care visits, were assisted at delivery by a medical provider, and were delivered by caesarean section by urban-rural residence and place of residence, Egypt, 1988-2008

Maternal health indicator	Urban	Rural	Urban Governorates	Lower Egypt			Upper Egypt			Frontier Governorates	Total
				Total	Urban	Rural	Total	Urban	Rural		
Any antenatal care											
1988	na	na	na	na	na	na	na	na	na	na	na
1992	na	na	na	na	na	na	na	na	na	na	na
1995	58.3	27.2	59.2	41.9	65.2	34.5	28.6	51.2	20.8	41.4	39.1
2000	70.4	41.9	74.1	53.5	71.2	47.2	44.3	65.1	36.9	44.6	52.9
2005	82.2	62.1	84.0	78.0	88.4	74.7	57.5	75.8	50.6	68.1	69.6
2008	84.4	67.3	89.5	74.7	82.2	72.6	66.5	80.9	61.1	71.8	73.8
Regular antenatal care¹											
1988	na	na	na	na	na	na	na	na	na	na	na
1992	na	na	na	na	na	na	na	na	na	na	na
1995	50.0	14.9	55.1	27.9	52.0	20.2	17.9	40.6	10.1	na	28.3
2000	53.9	25.9	56.0	38.9	56.2	32.8	27.2	49.8	19.2	28.5	36.7
2005	74.8	49.2	78.9	66.7	80.8	62.2	45.0	65.8	37.3	59.1	58.5
2008	79.5	56.6	84.6	66.9	79.0	63.5	55.3	73.6	48.4	64.0	65.1
Tetanus toxoid injections											
1988	12.6	10.6	8.8	13.1	14.8	12.5	11.1	17.3	8.6	na	11.4
1992	56.9	57.5	52.0	64.0	67.8	62.7	53.3	55.3	52.8	na	57.8
1995	66.7	71.2	64.2	75.6	70.2	77.4	66.3	67.6	65.9	59.8	69.5
2000	70.1	73.9	62.4	79.1	75.3	80.4	70.0	75.4	68.1	64.2	72.4
2005	70.3	83.2	65.2	81.9	73.4	84.5	79.9	73.4	82.3	69.6	78.5
2008	71.4	86.5	68.0	84.8	73.2	88.1	82.1	74.5	84.9	73.5	80.9
Medically-assisted deliveries											
1988	57.0	19.1	64.9	31.1	54.4	23.3	23.9	46.9	14.4	na	34.6
1992	62.5	27.5	68.3	39.7	62.9	32.5	29.7	51.8	23.0	na	40.7
1995	67.9	32.8	69.2	51.4	75.1	43.9	32.2	59.6	22.9	59.3	46.3
2000	81.4	48.0	83.7	65.1	84.7	58.1	47.8	74.7	38.2	60.4	60.9
2005	88.7	65.8	90.7	81.6	92.9	78.0	62.6	83.8	54.8	71.8	74.2
2008	90.2	72.2	92.3	85.3	92.0	83.4	66.4	85.6	59.2	79.1	78.9
Caesarean deliveries											
1988	na	na	na	na	na	na	na	na	na	na	na
1992	na	na	na	na	na	na	na	na	na	na	na
1995	10.7	4.2	12.3	7.3	11.3	6.1	3.8	7.9	2.4	3.4	6.6
2000	16.7	6.3	19.3	11.2	17.7	8.9	6.1	12.6	3.8	5.3	10.3
2005	29.2	14.6	33.8	24.5	34.9	21.2	11.8	20.4	8.6	14.3	19.9
2008	37.1	22.0	38.5	30.9	43.2	27.4	19.9	30.9	15.8	20.0	27.6

na = Not available

¹ A woman is considered to have had regular antenatal care if she had 4 or more visits during the pregnancy.

Source: El-Zanaty and Way, 2006, Table 11.12

All residential categories shared in the improvements in maternal health indicators between the 2005 and 2008 surveys. Rural areas, however, continue to lag substantially behind urban areas in antenatal care coverage and in medically-assisted deliveries. In contrast, beginning in 1995, tetanus toxoid vaccination levels have been markedly higher among rural mothers than urban mothers.

F. Child Mortality and Health

The 2008 EDHS collected data on early childhood mortality in Egypt. Information was also obtained on a number of key child health indicators, including infant feeding practices, immunization of young children and treatment practices when a child has diarrhea.

Child mortality

The birth history section of the 2008 EDHS questionnaire is the source for information used to derive the child mortality estimates that are presented in Table 17 for three successive five-year periods prior to the 2000 EDHS. The rates are estimated directly from the information in the birth history on a child's birth date, survivorship status, and the age at death for children who died.

Years preceding the survey	Neonatal mortality (NN)	Post-neonatal mortality (PNN) ¹	Infant mortality (1q0)	Child mortality (4q1)	Under-five mortality (5q0)
Mid-2003 – mid-2008	16.3	8.2	24.5	3.9	28.3
Mid-1998 – mid-2003	18.6	14.1	32.7	6.0	38.5
Mid-1993 – mid-1998	21.4	19.2	40.6	14.0	54.0

¹ Computed as the difference between the infant and neonatal mortality rates

During the five-year period prior to the survey (centered on 2005),⁵ the infant mortality rate was 25 deaths per 1,000 births and the neonatal rate was 16 deaths per 1,000 births. A comparison of these rates with the overall level of under-five mortality (28 deaths per 1,000 births) indicates that 87 percent of early childhood deaths in Egypt take place before a child's first birthday, with just under 60 percent occurring during the first month of life.

The 2008 EDHS results document a pattern of steadily falling mortality during the fifteen years prior to the survey. During the period (approximately mid-1990-mid-2005), infant mortality fell by around 40 percent, and under-five mortality was roughly halved.

Table 18 presents residential differentials in mortality levels. The estimates are calculated for a ten-year period before the survey. During that period, under-five mortality was around 27 percent lower for urban children than rural children. Among urban children, those living in Lower Egypt were about half as likely to die before their fifth birthday as those living in Upper Egypt. The differential in mortality between children living in rural Lower Egypt and rural Upper Egypt also was substantial.

Breastfeeding and supplementation

Breast milk is the optimal source of nutrients for infants. Children who are *exclusively* breast-fed receive only breast milk. Exclusive breastfeeding is recommended during the first 4-6 months of a child's life because it limits exposure to disease agents and provides all of the nutrients that are required for a baby.

⁵ The rates in Table 17 represent an average of the mortality levels prevailing during the five-year period before the survey. As a result, they are not directly comparable to more current estimates of childhood mortality, e.g., rates based on registered deaths during 2007.

Table 18 Early childhood mortality rates by residence
Neonatal, postneonatal, infant, child, and under-five mortality rates for the 10-year period preceding the survey, by urban-rural residence and place of residence, Egypt 2008

Residence	Neonatal mortality (NN)	Postneonatal mortality (PNN) ¹	Infant mortality (1q0)	Child mortality (4q1)	Under-five mortality (5q0)
Urban-rural residence					
Urban	17.6	7.9	25.4	3.4	28.7
Rural	17.4	13.1	30.5	5.9	36.2
Place of residence					
Urban Governorates	20.8	8.9	29.7	2.5	32.2
Lower Egypt	14.1	7.3	21.3	4.1	25.3
Urban	11.2	3.7	14.9	3.1	18.0
Rural	15.0	8.4	23.4	4.4	27.6
Upper Egypt	19.9	16.4	36.3	6.6	42.7
Urban	19.6	10.4	30.0	4.5	34.4
Rural	20.0	18.6	38.6	7.4	45.7
Frontier Governorates	15.9	8.2	24.1	9.6	33.5

¹ Computed as the difference between the infant and neonatal mortality rates

Table 19 describes infant feeding practices of Egyptian mothers. Breastfeeding is virtually universal. Most babies are breastfed during the first three months of life; only 2 percent of babies age 0-3 months at the time of the survey were not receiving breast milk, and only six percent of children age 4-6 months were not being breastfed. The proportion breastfed remains high during the first year of life; 90 percent of children age 10-12 months were breastfeeding at the time of the survey.

Exclusive breastfeeding is common but not universal among children under four months of age. Around two-thirds of children in this age group receive breast milk only. Supplements are introduced rapidly after early infancy; among children age 4-6 months, only 24 percent are exclusively breastfed. Around two in five children in this age group are receiving solid/mushy foods.

The results in Table 19 also show that bottle-feeding is not common in Egypt. Nevertheless, around one in six children 0-6 months of age were fed with a bottle with a nipple during the 24 hours preceding the survey.

Table 19 Breastfeeding status
Percent distribution of youngest living child age 12 months and under living with the mother by breastfeeding status and, among all children age 12 months and under, percentage of children using a bottle with a nipple, according to age in months, Egypt 2008

Age in months	Breastfeeding and consuming:						Number of youngest living children living with mother	Percentage using a bottle with a nipple	Number of living children
	Not breast-feeding	Exclusively breastfed	Plain water only	Other liquids	Solid/mushy food	Total percent			
0-3 months	2.3	66.6	14.8	12.3	4.0	100.0	703	16.1	717
4-6 months	6.3	24.2	21.8	8.6	39.0	100.0	618	15.5	627
7-9 months	9.5	8.8	8.6	2.6	70.3	100.0	660	17.2	673
10-12 months	10.1	2.8	3.1	1.7	82.2	100.0	550	12.9	562

Note: Breastfeeding status refers to preceding 24 hours. Children classified as breastfed and consuming plain water only receive no supplements other than water.

Vaccination of children

Information on childhood immunizations was collected for all children born since January 2003. In Egypt, immunizations are recorded on a child's birth record (certificate) or on a special health card.⁶ For each child, mothers were asked whether they had the birth record and/or health card for the child and, if so, to show the document(s) to the interviewer. When the mother was able to show the birth record and/or health card, the dates of vaccinations were copied from the document(s) to the questionnaire. If the birth record (or health card) was not available (or a vaccination was not recorded), mothers were asked questions to determine whether the child had received each vaccine, and, if so, the number of doses (when applicable). The information from the mothers may be subject to some degree of error, due either to problems of recall or to mother's misunderstanding of the types of immunizations that a child received.

The estimates of immunization coverage among children 12-23 months derived from EDHS data are based on the information taken from the birth record or health card and, for those whom no document was seen (or a vaccination not recorded), information was provided by the mother. Mothers were able to provide birth records for 69 percent of the children (Table 20).

The World Health Organization guidelines for childhood immunizations call for all children to receive: a BCG vaccination against tuberculosis; three doses of the DPT vaccine to prevent diphtheria, pertussis and tetanus; three doses of polio vaccine; and a measles vaccination. Egypt's child immunization program has included the hepatitis vaccine since 1992. In order to facilitate comparison of the results with prior DHS surveys, hepatitis immunizations are not taken into account in calculating the proportion of children who are fully immunized. Thus, a child is considered to have had the full schedule of immunizations if they have received a BCG and measles or MMR vaccination and three doses of the DPT and polio vaccines.

Virtually all Egyptian children age 12-23 months have received at least some of the recommended vaccinations. Coverage levels for BCG are nearly universal. Ninety-eight percent of the children have received the recommended three doses of the DPT and 95 percent have had at least three doses of polio vaccine. Levels are lower for the activated DPT vaccination (42 percent) and for the other polio vaccinations (87 percent for Polio 0; 80 percent for Polio 4; and 43 percent for activated polio). Ninety-eight percent of children have received a measles vaccination, and 46 percent have had been given the MMR vaccine which protects against measles, mumps and rubella. Coverage levels are relatively high for the hepatitis vaccine, with 96 percent of children reported as having received all three doses.

Overall, 92 percent of children are considered as immunized against all major preventable childhood diseases, i.e., they have received a BCG, a measles or MMR vaccination, and three DPT and three polio immunizations. Very few children (0.2 percent) have not received any vaccinations.

Table 20 also presents differentials in vaccination coverage. Given the widespread coverage of the immunization program in Egypt, the differences are small. Girls are slightly more likely than boys to be fully immunized. By residence, the percentages fully immunized vary from 86 percent in the Frontier Governorates to 94 percent in the Urban Governorates and Lower Egypt.

⁶ Immunizations were typically recorded on the child's birth certificate prior to 1996 when health cards began to be used widely. During DHS surveys occurring after 1996, both the birth certificate and the child's card when available were checked for vaccination information.

Table 20 Vaccinations by background characteristics

Among children 12-23 months, the percentage who had vaccination records seen, percentage who received each vaccine (according to the vaccination cards or the mother's report*) and percentage with a vaccination card, by selected background characteristics, Egypt 2008, and trends in percentages receiving various vaccines, Egypt 1992-2008

Background characteristic	Record seen	BCG	DPT 1	DPT 2	DPT 3	ADPT	Polio 0	Polio 1	Polio 2	Polio 3	Polio 4	AP	Hepatitis 1	Hepatitis 2	Hepatitis 3	Measles	MMR	Fully immunized	None	Number of children
Sex																				
Male	69.6	99.2	99.8	99.6	97.0	41.2	87.0	99.8	99.1	93.4	80.1	41.3	99.3	99.0	96.1	98.0	44.6	90.9	0.2	1,106
Female	67.3	98.7	99.8	99.7	98.3	43.1	86.4	99.8	99.5	95.6	79.3	45.2	99.3	98.8	96.1	98.7	46.6	92.5	0.2	1,054
Birth order																				
1	68.2	99.1	99.9	99.8	98.5	46.4	89.8	99.9	99.5	93.7	80.8	47.3	99.7	99.5	96.5	99.6	49.8	92.5	0.1	716
2-3	67.8	98.9	99.8	99.5	96.8	38.7	85.2	99.8	99.2	94.9	79.4	40.4	99.2	98.6	95.8	97.7	42.6	91.4	0.2	1,035
4-5	71.2	99.2	99.9	99.9	98.7	42.6	86.0	99.9	99.2	95.1	77.3	43.0	99.1	98.9	96.8	97.5	44.0	92.0	0.1	291
6+	69.5	98.0	100.0	100.0	96.9	45.5	83.8	100.0	99.3	94.0	82.3	44.2	98.5	98.3	95.5	98.1	49.6	88.6	0.0	118
Urban-rural																				
Urban	68.4	99.5	99.8	99.5	98.5	44.6	88.3	99.8	99.5	95.3	80.9	45.6	99.8	99.4	97.3	98.3	46.0	93.7	0.2	830
Rural	68.5	98.6	99.8	99.7	97.1	40.6	85.7	99.8	99.2	94.0	79.0	41.8	99.0	98.6	95.4	98.3	45.3	90.5	0.2	1,330
Place of residence																				
Urban Governorates	65.2	99.6	99.6	99.6	98.7	49.7	90.0	99.6	99.5	96.5	86.9	46.1	99.6	99.6	97.3	97.9	48.3	94.3	0.4	371
Lower Egypt	66.5	98.9	100.0	99.9	98.2	40.9	87.4	100.0	99.2	95.8	79.8	46.6	99.7	99.3	98.0	99.2	46.9	93.7	0.0	937
Urban	69.9	99.4	100.0	99.4	98.8	45.4	89.4	100.0	99.4	96.6	79.8	54.5	100.0	99.4	98.2	99.4	50.0	95.9	0.0	215
Rural	65.4	98.8	100.0	100.0	98.1	39.6	86.9	100.0	99.1	95.5	79.8	44.2	99.6	99.3	97.9	99.1	46.0	93.1	0.0	722
Upper Egypt	72.6	98.8	99.8	99.6	96.6	40.2	84.6	99.8	99.4	92.4	76.9	38.5	98.7	98.4	93.9	97.6	43.0	88.4	0.2	818
Urban	72.8	99.6	100.0	99.6	98.2	36.4	85.2	100.0	99.6	92.6	73.2	37.3	100.0	99.6	97.0	98.3	39.2	90.9	0.0	222
Rural	72.5	98.5	99.7	99.6	96.0	41.7	84.3	99.7	99.3	92.3	78.3	38.9	98.3	98.0	92.8	97.4	44.4	87.5	0.3	595
Frontier Governorates	62.1	98.2	98.2	96.1	93.3	36.8	81.7	98.8	97.9	88.7	66.6	35.7	98.2	91.6	85.5	96.7	39.5	86.2	1.2	34
Education																				
No education	66.0	99.5	99.7	99.6	97.0	40.9	84.8	99.8	98.9	94.6	77.1	38.9	99.3	98.9	94.9	97.7	45.9	91.4	0.2	536
Some primary	71.9	97.5	98.4	98.1	93.9	34.9	86.7	98.4	96.9	90.3	75.1	31.8	95.9	95.5	91.9	95.3	38.9	86.9	1.6	141
Primary comp./some sec.	69.1	98.0	100.0	99.9	96.4	43.8	85.0	100.0	99.9	93.8	80.8	46.5	99.1	98.4	94.0	99.3	44.5	90.4	0.0	325
Secondary comp./higher	69.1	99.2	100.0	99.8	98.7	43.1	88.1	100.0	99.6	95.1	81.2	45.8	99.8	99.5	97.8	98.7	46.5	92.8	0.0	1,158
Total EDHS 2008	68.5	99.0	99.8	99.7	97.6	42.1	86.7	99.8	99.3	94.5	79.7	43.2	99.3	98.9	96.1	98.3	45.6	91.7	0.2	2,160
Total EDHS 2005	73.3	98.0	99.1	97.5	93.5	32.3	27.7	99.6	98.8	96.6	67.0	35.3	91.2	86.4	79.8	96.6	22.6	88.7	0.2	2,680
Total EDHS 2000	72.5	99.3	99.2	97.1	94.0	na	na	99.6	97.7	94.9	na	na	98.7	96.3	93.0	96.9	na	92.2	0.2	2,170
Total EDHS 1995	50.1	94.7	96.2	92.8	83.0	na	na	97.0	93.9	84.2	na	na	75.4	71.0	56.9	89.2	na	79.1	2.5	2,085
Total EDHS 1992	55.2	89.5	92.8	87.8	76.4	na	na	94.5	90.1	78.9	na	na	81.5	na	na	na	na	67.4	3.8	1,594

Note: A child is considered to be fully immunized if the child has received BCG, a measles or MMR vaccination, three DPT vaccinations, and three polio vaccinations.

*: The information from the mothers may be subject to some degree of error, due either to problems of recall or to mother's misunderstanding of the types of immunizations that a child received.

na = not available

Polio 0: is the polio vaccination given at birth; ADPT - Activated DPT; AP - Activated Polio; and MMR - Measles, mumps, and rubella

Table 20 also shows the trend in the proportion of children fully immunized against the six preventable childhood illnesses between the 1992 and 2008 DHS surveys. Immunization coverage in 2008 (92 percent) was 25 percentage points higher than the level recorded at the time of the 1992 EDHS (67 percent).

Diarrhea among young children

Dehydration as a result of diarrhea is a cause of death in young children. Mothers of children under age five were asked in the 2008 EDHS if their children had had diarrhea in the two-week period before the survey. If the child had had diarrhea, the mother was asked what she had done to treat the diarrhea. Since the prevalence of diarrhea varies seasonally, the results pertain only to the pattern during the period March-May 2008 when the EDHS interviewing took place.

Table 21 presents information on recent episodes of diarrhea among young children and the actions that the mother took to treat the illness. Overall, nine percent of children under age five were reported to have had diarrhea in the two-week period before the survey. As expected, diarrhea is more prevalent among children age 6-11 months. This pattern is believed to be associated with increased exposure to the illness as a result of both weaning and the greater mobility of the child as well as to the immature immune system of children in this age group.

Background characteristic	Had diarrhea	Number of children	Health provider consulted			Oral rehydration therapy ¹			Number of children with diarrhea
			Any	Public	Private	ORS packets	RHS	Either ORS/RHS	
Age in months									
<6	12.6	1,110	60.0	17.4	44.6	24.4	1.7	24.4	140
6-11	18.6	1,284	65.1	18.9	47.4	30.7	2.5	32.2	239
12-23	11.3	2,160	57.3	20.5	39.8	34.1	3.3	36.3	244
24-35	6.5	2,002	43.6	14.9	28.8	22.7	3.1	25.8	129
36-47	3.3	1,928	42.1	24.0	18.2	19.0	4.1	23.1	64
48-59	3.1	1,843	45.3	18.9	26.4	27.3	4.1	30.5	57
Sex									
Male	8.9	5,236	57.8	21.2	38.7	30.5	3.0	32.2	467
Female	8.0	5,091	53.8	16.2	38.4	26.0	2.8	28.2	407
Urban-rural residence									
Urban	9.2	3,820	57.8	19.3	40.6	27.6	3.6	30.0	351
Rural	8.0	6,508	54.7	18.6	37.2	28.9	2.4	30.6	523
Place of residence									
Urban Governorates	9.5	1,622	53.7	20.1	34.8	31.5	4.8	35.1	154
Lower Egypt	5.8	4,507	60.2	17.9	43.8	22.2	1.4	23.1	262
Urban	5.3	1,000	54.7	13.5	43.4	9.2	0.0	9.2	53
Rural	6.0	3,508	61.6	19.0	43.9	25.5	1.8	26.6	210
Upper Egypt	11.1	4,050	54.4	18.8	37.2	30.9	3.1	32.9	449
Urban	12.6	1,107	63.8	20.1	46.8	29.7	3.5	31.6	139
Rural	10.5	2,943	50.2	18.2	32.9	31.5	2.9	33.5	310
Frontier Governorates	6.1	148	(44.0)	(28.7)	(15.3)	(31.1)	(2.3)	(33.4)	9
Education									
No education	7.5	2,669	54.2	20.6	34.7	34.0	1.6	34.6	200
Some primary	13.1	696	53.6	21.2	32.4	21.5	3.8	25.3	91
Primary complete/some secondary	9.3	1,577	53.7	20.0	35.0	29.7	5.9	33.1	146
Secondary complete/higher	8.1	5,385	58.0	17.2	42.8	26.9	2.2	28.6	437
Total	8.5	10,327	55.9	18.9	38.5	28.4	2.9	30.4	874

¹Oral rehydration therapy (ORT) includes solutions prepared from ORS packets and recommended home solution (RHS), e.g., sugar-salt solutions. Figures in parentheses are based on 25-49 unweighted cases.

Medical advice was sought in 56 percent of the reported cases of diarrhea among young children. Private medical providers were consulted more often than public health providers (39 percent and 19 percent, respectively). A medical provider was somewhat more likely to be consulted if the ill child was male, age 6-11 months old, or living in an urban area, especially in Upper Egypt.

The administration of oral rehydration therapy (ORT) is a simple means of countering the effects of dehydration. During ORT, the child is given a solution either prepared by mixing water with the salts in a commercially prepared rehydration packet (ORS) or by making a homemade solution using sugar, salt and water. Table 21 shows that 30 percent of the children ill with diarrhea were given a solution, either prepared using an ORS packet or made from sugar, salt and water.

Acute respiratory illness among young children

Along with diarrhea, acute respiratory infection (ARI), particularly pneumonia, is a cause of death among infants and young children. Early diagnosis and treatment with antibiotics can prevent a large proportion of the deaths due to pneumonia. The 2008 EDHS collected information on the prevalence of symptoms of ARI and on the treatment children with ARI symptoms received.

The prevalence of ARI was estimated by asking mothers of all children under five years of age three questions. The first question was used to identify children who had been ill with a cough in the two weeks before the survey. For the children who had had a cough, a second question was asked to determine if the child had breathed faster than usual during the illness with short rapid breaths or had had difficulty breathing. If the mother indicated that the child had experienced fast or difficult breathing, they were asked whether it was the result of a problem in the chest or to a blocked or runny nose.

Table 22 shows that eight percent of children were reported to have been ill with ARI symptoms during the two-week period before the 2008 EDHS. As was the case with diarrheal illness, children age 6-11 months were more likely to have been ill with ARI symptoms than younger or older children. A medical provider was consulted for 73 percent of the children with ARI symptoms, with private providers consulted much more often than public providers. Mothers reported that antibiotics were given to 58 percent of the ill children. Medical providers were consulted and antibiotics were given most often when the child was under 6 months of age, male rather than female or living in an urban area.

G. Nutritional Status of Children

Measurement of nutritional status

Nutritional status is a primary determinant of a child's health and well-being. To assess nutritional status, the 2008 EDHS obtained measurements of height⁷ and weight for all children living in the household who were under age 5. Using these anthropometric measurements as well as information on the ages of the children, three standard indices of physical growth describing the nutritional status of children were constructed: (1) height-for-age; (2) weight-for-height; and (3) weight-for-age.

⁷ Although the term Aheight@ is used, children younger than 24 months were measured lying on a measuring board, while standing height was measured for older children. Weight data were obtained using a digital scale with an accuracy of 100 grams.

Table 22 Prevalence and treatment of ARI

Percentage of children under age five ill with symptoms of acute respiratory illness (ARI) during the two-week period before the survey and the percentage who received various treatments by selected background characteristics, Egypt 2008

Background characteristic	Had ARI symptoms ¹	Number of children	Health provider consulted			Percentage given antibiotics	Number of children with symptoms of ARI
			Any	Public	Private		
Age in months							
<6	8.6	1,110	84.7	21.2	64.9	63.0	95
6-11	12.1	1,284	75.4	21.6	55.8	57.4	155
12-23	9.9	2,160	74.2	25.8	49.9	59.7	215
24-35	6.4	2,002	68.9	23.7	45.6	53.6	129
36-47	5.6	1,928	68.9	23.3	45.6	61.8	108
48-59	5.5	1,843	67.8	22.6	46.5	51.3	102
Sex							
Male	8.3	5,236	77.3	24.3	54.5	60.0	433
Female	7.3	5,091	68.6	22.2	47.2	55.4	372
Urban-rural residence							
Urban	9.1	3,820	78.4	25.7	54.1	63.1	347
Rural	7.0	6,508	69.5	21.6	48.9	53.9	458
Place of residence							
Urban Governorates	9.4	1,622	83.9	24.8	59.1	63.7	152
Lower Egypt	4.8	4,507	74.0	20.4	54.1	62.7	218
Urban	5.4	1,000	74.0	22.6	53.4	56.6	54
Rural	4.7	3,508	74.0	19.7	54.3	64.7	164
Upper Egypt	10.5	4,050	68.9	23.8	47.0	53.1	424
Urban	12.1	1,107	73.7	27.2	49.4	65.2	134
Rural	9.9	2,943	66.6	22.2	45.9	47.5	290
Frontier Governorates	7.2	148	(84.2)	(45.1)	(39.1)	(67.6)	11
Education							
No education	8.5	2,669	70.8	27.1	45.2	50.4	227
Some primary	9.6	696	70.8	33.3	37.5	50.0	67
Primary comp./some sec.	7.7	1,577	74.6	24.0	51.9	57.1	121
Secondary comp./higher	7.2	5,385	74.8	19.3	56.7	63.8	390
Total	7.8	10,327	73.3	23.3	51.1	57.9	805

Note: Figures in parentheses are based on 25-49 unweighted cases.
¹ARI is defined as cough with chest involvement reported

As recommended by the World Health Organization (WHO), evaluation of nutritional status should be based on a comparison of the three indices for the population of children being studied with those reported for a population of well-nourished children. For purposes of assessing the nutritional status of children in the 2008 EDHs, comparisons are made to two reference populations in Table 23. First, the indices for all children under age five and for children in various subgroups are compared with the indices for 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, which has been used for assessing children's nutritional status in all previous rounds of the DHS survey in Egypt. To allow for international comparisons, the indices also are calculated using new growth standards generated by WHO from data collected in a Multicentre Growth Reference Study (WHO, 2006). Children who fall more than two standard deviations below (-2 SD) the median of the referenced population to which comparisons are made are considered undernourished, while those who fall more than three standard deviations below (-3 SD) the reference median are considered severely undernourished.

Each of the indices measures 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 re-

sult of a failure to receive adequate nutrition over a long period of time or of the effects of recurrent or chronic illness.

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, he is wasted, or he is both stunted and wasted.

Levels of child malnutrition

Table 23 shows the proportions of children under age five born to EDHS respondents who are classified as malnourished according to three measures of nutritional status, i.e., height-for-age, weight-for-height, and weight-for-age, by residence.

Background characteristic	Height-for-age		Weight-for-height		Weight-for-age		Number of children
	Percentage below -3 SD	Percentage below -2 SD	Percentage below -3 SD	Percentage below -2 SD	Percentage below -3 SD	Percentage below -2 SD	
Urban-rural residence							
Urban	10.2	23.1	1.6	7.1	1.3	6.9	3,312
Rural	11.0	25.7	1.6	6.1	1.3	7.8	5,799
Place of residence							
Urban Governorates	8.9	19.8	1.9	7.6	1.2	6.6	1,377
Lower Egypt	14.9	29.9	1.5	6.0	1.2	6.5	3,947
Urban	15.9	33.5	1.1	5.7	1.2	5.4	875
Rural	14.6	28.9	1.6	6.1	1.2	6.9	3,072
Upper Egypt	6.9	21.0	1.6	6.6	1.4	8.8	3,676
Urban	6.7	17.9	1.6	7.7	1.6	8.8	997
Rural	6.9	22.1	1.6	6.2	1.3	8.9	2,680
Frontier Governorates	11.5	25.9	1.3	4.7	1.0	5.9	110
Total (NCHS/CDC/WHO reference population)	10.7	24.7	1.6	6.5	1.3	7.5	9,111
Total (WHO reference population)	14.0	28.9	3.2	7.2	1.3	6.0	9,103

Note: Each of the indices is expressed in standard deviation units (SD) from the median of the NCHS/CDC/WHO reference population, which has been used in all of the previous EDHS surveys to assess children's nutritional status. In addition, for all children under five years, the last row in the table shows the indices expressed in standard deviations from the median of the WHO Child Growth Standards. Table is based on children who slept in the household the night before the interview. Table is based on children with valid dates of birth (month and year) and valid measurement of both height and weight.

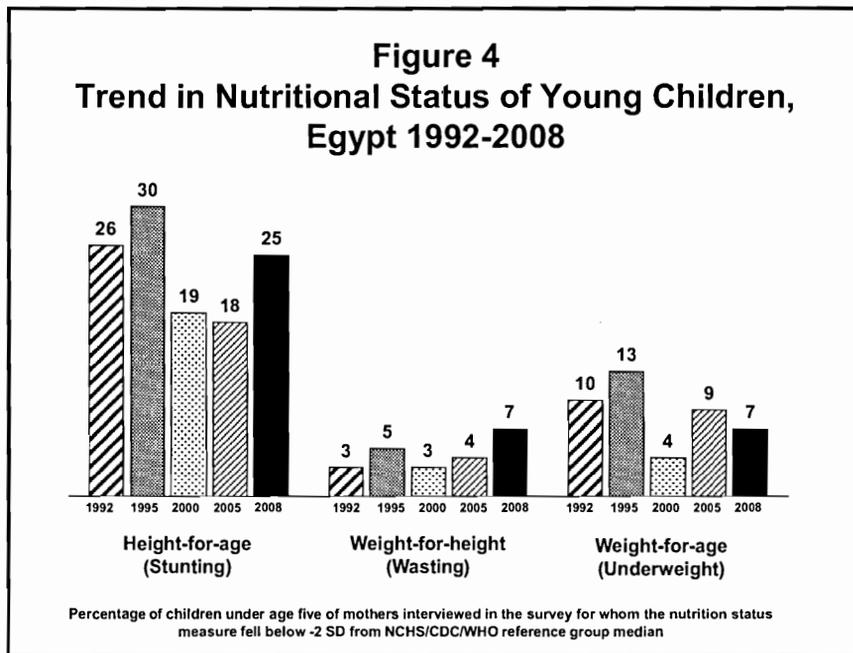
¹ Includes children who are below -3 standard deviations (SD) from the International Reference Population median

The data on height-for-age in Table 23 indicate that there is considerable chronic malnutrition among Egyptian children. Based on comparisons with the NCHS/CDC/WHO population, one in four children under age five are stunted, and somewhat more than one in ten children are severely stunted. Rural children are slightly more likely to be stunted than urban children (26 percent and 23 percent, respectively). The percentage stunted varies by place of residence, from 20 percent in the urban Governorates to 34 percent in urban Lower Egypt.

The weight-for-height index provides a measure of wasting, or acute malnutrition. Overall, seven percent of Egyptian children are wasted. The highest level of wasting is observed in the Urban Governorates (8 percent) and the lowest level in the Frontier Governorates (5 percent).

Reflecting the effects of both chronic and short-term malnutrition, eight percent of children under age five are underweight for their age. The highest proportions of underweight children are observed in Upper Egypt.

Figure 4 examines the trends in nutrition status during the period between the 1992 and 2008 EDHS surveys among children of women interviewed in the survey. The results indicate that there has been a recent deterioration in the nutritional status of children, reversing the trend observed during the decade between the 1995 and 2005 EDHS surveys.



H. Prevalence of Hepatitis C among the Population Age 15-59 Years

Egypt is recognized as having a high level of infection with the hepatitis C virus (HCV), with the widespread spread of the virus traced to schistosomiasis treatment programs in the country between the 1960s and early 1980s (Nafeh et al. 2000). Most of the current information on levels of infection with hepatitis C in Egypt, however, derives from studies in special populations. Thus, the hepatitis C testing component of the 2008 Egypt DHS provides the first recent national-level data on the prevalence of hepatitis C infection in the adult population age 15-59 years.

Coverage of the HCV Testing

Table 24 shows the percent distribution of the household population age 15-59 eligible for the hepatitis C testing status according to sex and selected other background characteristics. Among the entire eligible population, 88 percent provided a venous sample that was tested. Six percent refused to provide a sample, and five percent were not home at the time of the EDHS survey or any of the subsequent call back visits.⁸ Only a small number of samples could not be collected or tested due to other problems (e.g., inadequate volume of blood, etc.).

Background characteristic	Testing status				Total	Number of persons
	Sample tested ¹	Refused to provide blood	Absent at time of blood collection	Other/Missing ²		
Sex						
Women	90.6	6.7	1.8	0.9	100.0	6,702
Men	84.1	5.7	9.4	0.7	100.0	6,078
Age						
15-19	88.1	5.7	5.2	1.0	100.0	2,290
20-24	85.1	6.3	7.8	0.7	100.0	2,175
25-29	87.2	5.6	6.6	0.6	100.0	1,749
30-34	88.1	6.3	4.7	0.9	100.0	1,419
35-39	88.7	6.0	5.0	0.4	100.0	1,290
40-44	88.9	6.2	4.1	0.7	100.0	1,207
45-49	87.2	7.6	4.3	0.9	100.0	1,080
50-54	85.9	7.7	4.8	1.5	100.0	853
55-59	90.5	6.0	3.2	0.3	100.0	717
Urban-rural residence						
Urban	81.3	10.6	7.0	1.0	100.0	5,487
Rural	92.2	3.0	4.3	0.6	100.0	7,293
Place of residence						
Urban Governorates	77.2	12.8	8.6	1.4	100.0	2,058
Lower Egypt	91.1	4.1	4.2	0.6	100.0	4,745
Urban	86.8	7.1	5.3	0.9	100.0	1,276
Rural	92.7	2.9	3.9	0.5	100.0	3,469
Upper Egypt	89.6	4.8	4.7	0.8	100.0	5,182
Urban	83.7	9.8	5.5	1.0	100.0	1,624
Rural	92.3	2.6	4.3	0.8	100.0	3,558
Frontier Governorates	79.1	11.3	9.4	0.1	100.0	795
Education						
No education	91.3	4.1	3.4	1.1	100.0	2,874
Some primary	90.2	3.9	5.1	0.8	100.0	1,138
Primary complete/ some secondary	88.2	5.6	5.6	0.7	100.0	3,005
Secondary complete/higher	84.8	8.1	6.4	0.7	100.0	5,762
Missing	0.0	100.0	0.0	0.0	100.0	1
Total 15-59	87.5	6.2	5.4	0.8	100.0	12,780

⁸ Typically at least three call back visits were made.

Women were more likely to have provided a sample for testing than men (90 percent vs. 84 percent). Virtually all of the difference between the coverage rates for women and men is due to the higher proportion of men who were absent from the household at the time of the EDHS survey, with refusal rates actually being somewhat higher among women (7 percent) than men (6 percent).

Coverage was higher in rural areas (92 percent) than in urban areas (81 percent). By place of residence, the proportion with a sample tested was highest in rural Lower Egypt (93 percent) followed closely by rural Upper Egypt (92 percent) and lowest in the Urban Governorates (77 percent) and the Frontier Governorates (79 percent). The proportion of the eligible population from which a sample was obtained and tested decreased from 91 percent among respondents who had never attended school to 85 percent among respondents who had completed the secondary level or higher.

HCV Prevalence

Table 25 presents the results of the HCV-antibody and HCV-RNA testing conducted in the 2008 EDHS by sex and age. As discussed earlier, the HCV antibody test does not provide information on current (active) or chronic infection among EDHS respondents but simply indicates the proportion who had been exposed to the HCV virus at some point in time prior to the EDHS survey. The HCV-RNA test identifies those respondents with an active HCV infection. However, it is subject to some error since it cannot detect the virus in individuals who have been recently infected (i.e., within 1-2 weeks of the survey interview) or individuals for whom the viral load has fallen below the detection limits for the test.

Table 25 shows that, overall, 15 percent of the EDHS respondents age 15-59 had antibodies to the HCV virus in their blood, indicating that they had been exposed to the virus at some point. Ten percent were found to have an active infection.

Men are more likely to be infected than women and, the levels of infection increase sharply with age among both women and men. The much higher levels of infection among the older cohorts are congruent with the timing of the schistosomiasis treatment programs, which is believed to have been a major transmission route.

Table 26 provides additional information on the variation in the prevalence of HCV infection with other socioeconomic background characteristics. The table also considers the extent to which

Table 25 Prevalence of hepatitis C among the population aged 15-59 years by age

Percentage of de facto interviewed population age 15-59 years for whom there is a HCV test result who were anti-HCV and HCV-RNA positive, according to age and sex, Egypt 2008

Age	Percentage positive on HCV-antibody test	Percentage positive on HCV-RNA test	Number tested
WOMEN			
15-19	2.7	1.9	996
20-24	5.4	2.9	1,009
25-29	4.6	3.0	844
30-34	10.2	6.4	637
35-39	13.2	9.3	634
40-44	21.3	12.8	520
45-49	23.6	15.4	506
50-54	26.9	16.9	355
55-59	35.1	24.1	327
Total 15-59	12.2	7.8	5,828
MEN			
15-19	5.6	3.7	1,000
20-24	4.3	3.2	795
25-29	8.0	4.9	691
30-34	13.4	10.3	594
35-39	14.4	10.7	499
40-44	24.6	17.0	541
45-49	34.4	23.0	442
50-54	49.0	33.2	379
55-59	43.5	30.5	357
Total 15-59	17.4	12.1	5,298
TOTAL			
15-19	4.1	2.8	1,995
20-24	4.9	3.0	1,804
25-29	6.1	3.9	1,535
30-34	11.8	8.3	1,232
35-39	13.8	9.9	1,133
40-44	23.0	15.0	1,061
45-49	28.6	18.9	948
50-54	38.3	25.3	734
55-59	39.4	27.4	684
Total 15-59	14.7	9.8	11,126

prevalence levels vary according to the self-reported receipt of an injection as a treatment for schistosomiasis.

Table 26 Prevalence of hepatitis C among the population aged 15-59 years by background characteristics			
Percentage of de facto interviewed population age 15-59 years for whom there is a test result who were anti-HCV and HCV-RNA positive, according to background characteristics, Egypt 2008			
Background characteristic	Percentage positive on HCV-antibody test	Percentage positive on HCV-RNA test	Number tested
WOMEN			
Urban-rural residence			
Urban	8.0	5.5	2,476
Rural	15.2	9.6	3,353
Place of residence			
Urban Governorates			
Lower Egypt	7.6	5.1	1,182
Urban	15.0	8.9	2,530
Rural	10.0	6.7	611
Rural			
Upper Egypt	16.5	9.7	1,919
Urban	11.7	8.3	2,034
Rural	7.3	5.4	631
Frontier Governorates			
	13.7	9.6	1,403
	2.5	1.8	82
Education			
No education	21.7	14.5	1,782
Some primary	16.1	10.1	498
Primary complete/ some secondary	7.1	4.3	1,264
Secondary complete/higher	6.7	4.1	2,284
Ever had injection for schistosomiasis			
Yes	25.3	16.7	300
No	11.2	7.2	5,428
Don't know/missing	23.9	15.4	100
Total 15-59	12.2	7.8	5,828
MEN			
Urban-rural residence			
Urban	12.7	9.0	2,323
Rural	21.1	14.4	2,974
Place of residence			
Urban Governorates			
Lower Egypt	11.5	7.4	1,084
Urban	20.3	14.3	2,299
Rural	13.7	11.1	560
Rural			
Upper Egypt	22.4	15.3	1,739
Urban	17.9	12.4	1,828
Rural	14.6	10.3	619
Frontier Governorates			
	19.6	13.5	1,209
	5.0	4.7	87
Education			
No education	30.0	21.6	676
Some primary	24.3	15.2	532
Primary complete/ some secondary	15.3	10.6	1,480
Secondary complete/higher	13.9	9.7	2,610
Ever had injection for schistosomiasis			
Yes	31.5	21.1	646
No	15.6	10.9	4,555
Don't know/missing	10.2	5.2	97
Total 15-59	17.4	12.1	5,298

Table 26 continued

Percentage of de facto interviewed population age 15-59 years for whom there is a test result who were anti-HCV and HCV-RNA positive, according to background characteristics, Egypt 2008

Background characteristic	Percentage positive on HCV-antibody test	Percentage positive on HCV-RNA test	Number tested
TOTAL			
Urban-rural residence			
Urban	10.3	7.2	4,799
Rural	18.0	11.9	6,327
Place of residence			
Urban Governorates	9.5	6.2	2,266
Lower Egypt	17.5	11.5	4,829
Urban	11.8	8.8	1,171
Rural	19.3	12.3	3,658
Upper Egypt	14.7	10.2	3,862
Urban	10.9	7.8	1,250
Rural	16.4	11.4	2,612
Frontier Governorates	3.8	3.3	169
Education			
No education	24.0	16.5	2,458
Some primary	20.4	12.7	1,030
Primary complete/ some secondary	11.5	7.7	2,744
Secondary complete/higher	10.5	7.1	4,893
Ever had injection for schistosomiasis			
Yes	29.6	19.7	946
No	13.2	8.9	9,983
Don't know/missing	17.2	10.4	197
Total 15-59	14.7	9.8	11,126

The table shows that HCV infection is higher among rural than urban residents (12 percent and 7 percent). As expected the level is also higher in Lower Egypt than in the other geographic areas. Individuals with no or less than primary education are markedly more likely to be infected with the HCV virus than the more educated population. Finally, the prevalence of HCV infection is higher among those individuals who reported that they had ever had an injection to treat schistosomiasis, reflecting again the role that schistosomiasis treatment played in the transmission of HCV infection in Egypt.

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