

**Tajikistan
Demographic
and Health
Survey
2012**

**Preliminary
Report**

**Statistical Agency under the President
of the Republic of Tajikistan**

**Ministry of Health
Republic of Tajikistan**

**MEASURE DHS
ICF International**

The 2012 Tajikistan Demographic and Health Survey (2012 TjDHS) was implemented by the Statistical Agency under the President of the Republic of Tajikistan from July through September 2012. Support for the 2012 TjDHS was provided by the United States Agency for International Development (USAID) as part of the MEASURE DHS project. MEASURE DHS is a USAID-funded program through which ICF International provides funding and technical assistance in the implementation of population and health surveys in countries worldwide. Additional funding and support for the 2012 TjDHS was received from the United Nations Population Fund (UNFPA). The views expressed in this publication do not necessarily reflect the views of USAID or other donor organizations.

Additional information about the 2012 TjDHS may be obtained from the Statistical Agency under the president of the Republic of Tajikistan: 17 Bokhtar Street, Dushanbe, Tajikistan; Telephone 992-372-23-02-45, Fax: 992-372-21-43-75, E-mail: stat@tojikiston.com .

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TAJIKISTAN DEMOGRAPHIC AND HEALTH SURVEY 2012

PRELIMINARY REPORT

**Statistical Agency under the President
of the Republic of Tajikistan
Dushanbe, Tajikistan**

**Ministry of Health
Dushanbe, Tajikistan**

**MEASURE DHS
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We hereby extend our gratitude to the government of Tajikistan and to the representatives of local authorities for their support and assistance during the survey process.

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This preliminary report was prepared as a joint effort of the Statistical Agency under the President of the Republic of Tajikistan and ICF International staff.

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I. INTRODUCTION

The 2012 Tajikistan Demographic and Health Survey (TjDHS) is a nationally representative sample survey designed to provide information on population and health issues in Tajikistan. The 2012 survey, the first of its kind in the country, was conducted by the Statistical Agency under the President of the Republic of Tajikistan (SA) and the Ministry of Health (MOH) of the Republic of Tajikistan from July 2012 through September 2012. Support for the 2012 TjDHS was provided by the United States Agency for International Development (USAID) as part of the MEASURE DHS project. MEASURE DHS is a USAID-funded program through which ICF International provides funding and technical assistance in the implementation of population and health surveys in countries worldwide. The United Nations Population Fund (UNFPA)/Tajikistan provided additional funds for the survey.

The purpose of the 2012 TjDHS was to collect national and regional data on fertility and contraceptive use, maternal and child health, childhood mortality, domestic violence against women, and knowledge and behavior regarding tuberculosis, HIV infection, and other sexually-transmitted infections. The survey obtained detailed information on these issues from women of reproductive age. Data are presented by region (oblast) when sample size permits.

The 2012 TjDHS results are intended to provide the information needed to evaluate existing social programs and to design new strategies for improving health and health services for women and children of Tajikistan. The 2012 TjDHS also contributes to the growing international database on demographic and health-related indicators.

This preliminary report presents initial findings relating to the principal topics in the survey. The final report will be issued in 2013. The figures in this preliminary report are not expected to differ markedly from the findings presented in the final report; nevertheless, the results presented here are considered provisional and are subject to modification.

II. SURVEY IMPLEMENTATION

A. Sample Design and Implementation

The 2012 TjDHS sample was designed to permit detailed analysis, including the estimation of rates of fertility, infant/child mortality, and abortion at the national level and for total urban and rural areas separately. Many indicators can also be estimated at the regional (oblast) level. In addition, in the Khatlon region, the sample is sufficient to provide separate estimates of the nutritional status of children for the 12 districts included in the Feed the Future Initiative (FTF) pilot areas.

A representative probability sample of 6,674 households was selected for the 2012 TjDHS sample. The sample was selected in two stages. In the first stage, 354 clusters were selected from a list of enumeration areas that were part of a master sample designed from the 2010 Population Census. In the second stage, a complete listing of households was made for each selected cluster. Households were then systematically selected for participation in the survey.

All women age 15-49 who were either permanent residents of the households in the 2012 TjDHS sample or visitors present in the household on the night before the survey were eligible to be interviewed. Interviews were completed with 9,656 women.

B. Questionnaires

Two questionnaires were used in the TjDHS: a Household Questionnaire and a Woman's Questionnaire. The Household Questionnaire and the Woman's Questionnaire were based on model survey instruments developed in the MEASURE DHS program. The DHS model questionnaires were adapted for use in Tajikistan by experts from the Statistical Agency under the President of the Republic of Tajikistan (SA) and the Ministry of Health (MOH). Suggestions were also sought from USAID; a number of the UN agencies, including the United Nations Development Program (UNDP), UNFPA, and UNICEF; and other international and nongovernmental organizations (NGOs). The questionnaires were developed in English and translated into Russian and Tajik. The Household Questionnaire and the Woman's Questionnaire were pretested in March 2012.

The Household Questionnaire was used to list all usual members of and visitors to the selected households and to collect information on the socioeconomic status of the households. The first part of the Household Questionnaire collected, for each household member or visitor, information on their age, sex, educational attainment, and relationship to the head of household. This information provided basic demographic data for Tajikistan households. It also was used to identify the women who were eligible for the individual interview (i.e., women age 15-49). The first section of the Household Questionnaire also obtained information on other characteristics of household members, including information on each child's birth registration. Other questions addressed housing characteristics (e.g., the flooring material, the source of water, and the type of toilet facilities), ownership of consumer goods, and other aspects of the socioeconomic status of the household. Results of testing of household salt for the presence of iodine and results of taking height and weight measurements of children under age 5 and of women age 15-49 also were recorded in the Household Questionnaire.

The Woman's Questionnaire obtained information from women age 15-49 on the following topics:

- Background characteristics
- Pregnancy history
- Antenatal, delivery, and postnatal care
- Knowledge, attitudes, and use of contraception
- Reproductive and adult health
- Childhood mortality
- Health and health care utilization
- Vaccinations of children under age 5
- Episodes of diarrhoea and respiratory illness of children under age 5
- Breastfeeding and weaning practices
- Marriage and recent sexual activity
- Fertility preferences
- Knowledge of and attitudes toward AIDS and other sexually transmitted diseases
- Knowledge of and attitudes toward tuberculosis
- Woman's work and husband's background characteristics
- Other women's health issues
- Domestic violence

C. Training of Field Staff

The main survey training, which was conducted by the SA, MOH, and ICF International staff, was held during a three-week period in June and was attended by a total of 100 people (78 females and 22 males), including supervisors, field editors, interviewers, and quality control personnel. The training included lectures, demonstrations, practice interviews, and examinations. All field staff received training in anthropometric measurement and participated in two days of field practice.

D. Fieldwork and Data Processing

Fourteen teams collected the survey data; each team consisted of four female interviewers, a field editor, and a team supervisor. Fieldwork began in early July 2012 and concluded in late September 2012. Senior TjDHS technical staff visited teams regularly to review the work and monitor data quality. MEASURE DHS also assisted with field supervision. In addition, UNFPA/Tajikistan representatives visited teams to monitor data collection and to observe the height and weight measurements of women and children under age 5.

The processing of the TjDHS results began shortly after fieldwork commenced. Completed questionnaires were returned regularly from the field to SA headquarters in Dushanbe, where they were entered and edited by data processing personnel specially trained for this task. The data processing personnel included a supervisor, a questionnaire administrator (who ensured that the expected number of questionnaires from all clusters was received), several office editors, 11 data entry operators, and a secondary editor. The concurrent processing of the data was an advantage because the senior DHS technical staff were able to advise field teams of problems detected during the data entry. In particular, tables were generated to check various data quality parameters, and the results were used to provide specific feedback to the teams to improve performance. The data entry and editing phase of the survey was completed in November 2012.

E. Coverage of the Sample

Table 1 presents household and individual response rates for the 2012 TjDHS. A total of 6,674 households were selected for the sample, of which 6,512 households were occupied at the time of the fieldwork, and 6,432, or 99 percent, were successfully interviewed. In these households, 9,794 women were identified as eligible for the individual interview; i.e., they were in the 15-49 age group and either permanent household residents or visitors present in the household on the night before the interview. Interviews were completed with 99 percent of these women.

Result	Residence		
	Urban	Rural	Total
Household interviews			
Households selected	2,835	3,839	6,674
Households occupied	2,732	3,780	6,512
Households interviewed	2,675	3,757	6,432
Household response rate ¹	97.9	99.4	98.8
Interviews with women age 15-49			
Number of eligible women	3,443	6,351	9,794
Number of eligible women interviewed	3,408	6,248	9,656
Eligible women response rate ²	99.0	98.4	98.6

¹ Households interviewed/households occupied

² Respondents interviewed/eligible respondents

III. PRELIMINARY FINDINGS FROM THE 2012 TJDHS

A. Characteristics of Respondents

Table 2 shows the distribution by selected background characteristics of women age 15-49 who were interviewed in the 2012 TjDHS. The age distribution of the survey population is similar to that of the female population age 15-49 published by the Statistical Agency as of 1 January 2012 (SA, 2012). Reflecting the relatively high fertility in Tajikistan in the past, over half of the women age 15-49 (58 percent) are under age 30.

Two-thirds of the women (67 percent) are currently married or living together with a partner, with most reporting they are in formal unions; the proportion living together is negligible (less than one percent). Five percent of women are divorced, separated, or widowed.

The majority of the TjDHS female respondents (75 percent) live in rural areas. Thirty-six percent of women are from the Khatlon region, 30 percent from the Sughd region, 23 percent from the Districts of Republican Subordination (DRS), 9 percent from Dushanbe, and 2 percent from the Gorno-Badakhshan Autonomous Oblast (GBAO). The distribution of the TjDHS respondents is similar to that reported by the Statistical Agency for the entire female population age 15-49 in Tajikistan (SA, 2012).

Women in Tajikistan are generally well educated. Only 2 percent of TjDHS respondents never attended school, while 81 percent completed general basic or general secondary education. Seven percent had attained a professional primary or professional middle education, and another 6 percent had some higher education.

It should be noted that Tajikistan's educational system has undergone several stages of restructuring over the past several decades. The current system of formal education was introduced in September 1990. In the new system, general basic education consists of grades 1-9 instead of grades 1-8 as in the previous system; high school consists of grades 10-11 instead of grades 9-10 as in the previous system. In the 2012 TjDHS, women who had completed grade 9 and in August 1989 were age 15 or older were included in the general secondary education category because they had completed grade 9 before the current educational system change took effect. Women who reported at the time of interview that they had completed grade 9 and in August 1989 were age 14 or younger were included in the general basic education category, in accordance with the new system.

Table 2 Background characteristics of respondents

Percent distribution of women age 15-49 by selected background characteristics, Tajikistan 2012

Background characteristic	Weighted percent	Weighted number	Unweighted number
Age			
15-19	20.8	2,013	2,001
20-24	20.2	1,950	1,900
25-29	16.7	1,609	1,566
30-34	12.3	1,188	1,173
35-39	10.7	1,030	1,084
40-44	10.3	991	1,018
45-49	9.1	875	914
Marital status			
Never married	27.4	2,648	2,723
Married	67.1	6,483	6,364
Living together	0.2	21	24
Divorced/separated	2.9	275	301
Widowed	2.4	229	244
Residence			
Urban	25.0	2,413	3,408
Rural	75.0	7,243	6,248
Region			
GBAO ¹	2.3	220	1,069
Sughd	29.7	2,872	2,084
Khatlon	35.7	3,444	2,436
Dushanbe	9.1	881	1,733
DRS ²	23.2	2,240	2,334
FTF pilot areas³	14.1	1,364	1,051
Education			
No education	2.0	195	155
Primary	3.9	372	330
General basic	34.7	3,349	3,095
General secondary	46.3	4,474	4,373
Professional primary	2.6	252	276
Professional middle	4.1	394	481
Higher	6.4	620	946
Total	100.0	9,656	9,656

Note: Education categories refer to the highest level of education attended, whether or not that level was completed.

¹ Gorno-Badakhshan Autonomous Oblast

² Districts of Republican Subordination

³ Data are based on information collected in the households selected in 35 clusters out of the 12 pilot districts under the Feed the Future Initiative in the Khatlon region

B. Fertility

All women who were interviewed in the 2012 TjDHS were asked to give a complete reproductive history. As the history was collected, each woman was asked about the number of children living at home, children living elsewhere, and children who had died, by sex, in order to obtain the total number of live births that women had experienced in their lifetime. In addition to information on live births, all women were then asked questions on all pregnancies that did not result in a live birth to obtain the number of induced abortions, miscarriages, and stillbirths that women had experienced in their lifetime.

After obtaining these aggregate data, an event-by-event pregnancy history was collected. Information was gathered about all pregnancies of the respondent in the order in which they occurred, starting with her first pregnancy. For each pregnancy that resulted in a live birth, information was collected on the child's sex, survival status, and current age (for surviving children) or age at death (for deceased children). For all pregnancies that did not result in a live birth, information was collected on the month and year the pregnancy ended. For births and terminations that occurred during the five years preceding the survey (i.e., in January 2007 or later), the pregnancy duration was recorded in the Calendar¹.

The data collected in the pregnancy history were used to calculate two of the most widely used measures of current fertility: the total fertility rate (TFR) and its component age-specific fertility rates. The TFR is interpreted as the number of children the average woman would bear in her lifetime if she experienced the currently observed age-specific rates throughout her reproductive years.

Table 3 shows that, according to the results of the 2012 TjDHS, the TFR for the three-year period before the survey (i.e., approximately from July-September 2010 to July-September 2012) is 3.8 children per woman. The TFR for rural areas (3.9 births per woman) is higher than that for urban areas (3.3 births).

Table 3 and Figure 1 show, at the national level, that age-specific fertility rates are low among women age 15-19 (54 per 1,000), rise to a peak among women age 20-24 (253 per 1,000), remain high for women age 25-29 (216 per 1,000), and decline rapidly at older ages. Age-specific fertility rates are higher among rural than among urban women throughout the childbearing years. The greatest absolute urban-rural difference in age-specific fertility rate (ASFR) is 34 births per 1,000 women in the 25-29 age group.

Table 3 Current fertility

Age-specific and total fertility rates, the general fertility rate, and the crude birth rate for the three years preceding the survey, by residence, Tajikistan 2012

Age group	Residence		Total
	Urban	Rural	
15-19	52	54	54
20-24	230	259	253
25-29	190	224	216
30-34	116	148	139
35-39	58	73	69
40-44	7	24	19
45-49	1	3	2
TFR (15-49)	3.3	3.9	3.8
GFR (15-44)	113	141	134
CBR	28.9	35.6	33.9

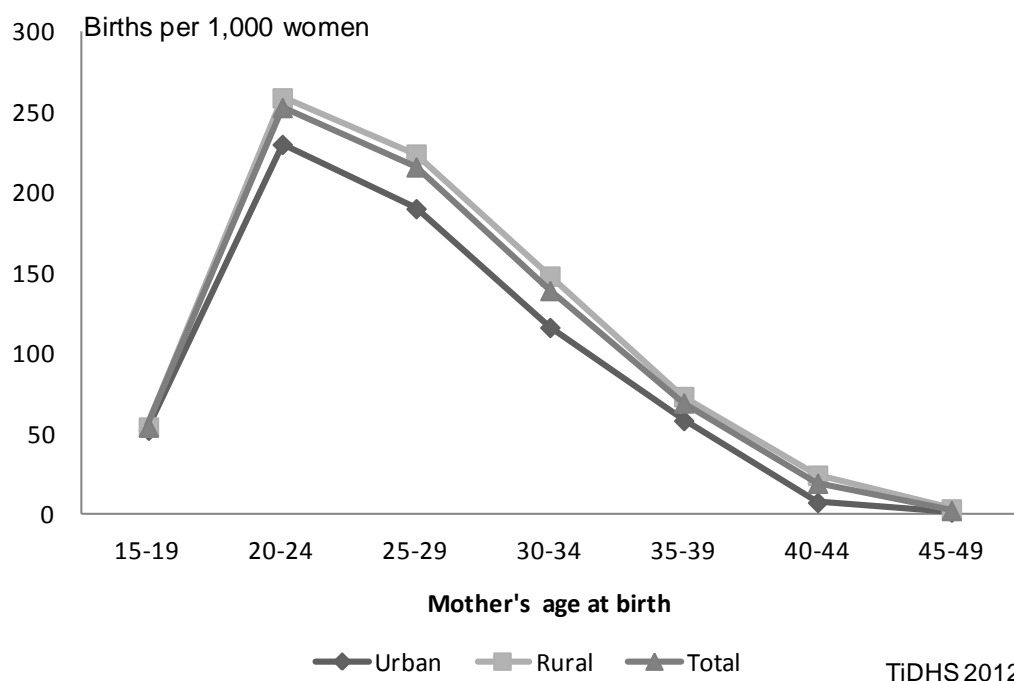
Notes: Age-specific fertility rates are per 1,000 women. Rates for age group 45-49 may be slightly biased due to truncation. Rates are for the period 1-36 months prior to interview.

TFR: Total fertility rate expressed per woman
GFR: General fertility rate expressed per 1,000 women age 15-44

CBR: Crude birth rate expressed per 1,000 population

¹ The Calendar, which is included at the end of the Woman's Questionnaire, provides a record of the timing of all live births, pregnancies, and periods of contraceptive use. The Calendar covers the survey year up to the last month of fieldwork, plus the full five years prior to the survey year. For the 2012 TjDHS, the Calendar begins with the year 2007.

Figure 1 Age-specific fertility rates by urban-rural residence



The 2012 TjDHS fertility results can be compared with those from recent DHS surveys in neighboring countries. The TFR of 3.8 births per woman in Tajikistan is lower than the rates reported in the 2010 Afghanistan Maternal Mortality Survey (5.1 births) and the 2006-2007 Pakistan DHS (4.1 births), but higher than the rates reported in the 2006 Azerbaijan DHS (2.0 births) and the 2010 Armenia DHS (1.7 births). (APHI/MoPH [Afghanistan] et al., 2011; NIPS [Pakistan] and Macro International Inc., 2008; SSC [Azerbaijan] and Macro International Inc., 2008; NSS [Armenia] et al., 2012).

C. Abortion

As indicated, data concerning induced abortion was collected in the pregnancy history section of the Woman's Questionnaire. Age-specific induced abortion rates and the total abortion rate (TAR) were calculated in a manner analogous to the calculation of fertility rates. The TAR is interpreted as the number of induced abortions a woman would have in her lifetime if she experienced the currently observed age-specific induced abortion rates during her childbearing years.

Table 4 shows the TAR and age-specific induced abortion rates for the three-year period preceding the survey (i.e., mid-2010 to mid-2012). The TAR for all Tajikistan is 0.5 induced abortions per woman. The age-specific rates are low among women in age groups 15-19 and 20-24, rise to a broad peak among women in age groups 25-29, 30-34 and 30-35 (21, 23, and 26 per 1,000, respectively), and decline in the older age groups. Overall, urban rates are higher than rural rates, particularly among younger women.

Table 4 Induced abortion rates

Age-specific induced abortion rates (per 1,000 women), the total abortion rates (TAR) and the general abortion rate (GAR) for the three years preceding the survey, by residence, Tajikistan 2010

Age group	Residence		Total
	Urban	Rural	
15-19	1.0	1.0	1.0
20-24	17.0	9.0	11.0
25-29	28.0	20.0	21.0
30-34	30.0	20.0	23.0
35-39	30.0	25.0	26.0
40-44	8.0	9.0	9.0
45-49	2.0	5.0	4.0
TAR(15-49)	0.6	0.4	0.5
GAR (15-44)	18.0	12.0	14.0

TAR: Total abortion rate for ages 15-49, expressed per woman
GAR: General abortion rate (abortions) divided by the number of women age 15-44, expressed per 1,000 women)

The TAR for induced abortions in Tajikistan is lower than estimates reported in recent DHS surveys in other parts of the former Soviet Union, including Armenia (0.8) in 2010, Azerbaijan (2.3) in 2006, Moldova (1.1) in 2005, and Uzbekistan (0.95) in 2002, but is similar to the TAR for Ukraine (0.4) in 2007) (NSS [Armenia] et al., 2012; SSC [Azerbaijan] and Macro International Inc., 2008; (NCPM) [Moldova] and ORC Macro. 2006; Analytical and Information Centre [Uzbekistan] et al., 2004; UCSR [Ukraine] et al., 2008).

D. Fertility Preferences

Insight into the childbearing intentions of Tajik women was obtained by asking respondents whether they wanted to have another child and, if so, how soon. Table 5 shows that the majority of married Tajik women express a desire to control their future fertility; four in ten respondents (43 percent) do not want to have any more children or are sterilized (1 percent), and 19 percent want to have another child later (in two or more years). Only 17 percent of women want to have another child soon (within the next two years). The desire to limit fertility markedly increases by number of living children. For example, most married women with no children want to have a child; about four out of five women with no children (78 percent) say that they want to have a child soon. On the other hand, more than half of women with three children say they want no more, as do eight in ten women with five or six and more children.

Table 5 Fertility preferences by number of living children

Percent distribution of currently married women age 15-49 by desire for children, according to number of living children, Tajikistan 2012

Desire for children	Number of living children ¹							Total
	0	1	2	3	4	5	6+	
Have another soon ²	77.7	32.5	16.6	7.0	3.5	2.3	1.4	16.9
Have another later ³	3.2	46.8	32.1	13.9	4.2	4.2	2.4	18.9
Have another, undecided when	2.9	3.1	2.3	0.7	0.3	0.9	0.5	1.5
Undecided	1.5	9.8	18.5	16.6	11.3	6.9	6.0	12.2
Want no more	0.7	2.1	26.7	54.7	73.3	77.2	80.7	43.4
Sterilized	0.0	0.3	0.1	0.9	1.2	0.3	1.3	0.6
Declare infecund	13.5	5.1	3.8	5.9	6.1	8.3	7.7	6.3
Missing	0.5	0.1	0.0	0.2	0.2	0.0	0.0	0.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	479	1,044	1,410	1,388	1,004	650	529	6,504

¹ Number of living children includes current pregnancy

² Wants next birth within 2 years

³ Wants to delay next birth for 2 or more years

E. Contraception

The 2012 TjDHS collected information on knowledge and use of contraception. To obtain these data, a description of each contraceptive method was read aloud, and respondents were asked if they had heard of the method. Women were then asked if they (or their partners) were currently using a method. Nonusers were asked whether they had ever used a method of contraception. For analytical purposes, contraceptive methods are grouped into two types in the table: modern and traditional. Modern methods include female sterilization, male sterilization, the pill, IUD, male condom, foam/jelly, and lactational amenorrhea method (LAM). Traditional methods include rhythm (periodic abstinence), withdrawal, and other traditional methods.

Table 6 Current use of contraception by background characteristics

Percent distribution of currently married women age 15-49 by contraceptive method currently used, according to background characteristics, Tajikistan 2012

Background characteristic	Modern method										Traditional method			Not currently using	Total	Number of women	
	Any method	Any modern method	Female sterilization	IUD	Pill	Injectables	Implants	Male condom	LAM	Foam/jelly/other	Any traditional method	Rhythm	Withdrawal				Other
Age																	
15-19	2.4	1.8	0.0	0.9	0.0	0.0	0.0	0.4	0.5	0.0	0.6	0.0	0.6	0.0	97.6	100.0	266
20-24	9.9	9.5	0.0	6.8	0.9	0.3	0.1	1.2	0.2	0.0	0.4	0.0	0.4	0.0	90.1	100.0	1,320
25-29	26.6	24.8	0.3	19.6	1.8	0.5	0.1	2.4	0.1	0.0	1.8	0.0	1.7	0.1	73.4	100.0	1,332
30-34	40.9	37.4	0.8	25.2	4.4	2.9	0.0	4.0	0.0	0.1	3.5	0.1	3.4	0.0	59.1	100.0	1,014
35-39	46.5	43.9	1.1	30.3	4.6	4.1	0.0	3.6	0.0	0.1	2.7	0.5	2.1	0.0	53.5	100.0	923
40-44	37.8	34.6	1.0	25.0	2.6	3.8	0.0	2.3	0.0	0.0	3.1	0.1	2.9	0.1	62.2	100.0	879
45-49	19.4	17.0	1.0	12.9	0.5	2.1	0.0	0.5	0.0	0.0	2.4	0.2	2.1	0.1	80.6	100.0	770
Residence																	
Urban	31.5	29.0	0.6	20.5	3.3	1.1	0.0	3.2	0.0	0.1	2.5	0.2	2.1	0.2	68.5	100.0	1,571
Rural	26.8	24.8	0.6	17.9	2.0	2.3	0.1	1.9	0.1	0.0	1.9	0.1	1.9	0.0	73.2	100.0	4,933
Region																	
GBAO	35.0	34.9	0.0	23.8	2.5	5.6	0.0	3.0	0.0	0.0	0.2	0.0	0.2	0.0	65.0	100.0	129
Sughd	35.3	30.7	0.7	22.9	2.0	2.2	0.0	2.6	0.3	0.0	4.6	0.2	4.4	0.0	64.7	100.0	2,022
Khatlon	23.8	22.9	0.4	15.4	2.5	2.9	0.1	1.5	0.0	0.0	0.9	0.0	0.9	0.0	76.2	100.0	2,249
Dushanbe	31.7	28.7	0.5	19.6	2.7	0.1	0.0	5.2	0.1	0.5	3.0	0.5	2.0	0.5	68.3	100.0	559
DRS	22.3	22.0	0.7	16.6	2.2	0.8	0.0	1.7	0.0	0.0	0.4	0.0	0.4	0.0	77.7	100.0	1,546
Education																	
No education/primary	20.5	19.9	0.0	15.4	0.5	2.8	0.4	0.9	0.0	0.0	0.6	0.0	0.6	0.0	79.5	100.0	356
General basic	21.8	20.0	0.4	14.4	1.9	1.3	0.0	1.9	0.1	0.0	1.8	0.0	1.7	0.0	78.2	100.0	2,016
General secondary	30.0	28.0	0.8	20.0	2.7	2.5	0.0	1.9	0.1	0.0	2.0	0.1	1.9	0.0	70.0	100.0	3,260
Professional primary/middle	34.1	30.2	0.3	22.9	2.5	2.0	0.3	2.1	0.0	0.1	3.9	0.5	3.4	0.0	65.9	100.0	475
Higher	40.7	37.4	0.5	25.1	2.8	0.5	0.0	8.0	0.1	0.2	3.3	0.4	2.6	0.2	59.3	100.0	397
Number of living children																	
0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	99.9	100.0	746
1-2	19.5	17.7	0.2	12.8	1.7	0.6	0.1	2.0	0.3	0.0	1.8	0.1	1.7	0.0	80.5	100.0	2,333
3-4	41.9	38.7	1.1	29.0	3.6	2.0	0.0	3.0	0.0	0.1	3.2	0.3	2.8	0.1	58.1	100.0	2,268
5+	35.4	33.6	0.7	21.6	2.6	5.8	0.0	2.7	0.0	0.1	1.9	0.0	1.9	0.0	64.6	100.0	1,157
Total	27.9	25.8	0.6	18.5	2.3	2.0	0.0	2.2	0.1	0.0	2.1	0.1	1.9	0.0	72.1	100.0	6,504

Note: If more than one method is used, only the most effective method is considered in this tabulation.
LAM = Lactational amenorrhea method

Table 6 shows the level and key differentials in the current use of contraception by method as reported by currently married women. The 2012 TjDHS found that over one-quarter (28 percent) of currently married women are using some method of contraception. Most contraceptive users rely on a modern method (26 percent), and only 2 percent rely on a traditional method. By far, the most popular method is the IUD, used by 19 percent of married women. Thus, two out of every three women who are using contraception use the IUD. The pill, the male condom, injectables, and withdrawal are each used by 2 percent of married women. Less than 1 percent of women report using female sterilization.

Table 6 also shows how the current use of contraception varies by background characteristics of respondents. Contraceptive use levels rise rapidly after age 25, peaking at 47 percent among currently married women age 35-39, and then declining to 19 percent among those women age 45-49. The IUD is the most frequently used method in all age groups.

The difference in the overall use of contraception among married women in urban and rural areas is not large (32 percent and 27 percent, respectively). Urban women are slightly more likely to be using a modern method than rural women (29 percent and 25 percent, respectively). Most of that difference is owed to more widespread use of an IUD among urban women. There is considerable variation in contraceptive use by region. Women from the DRS and Khatlon regions are the least likely to use any method of contraception (22 and 23 percent, respectively). The GBAO and Sughd regions have the highest rates of use of any method (35 percent each). It is worth noting that the Sughd region also has the highest proportion of married women relying on any traditional method (5 percent), mostly withdrawal (4 percent), compared with women from other regions. As expected, contraceptive use increases with educational attainment. Women with higher levels of education are nearly twice as likely to use a method as women with primary or general basic education (41 percent compared with just over 20 percent). In general, women in Tajikistan do not begin to use contraception until they have had at least one child.

The results of the 2012 TjDHS can be compared with findings from the 2005 MICS survey in order to gain an understanding of recent trends in contraceptive use in Tajikistan. Overall, use of contraception declined during the seven years between the surveys, with 38 percent of married women age 15-49 reporting use of a method in the 2005 MICS compared with 28 percent in the 2012 TjDHS. The change is largely due to a decline in IUD use; the percentage of women using an IUD decreased from 26 percent in 2005 to 19 percent in 2012. The percentage of LAM users also decreased, from 3 percent in 2005 to less than 1 percent in 2012 (SCS, 2007).

F. Childhood Mortality

One important objective of the 2012 TjDHS was to measure the level of and trends in mortality among infants and children. Mortality rates of these groups are basic indicators of a country's socioeconomic situation and quality of life.

As noted earlier, the 2012 TjDHS questionnaire included a reproductive history in which respondents were asked to report the outcome of each pregnancy, i.e., to report if the pregnancy ended in a live birth, stillbirth, miscarriage, or abortion. A live birth was defined for respondents as any birth that cried or showed any sign of life. For each live birth reported in the pregnancy history, information was collected on the date of birth (month and year), sex, survivorship, and current age (for surviving children) or age at death (for deceased children).

The information on the survival status and age at death for deceased children was used to estimate the following five mortality rates:

Neonatal mortality (NN):	the probability of dying within the first month of life
Postneonatal mortality (PNN):	the difference between infant and neonatal mortality
Infant mortality (${}_1q_0$):	the probability of dying between birth and exact age 1
Child mortality (${}_4q_1$):	the probability of dying between exact ages 1 and 5
Under-5 mortality (${}_5q_0$):	the probability of dying between birth and exact age 5

All rates are expressed as deaths per 1,000 live births, except for child mortality, which is expressed as deaths per 1,000 children surviving to age 1.

Table 7 shows infant and child mortality estimates based on data from the 2012 TjDHS. For the five years preceding the survey (approximate calendar years of 2008 through 2012), the infant mortality estimate is 34 per 1,000 live births. The estimates of neonatal and postneonatal mortality are 19 and 15 per 1,000, respectively. The estimate of child mortality (age 1 to age 4) is much lower: 9 per 1,000. The overall under-5 mortality rate for the period is 43 per 1,000.

Table 7 Early childhood mortality rates
Neonatal, postneonatal, infant, child, and under-5 mortality rates for five-year periods preceding the survey, Tajikistan 2012

Years preceding the survey	Neonatal mortality (NN)	Postneonatal mortality ¹ (PNN)	Infant mortality (IQ0)	Child mortality (4Q1)	Under-five mortality (5Q0)
0-4 (2012-2008)	19	15	34	9	43
5-9 (2007-2003)	20	23	43	12	54
10-14 (2002-1998)	25	31	56	21	76

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

Trends in mortality over the 15-year period prior to the survey can also be examined from Table 7. The data suggest that mortality has substantially decreased over the last 15 years. For example, the infant mortality rate was 56 per 1,000 during the period 10 to 14 years before the survey and 43 per 1,000 during the period 5 to 9 years before the survey compared with the estimate for the five years before the survey of 34 per 1,000.

Comparisons of the results of the 2012 Tajik DHS with those of the 2005 Tajikistan MICS (65 per 1,000 live births for the infant mortality rate and 79 per 1,000 live births for the under-5 mortality rate) also suggest a substantial decline in childhood mortality over the years passed between the surveys (SCS, 2007).²

Childhood mortality rates in Tajikistan are relatively high when compared with the levels reported in recent DHS surveys in several neighboring countries; for example, infant mortality for the five-year period prior to the survey was 13 and 14 per 1,000 live births in the 2010 Armenia DHS and 2007 Ukraine DHS, respectively, considerably lower than the rate reported in the TjDHS (NSS [Armenia] et al., 2012; UCSR [Ukraine] et al., 2008). On the other hand, children's survival probabilities in Tajikistan are better than those reported in the 2010 Afghanistan Maternal Mortality Survey (55 per 1,000 births), the 2006 Azerbaijan DHS (43 per 1,000 births), and the 2006-07 Pakistan DHS (78 per 1,000 live births) (SSC [Azerbaijan] and Macro International Inc., 2008; APHI/MoPH [Afghanistan] et al., 2011; NIPS [Pakistan] and Macro International Inc., 2008).

G. Maternal Care

Proper care during pregnancy and childbirth is important for the health of both the mother and her child. The 2012 TjDHS included questions on maternal health care for births that occurred during the five years preceding the survey.

² Some caution must be used when comparing the mortality results from the 2005 Tajikistan MICS survey to the 2012 TjDHS results since the techniques used to derive the mortality estimates differ in the two surveys.

Antenatal care

Antenatal care from a trained provider is important to monitor the pregnancy and reduce risks for the mother and infant during pregnancy and at delivery. In Tajikistan, skilled providers trained to assist during delivery include doctors, nurses, midwives, and feldshers³.

Table 8 shows that 79 percent of mothers reported seeing a health professional at least once for antenatal care for the most recent birth in the five-year period before the survey. The difference in antenatal care coverage between urban and rural women is not large, but there are substantial variations by mother's age at birth, region, and level of education. Coverage is markedly higher among younger women, mothers from the Sughd region, and mothers with professional primary/middle and higher education than among mothers in other groups. Women age 35 and older, the least educated mothers, as well as mothers in the Khatlon region are considerably less likely than other women to receive professional antenatal care.

Table 8 Maternal care indicators

Among women age 15-49 who had a live birth in the five years preceding the survey, percentage who received antenatal care from a skilled provider for the last live birth, and among all live births in the five years before the survey, percentage delivered by a skilled provider and percentage delivered in a health facility, by background characteristics, Tajikistan 2012

Background characteristic	Percentage with antenatal care from a skilled provider ¹	Number of women	Percentage delivered by a skilled provider ¹	Percentage delivered in a health facility	Number of births
Mother's age at birth					
<20	86.0	258	91.2	80.1	480
20-34	80.0	2,945	88.0	77.7	4,321
35+	65.3	398	76.3	61.1	433
Residence					
Urban	82.7	802	93.4	87.4	1,119
Rural	77.7	2,799	85.7	73.6	4,114
Region					
GBAO	85.1	67	92.5	65.4	91
Sughd	94.1	1,000	95.2	93.3	1,383
Khatlon	66.8	1,351	84.6	67.4	2,029
Dushanbe	80.8	295	95.6	88.4	414
DRS	78.7	887	80.4	70.0	1,316
Mother's education					
No education/Primary	69.4	272	78.5	69.1	452
General basic	78.0	1,400	84.7	73.3	2,063
General secondary	78.4	1,530	89.2	77.3	2,161
Professional primary/middle	87.4	210	97.4	89.1	302
Higher	92.0	189	97.1	93.9	255
Total	78.8	3,601	87.4	76.5	5,233

¹ Skilled provider includes doctor, nurse, midwife, or feldsher

Note: A feldsher is a physician assistant trained in nursing and midwifery with extended training in diagnosis and pharmacology. Feldshers are authorized to provide basic treatment and to prescribe a restricted number of drugs in a feldsher-accoucher post (FAP) with no assigned doctor.

Coverage of antenatal care by a trained provider in the 2012 Tajikistan DHS (79 percent) is similar to that in the 2006 Azerbaijan DHS (77 percent), but substantially lower than in the 2010 Armenia DHS and 2007 Ukraine DHS (99 percent each) (SSC[Azerbaijan] and Macro International 2008; NSS [Armenia] et al., 2012; UCSR[Ukraine] and Macro International 2008).

Delivery care

Proper medical attention and hygienic conditions during delivery can reduce the risk of complications and infections that can cause the death or serious illness of the mother, infant, or both. Table 8 shows that the majority of births (87 percent) in Tajikistan are delivered by a health professional, and 77 percent of deliveries take place in a health facility.

³ A feldsher is a health professional trained in nursing and midwifery with extended training in clinical diagnosis and pharmacology. Feldshers are authorized to provide basic treatment and to prescribe a restricted number of drugs at feldsher-accoucher posts (FAPs) with no assigned doctor.

There are considerable variations in delivery care by mother's age at birth and residence. Younger women and women living in urban areas are more likely to deliver in a health facility and with the help of a health professional compared with older women and their rural counterparts. For example, 80 percent of births by women age 20 or younger are delivered in a health facility compared with 61 percent of births by women age 35 or older. Similarly, 87 percent of births in urban areas are delivered in a health facility compared with 74 percent of births in rural areas. About nine in ten births in the Sughd region and Dushanbe take place in a health facility compared with six in ten births in the GBAO and Khatlon regions. Although approximately two-thirds of births in the GBAO are delivered in a health facility (65 percent), nearly all births are delivered by a skilled provider (93 percent). The proportion of births delivered with the assistance of a health professional ranges from 80 percent in the DRS region to 96 percent in Dushanbe.

A mother's level of education is directly related to the likelihood that a birth is delivered with the assistance of a health professional and that the delivery takes place in a health facility. Eight in ten births to women with a general basic education or less are delivered by a health professional compared with almost all births to women with higher education. Around seven in ten births to mothers with a general basic education or less take place in a health facility compared with nine in ten births to women with higher education.

The proportion of women who were assisted by a health professional at delivery in Tajikistan (87 percent) and the proportion who gave birth in a health facility (77 percent) are similar to those found in the 2006 Azerbaijan DHS (89 percent and 78 percent, respectively). Estimates from the 2010 Armenia DHS show that coverage of delivery care by a health professional (100 percent) and delivery in a health facility (99 percent) are substantially higher in Armenia than in Tajikistan.

The 2005 Tajikistan MICS survey collected information on maternal care for the last birth in the two years before the survey. Thus, in order to obtain estimates comparable to the MICS, the 2012 TjDHS maternal care indicators have been re-calculated based on information for the last birth in the two years before the survey. Results show that the antenatal care coverage among women age 15-49 who had a live birth in the two years preceding the survey is nearly the same in the 2012 TjDHS (80 percent) as that reported in the 2005 MICS (79 percent) (SCS, 2007). Comparing the delivery care indicators, there was a relatively modest increase in coverage of delivery care by a health professional, from 83 percent in the 2005 MICS to 89 percent in the 2012 TjDHS. The increase in the proportion of births delivered in a health facility was much larger, from 62 percent in the 2005 MICS to 78 percent in the 2012 TjDHS.

H. Child Health

Vaccinations

Tajikistan's Ministry of Health has adopted the World Health Organization (WHO) guidelines for childhood immunizations that call for all children to receive the following: a BCG vaccination against tuberculosis; three doses of DPT to prevent diphtheria, pertussis, and tetanus; three doses of polio vaccine; and a measles vaccine during the first year of life. In addition to these standard vaccinations, since 2001, the Ministry of Health has recommended that children receive three doses of the hepatitis B vaccine, with the first dose given at birth or at first clinical contact (MOH, 2001; Khodjamuradov and Rechel, 2010). The pentavalent vaccine, introduced in 2008, has replaced the DPT and hepatitis B vaccines, except for the first dose of the hepatitis B vaccine given at birth (MOH, 2008). The pentavalent vaccine contains, in addition to DPT, the hepatitis B vaccine and a vaccine against *Haemophilus influenzae* type B and is supposed to be given according to the same schedule as DPT. Since 2009, an MR vaccination at 12 months has been given to protect against measles and rubella (MOH, 2009).

Information on vaccination coverage was collected in the 2012 TjDHS for all children under age 5. In Tajikistan, child health cards (MOH form 112) and vaccination forms (MOH form 63) are maintained in the local health care facilities. On rare occasions, child health cards are kept by the guardian at home. In this survey, data were collected from both sources when available during the survey visit. In the event that the mother did not have a child health card, she was asked to recall her child's immunizations. After all the interviews in a cluster were completed, the TjDHS team supervisor went to the local health facility to

record information from the health cards of the children in the sample. Health facility cards were found for 89 percent of children age 18-29 months, while 13 percent had immunization records that were seen at home (data not shown). Overall, immunization records were found for 91 percent of children age 18-29 months. Thus, while most of the data in Table 9 are based on health cards, in the case of children for whom a health card was not located or was missing information on specific vaccines, the data are based on the mother's recall.

Table 9 shows rates of vaccination coverage for children 18-29 months of age, i.e., the age by which children should be fully vaccinated. Almost all children (at least 97 percent) in the sample had received vaccinations for BCG and the first doses of polio and DPT. Ninety-three percent received a vaccination for hepatitis at birth. The proportions of children receiving the second and third doses of polio and DPT are slightly lower, as is the proportion receiving MR. For example, 97 percent of children received the first dose of DPT, compared with 92 percent who received the third dose. Thus, the dropout rate⁴ between the first and third doses of DPT is 5 percent. The corresponding dropout rate for polio is 6 percent.

Table 9 Vaccinations by background characteristics

Percentage of children age 18-29 months who received specific vaccines at any time before the survey survey (according to a vaccination card or the mother's report), and percentage with a vaccination card, by background characteristics, Tajikistan, 2012

Background characteristic	BCG	Hepatitis B at birth	DPT ¹ /PENTA			Polio ²				Measles (MR)	All basic ³ vaccinations	No vaccinations	All basic ³ plus hepatitis B at birth	Percentage with any vaccination card	Number of children
			1	2	3	0	1	2	3						
Sex															
Male	98.3	92.8	97.3	95.2	93.2	95.9	97.6	97.1	93.1	95.0	88.6	1.0	85.9	90.3	604
Female	98.2	94.1	95.5	92.8	90.2	95.3	97.2	95.8	90.8	95.5	87.4	1.2	85.5	91.7	544
Residence															
Urban	98.5	94.3	95.3	93.2	91.1	97.2	95.9	93.6	90.6	93.7	86.8	1.1	85.2	88.9	230
Rural	98.2	93.2	96.8	94.3	91.9	95.2	97.8	97.2	92.4	95.6	88.3	1.1	85.8	91.5	918
Region															
GBO	98.8	89.3	95.3	88.0	84.4	90.7	97.6	96.4	92.9	96.4	81.9	0.0	76.0	89.3	17
Sughd	100.0	97.9	97.5	95.5	94.4	97.4	98.9	98.9	95.4	96.9	92.5	0.0	91.5	98.1	288
Khatlon	98.2	94.6	97.4	95.8	93.6	96.8	97.1	97.1	94.8	94.5	90.7	1.5	89.8	92.6	459
Dushanbe	97.6	91.1	90.8	89.2	85.2	95.9	94.9	90.7	86.7	93.3	82.2	1.4	80.1	83.6	90
DRS	97.0	88.1	96.0	91.8	88.6	92.2	97.2	94.9	86.0	95.3	81.5	1.4	75.7	83.8	292
Mother's education															
No education/primary	97.6	88.9	94.1	89.9	88.9	93.8	95.3	93.4	88.8	93.0	85.1	1.6	81.9	85.1	99
General basic	97.5	91.2	95.4	93.7	90.1	94.2	96.5	96.0	90.8	94.3	85.4	1.7	82.4	90.4	433
General secondary	98.8	95.7	98.5	96.6	95.2	97.7	99.3	98.7	95.3	96.4	92.5	0.6	90.6	93.7	494
Professional primary/middle	99.7	97.5	98.2	92.4	92.4	92.4	93.1	91.7	86.8	96.9	85.9	0.0	85.9	91.3	67
Higher	98.5	94.1	89.5	83.5	78.2	95.1	96.5	92.7	84.6	93.8	75.7	1.5	74.8	81.3	55
Total	98.3	93.4	96.5	94.1	91.8	95.6	97.4	96.5	92.0	95.2	88.0	1.1	85.7	91.0	1,148

¹ DPT is given as part of the pentavalent vaccine (PENTA) that contains DPT, Hepatitis B, and *Haemophilus influenzae* type B (Hib) vaccines.

² Polio 0 is the polio vaccination given at birth.

³ Includes all basic WHO-recommended vaccinations, i.e., BCG, measles, and three doses each of DPT/PENTA and polio vaccines, excluding polio vaccine given at birth

Overall, the data show that 88 percent of the children age 18-29 months had received all basic WHO-recommended vaccinations by the date of the interview. A slightly lower proportion of children (86 percent) received the entire course of MOH-recommended vaccinations, which includes hepatitis B at birth. Differences by sex and urban-rural residence are very small, but there are marked variations by region and maternal education. Children living in the Sughd and Khatlon regions are more likely than children in other regions to be fully immunized (93 percent and 91 percent, respectively). Children born to mothers with general secondary education are more likely to be fully immunized (93 percent) than children of mothers with other levels of education.

The results of the 2012 TjDHS indicate that vaccination coverage has increased substantially for all basic WHO-recommended vaccinations over the past seven years among children age 18-29 months; 77 percent were fully immunized by the date of the interview in the 2005 Tajikistan MICS, and 88 percent were fully immunized in the 2012 TjDHS. Improvements are most likely because of an increase in the proportions of children receiving the second and third doses of polio and DPT. Vaccination coverage for

measles has increased slightly, from 92 percent in 2005 to 95 percent in 2012. It should be noted, that in the 2012 TJDHS, immunization records from a health card kept at home or in a health facility were found for 91 percent of children age 18-29 months compared with 83 percent of children with health cards found at home or at health facilities in the 2005 MICS (SCS, 2007).

Treatment of childhood diseases

Acute respiratory illness, fever, and dehydration from severe diarrhea are major causes of childhood morbidity and mortality. Prompt treatment for children experiencing the symptoms of these illnesses is, therefore, crucial in increasing child well-being and reducing child deaths. To obtain information on how childhood illnesses are treated, mothers were asked (for each child under age 5) whether in the two weeks before the survey the child had experienced cough with short, rapid breathing (symptoms of an acute respiratory infection), fever, or diarrhea. Among all children under age 5, less than 1 percent had a cough with short, rapid breathing, 9 percent were reported to have fever, and 15 percent had diarrhea within the two-week period preceding the survey (data not shown).

Table 10 Treatment for acute respiratory infection, fever, and diarrhea

Among children under age 5 who had symptoms of acute respiratory infection (ARI) or had fever in the two weeks preceding the survey, percentage for whom advice or treatment was sought from a health facility or provider, and among children under age 5 who had diarrhea during the two weeks preceding the survey, percentage for whom advice or treatment was sought from a health facility or provider, percentage given a fluid made from oral rehydration salt (ORS) packets, and percentage given oral rehydration therapy (ORT), by background characteristics, Tajikistan 2012

Background characteristic	Children with symptoms of ARI ¹		Children with fever		Children with diarrhea			
	Percentage for whom advice or treatment was sought from a health facility/provider ²	Number with ARI	Percentage for whom advice or treatment was sought from a health facility/provider ²	Number with fever	Percentage for whom advice or treatment was sought from a health facility/provider ²	Percentage given fluid from ORS packet	Percentage given any ORT ³	Number with diarrhea
Age in months								
<6	*	4	(73.8)	31	(67.1)	(43.5)	(54.9)	46
6-11	*	4	56.5	93	59.8	68.8	81.0	137
12-23	*	16	59.1	159	64.2	65.0	74.9	260
24-35	*	5	52.9	108	40.5	60.6	73.7	175
36-47	*	7	(54.0)	46	45.9	52.1	67.0	83
48-59	*	9	(48.3)	28	32.0	42.4	48.2	56
Sex								
Male	(67.6)	19	57.3	266	53.6	62.1	73.2	424
Female	(59.1)	26	56.5	199	53.9	57.9	69.7	334
Residence								
Urban	*	13	61.3	118	50.2	57.8	67.9	194
Rural	(59.7)	33	55.5	347	54.9	61.2	72.9	563
Region								
GBAO	*	3	44.2	10	40.8	78.1	79.5	15
Sughd	*	5	(76.7)	54	66.0	61.4	79.2	101
Khalton	*	24	54.8	295	52.0	57.9	68.2	453
Dushanbe	*	4	57.8	46	46.5	56.9	63.7	70
DRS	*	10	51.2	60	55.8	68.4	82.2	119
Mother's education								
No education/primary	*	1	(52.7)	53	57.9	58.3	77.0	81
General basic	*	23	56.2	186	54.0	60.2	70.1	321
General secondary	*	14	58.6	181	52.4	59.4	71.7	279
Professional primary/middle	*	3	(68.1)	21	52.0	61.4	66.8	42
Higher	*	4	(50.2)	24	53.4	71.2	78.9	35
Total	62.7	45	57.0	465	53.7	60.3	71.6	757

Note: An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed. Figures in parentheses are based on 25-49 unweighted cases.

¹ Symptoms of ARI (cough accompanied by short, rapid breathing and/or by difficult breathing, which was chest-related) are considered a proxy for pneumonia

² Excludes pharmacy, shop, and traditional practitioner

³ ORT includes fluid prepared from oral rehydration salt (ORS) and recommended home fluids (RHF)

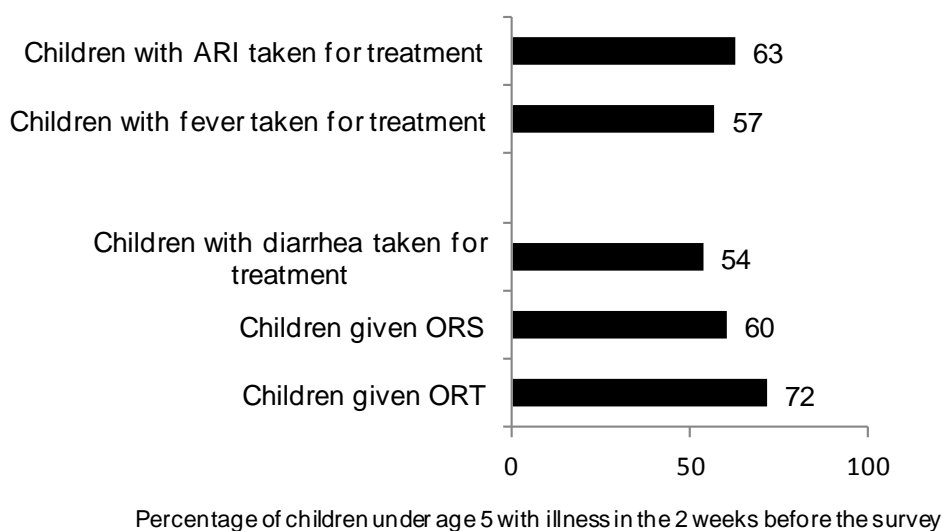
Table 10 and Figure 2 show the proportions of children with these illnesses for whom treatment or advice was sought from a health care provider. Advice or treatment from a health provider was sought in

⁴ Dropout rate = (Dose 1 – Dose 3) * 100 / Dose 1

the case of 63 percent of the small number of children with ARI symptoms and 57 percent of the children with fever.

Treatment or advice was sought from a health provider for 54 percent of children ill with diarrhoea. Six in ten of the children who had diarrhoea were given fluids prepared from an ORS packet. Overall, around seven in ten children with diarrhoea (72 percent) were treated with oral rehydration therapy (ORT), whether it involved a solution prepared from ORS packets or a home-prepared solution (Figure 2).

Figure 2 Treatment for acute respiratory infection, fever, and diarrhea



TjDHS 2012

I. Child Nutrition

Infant feeding practices

Breast milk is the optimal source of nutrients for infants. Children who are exclusively breastfed receive only breast milk. Exclusive breastfeeding is recommended during the first 6 months of a child's life because it limits exposure to disease agents as well as provides all of the nutrients that are required for a baby. As an infant grows, breast milk alone no longer provides sufficient nourishment, and other liquids and foods need to be added to a child's diet.

Table 11 describes the infant feeding practices of Tajik mothers. Among children under age 6 months, most are breastfed (94 percent). However, just one-third (34 percent) are exclusively breastfed, as recommended. In addition to breast milk, 39 percent are given plain water, 14 percent are given non-breast milk, 2 percent are given non-milk liquids, and 5 percent are given solid or mushy food. Although the majority of Tajik children continue to breastfeed through 18 months, almost all receive supplements in addition to breast milk within the first few months after birth.

Comparison of the 2012 TjDHS rates of exclusive breastfeeding among children under age 6 months (34 percent) suggests an apparent increase from the 2005 MICS estimate of 25 percent (SCS, 2007). When comparing the results of the 2012 TjDHS to the MICS estimates, it should be noted that the 2012 DHS survey asked mothers about more kinds of complementary food that could have been given to the child than were asked about in the 2005 MICS.

Table 11 Breastfeeding status by age

Percent distribution of youngest children under age 2 who are living with their mother, by breastfeeding status, the percentage currently breastfeeding; and the percentage of all children under age 2 using a bottle with a nipple, according to age in months, Tajikistan 2012

Percent distribution of youngest children under 2 living with their mother, by breastfeeding status											
Age in months	Not breastfeeding	Exclusively breastfed	Breast-feeding and consuming plain water only	Breast-feeding and consuming non-milk liquids ¹	Breast-feeding and consuming other milk	Breast-feeding and consuming complementary foods	Total	Percentage currently breastfeeding	Number of youngest children under two years	Percentage using a bottle with a nipple	Number of all children under age 2
0-1	4.6	63.6	21.7	0.0	8.4	1.8	100.0	95.4	106	7.3	106
2-3	6.3	29.1	46.0	2.3	13.8	2.4	100.0	93.7	175	29.0	176
4-5	5.7	20.6	43.2	3.8	18.0	8.7	100.0	94.3	160	40.3	160
6-8	11.5	5.9	20.3	7.3	14.0	41.0	100.0	88.5	295	43.7	301
9-11	15.5	2.4	5.3	6.8	4.5	65.5	100.0	84.5	288	42.5	290
12-17	25.2	0.9	2.0	3.3	1.6	66.9	100.0	74.8	518	36.1	539
18-23	47.3	0.5	0.3	0.8	0.8	50.3	100.0	52.7	451	24.5	533
0-3	5.7	42.1	36.9	1.4	11.8	2.2	100.0	94.3	280	20.9	282
0-5	5.7	34.3	39.1	2.3	14.0	4.6	100.0	94.3	440	27.9	442
6-9	12.1	5.2	16.3	7.9	12.4	46.0	100.0	87.9	386	45.2	392
12-15	23.3	1.3	2.9	2.2	1.7	68.7	100.0	76.7	367	39.1	378
12-23	35.5	0.7	1.2	2.1	1.3	59.2	100.0	64.5	968	30.3	1,072
20-23	50.5	0.8	0.4	0.7	0.3	47.2	100.0	49.5	296	20.6	356

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

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

Nutritional status of children

Anthropometry provides one of the most important indicators of children's nutritional status. Height and weight measurements were collected for children under age 5 in the TjDHS households.⁵ The data on height and weight are used to compute three summary indices of nutritional status: height-for-age, weight-for-height, and weight-for-age. These three indices are useful in assessing the extent to which inadequate nutrition may increase children's susceptibility to disease and death.

The nutritional indices are expressed in terms of the percentages of children that fall within specified standard deviation units from the median for the international reference population recommended in 2006 by the World Health Organization (WHO, 2006). Children who fall more than two standard deviations below the reference median are regarded as undernourished, while those who fall more than three standard deviations below the reference median are considered severely undernourished.

In the survey, children under age 5 in the household were eligible for height and weight measurements. Of the 5,422 children eligible for measurement (i.e., children age 0-59 months at the time of the survey), 94 percent were measured and had valid measurements recorded (i.e., not implausibly high or low). Measurements were missing for 1 percent of the children, because the child was not present, the parents refused, or the child was ill. Another 5 percent of the children were considered to have implausibly high or low height or weight measures. Table 12 shows the nutritional status for all children with valid measurements by selected demographic and background characteristics.

Children whose height-for-age is below minus two standard deviations from the median of the reference population are considered stunted or short for their age. Stunting is the outcome of failure to receive adequate nutrition over an extended period and is also affected by recurrent or chronic illness. Overall, 26 percent of children under age 5 are stunted; nearly half of them are severely stunted (10 percent of all children). Stunting is 15 percent among the youngest age group and rises rapidly to 23 percent at age

⁵ Height was measured standing up for children age 2 and older and lying down for children under age 2 using Shorr Boards. Weight was measured using electronic Seca scales.

6-8 months when complementary foods are generally introduced, peaking at 32-34 percent among children age 18-23 and 24-35 months and then declining to 23 percent among those age 4 and older (48-59 months). In general, rural children and children born to mothers with less education are more likely to be stunted.

Children whose weight-for-height is below minus two standard deviations from the median of the reference population are considered wasted (or thin). Wasting represents the failure to receive adequate nutrition in the period immediately before the survey, and often is a result of recent illness, especially diarrhea, or of a rapid deterioration in food supplies. In Tajikistan, 10 percent of children were wasted at the time of the survey and 4 percent were severely wasted. In general, wasting is more prevalent among children under age 18 months and children born to mothers with little education. The prevalence of wasting among children less than age 6 months (23 percent) and children age 6-8 months (18 percent) is twice as high as the national average estimate of 10 percent.

Table 12 Nutritional status of children

Percentage of children under age 5 classified as malnourished according to three anthropometric indices of nutritional status: height-for-age, weight-for-height, and weight-for-age, by background characteristics, Tajikistan 2012

Background characteristic	Height-for-age ¹			Weight-for-height				Weight-for-age				Number of children
	Percent-age below -3 SD	Percent-age below -2 SD ²	Mean Z-score (SD)	Percent-age below -3 SD	Percent-age below -2 SD ²	Percent-age above +2 SD	Mean Z-score (SD)	Percent-age below -3 SD	Percent-age below -2 SD ²	Percent-age above +2 SD	Mean Z-Score (SD)	
Age in months												
<6	5.3	15.2	0.0	10.8	23.0	5.4	-0.8	4.7	13.9	2.9	-0.6	427
6-8	13.1	22.6	-0.5	9.7	17.8	8.3	-0.5	6.2	15.0	2.1	-0.8	302
9-11	7.5	19.9	-0.7	4.9	14.2	6.7	-0.4	2.8	9.7	1.5	-0.8	288
12-17	8.1	19.8	-1.0	3.9	14.9	5.2	-0.5	4.3	14.4	0.6	-0.8	529
18-23	12.6	32.4	-1.4	1.8	7.6	5.2	-0.1	3.9	14.0	1.1	-0.8	545
24-35	11.6	33.8	-1.5	3.0	7.5	5.6	-0.0	4.4	12.5	0.7	-0.8	1,142
36-47	9.9	27.9	-1.3	1.4	4.7	7.0	0.1	2.0	10.4	0.5	-0.7	964
48-59	7.8	22.8	-1.3	3.2	6.7	5.0	-0.2	2.8	10.1	0.3	-0.9	882
Sex												
Male	9.8	25.5	-1.1	4.1	9.9	6.1	-0.2	3.3	12.3	1.0	-0.8	2,575
Female	9.6	26.8	-1.1	3.7	10.0	5.6	-0.2	4.0	11.9	0.9	-0.8	2,505
Residence												
Urban	7.8	21.4	-0.9	3.8	9.9	5.5	-0.3	2.7	10.7	1.3	-0.7	1,092
Rural	10.2	27.4	-1.2	3.9	9.9	6.0	-0.2	3.9	12.5	0.8	-0.8	3,988
Region												
GBAO	9.1	24.3	-1.0	2.2	8.1	1.1	-0.4	2.5	13.0	0.2	-0.8	93
Sughd	11.7	27.2	-1.2	3.9	8.4	11.8	0.1	3.3	10.4	1.1	-0.6	1,365
Khatlon	9.6	26.9	-1.2	4.1	11.1	3.0	-0.4	4.2	13.5	0.5	-0.9	1,934
Dushanbe	7.4	18.9	-0.7	3.8	10.3	5.4	-0.3	3.1	9.3	1.4	-0.6	392
DRS	8.5	26.3	-1.1	3.7	9.8	4.3	-0.3	3.5	12.7	1.3	-0.8	1,296
FTF³ pilot districts	8.1	24.6	-1.1	5.0	11.2	3.3	-0.4	5.0	13.1	0.6	-0.9	782
Mother's education⁴												
No education/ primary	11.1	27.6	-1.3	5.3	13.5	3.6	-0.5	7.0	19.0	0.2	-1.1	416
General basic	9.9	27.2	-1.2	4.6	10.1	4.6	-0.3	3.9	12.5	0.6	-0.8	1,981
General secondary	9.5	26.4	-1.2	3.1	9.4	7.1	-0.1	2.8	10.9	1.3	-0.7	2,080
Professional primary/middle	6.8	21.3	-0.9	2.6	7.6	5.9	-0.2	3.0	10.3	0.5	-0.7	296
Higher	8.0	17.2	-0.7	4.4	9.3	10.4	-0.1	3.0	7.9	1.9	-0.5	245
Mother's interview status												
Mother interviewed	9.6	26.1	-1.1	4.0	10.0	5.8	-0.2	3.6	12.1	1.0	-0.8	4,957
Mother not interviewed, but in household	5.5	25.9	-1.3	0.0	2.6	13.8	0.1	2.6	5.9	0.0	-0.7	62
Mother not interviewed, not in household ⁵	23.6	33.9	-1.3	0.0	13.7	3.4	-0.4	7.5	20.2	0.0	-1.1	61
Total	9.7	26.2	-1.1	3.9	9.9	5.9	-0.2	3.7	12.1	0.9	-0.8	5,080

Note: Table is based on children who spent the night before the interview in the household. Each of the indices is expressed in standard deviation units (SD) from the median of the WHO Child Growth Standards adopted in 2006. The indices in this table are NOT comparable to those based on the previously used 1977 NCHS/CDC/WHO Reference. Table is based on children with valid dates of birth (month and year) and valid measurement of both height and weight.

¹ Recumbent length is measured for children under age 2 and less than 85 cm; standing height is measured for all other children.

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

³ Data based on the information collected in the households selected in 35 clusters from the 12 pilot districts under the Feed the Future Initiative in the Khatlon region

⁴ For women who are not interviewed, information is taken from the Household Questionnaire. Excludes children whose mothers are not listed in the Household Questionnaire.

⁵ Includes children whose mothers are deceased

Children whose weight-for-height is above two standard deviations from the median of the reference population are considered overweight (or obese). In Tajikistan, only 6 percent of children were overweight at the time of the survey. Looking at regional patterns, the prevalence of overweight children is 12 percent in the Sughd region compared with 5 percent or less in the other regions. Children born to mothers with higher education are twice as likely as children born to mothers with general basic education to be overweight (10 percent and 5 percent, respectively).

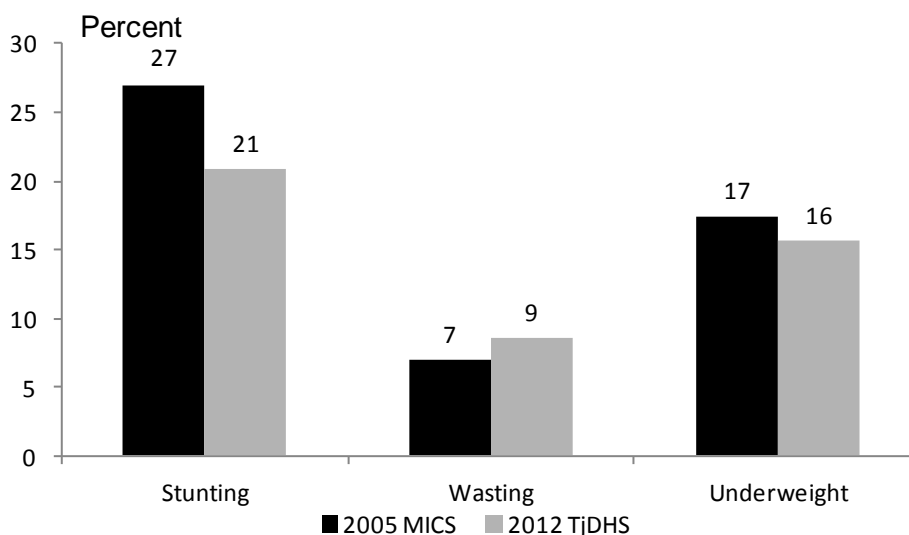
Children whose weight-for-age is below minus two standard deviations from the median of the reference population are considered underweight. This measure reflects the effects of both acute and chronic undernutrition. Overall, 12 percent of children are underweight. Children born to mothers with the least education are much more likely to be nutritionally disadvantaged than children born to mothers with higher levels of education. Children under age 5 in the Khatlon, GBAO, and DRS regions are more likely to be underweight than children from other regions.

The 2005 MICS survey also collected height and weight measurements to assess children’s nutrition status. However, at that time, the National Center for Health Statistics (NCHS) reference standards were used to derive the stunting, wasting, and underweight levels. Thus, in order to present the trends in nutrition status in Figure 3, the 2012 TjDHS nutrition indicators have been re-calculated using the older NCHS reference population.

Figure 3 shows that the proportion of children under age 5 who are stunted decreased from 27 percent in 2005 to 21 percent in 2012. The proportion of underweight children under age 5 decreased just barely, from 17 percent in 2005 to 16 percent in 2012. The proportion of children who are wasted rose from 7 percent in 2005 to 9 percent in 2012 (SCS, 2007).

Thus, except for some improvements in the prevalence of stunting, the MICS-TjDHS comparisons suggest the nutritional status of children under age 5 has changed little during the past seven years between the surveys.

Figure 3 Trends in nutritional status of children under age 5



Note: Data are based on children who spent the night before the interview in the household, had valid dates of birth (month and year), and had valid height and weight measurements, according to the NCHS/CDC/WHO International Reference Population.

J. HIV/AIDS

Knowledge of HIV/AIDS

The 2012 TjDHS included a series of questions that addressed women's awareness of the human immunodeficiency virus (HIV) and acquired immune deficiency syndrome (AIDS). Respondents who had heard of HIV/AIDS were asked about ways to avoid the disease. Tables 13 and 14 present the answers to these questions.

Table 13 shows that, overall, more than six in ten respondents say that they have heard of AIDS. Awareness of AIDS is considerably lower among the youngest women, women from rural areas, and least educated respondents. Women living in the DRS and Khatlon regions and in Dushanbe are substantially less aware of AIDS than women from the GBAO and Sughd regions. Awareness of AIDS falls below 50 percent among women in the DRS region, women age 15-19, and women with primary or no education.

Women's knowledge of HIV has markedly improved during the last seven years, from 42 percent in the 2005 MICS (SCS, 2007) to 62 percent in the 2012 TjDHS; nevertheless, it remains a concern that nearly four in ten women in Tajikistan are not yet aware of HIV/AIDS.

Table 13 Knowledge of AIDS

Percentage of women age 15-49 who have heard of AIDS, by background characteristics, Tajikistan 2012

Background characteristic	Percentage of women who have heard of AIDS	Number of women
Age		
15-24	51.2	3,963
15-19	43.3	2,013
20-24	59.3	1,950
25-29	64.3	1,609
30-39	70.9	2,217
40-49	70.2	1,866
Marital status		
Never married	47.9	2,648
Married or living together	66.6	6,504
Divorced/separated/widowed	67.9	504
Residence		
Urban	72.1	2,413
Rural	58.0	7,243
Region		
GBAO	77.1	220
Sughd	77.6	2,872
Khatlon	56.5	3,444
Dushanbe	64.4	881
DRS	46.1	2,240
Education		
No education/primary	34.9	567
General basic	49.5	3,349
General secondary	65.3	4,474
Professional primary/middle	91.3	645
Higher	92.8	620
Total	61.6	9,656

Table 14 shows the percentages of women who in response to prompted questions demonstrated knowledge of several specific ways to avoid AIDS. Overall, the way of avoiding AIDS recognized most often by women is by limiting sex to one partner who has not been infected with AIDS (43 percent). The use of condoms is recognized as a mode of preventing AIDS by 36 percent of women. Approximately one in three women (33 percent) are aware that using condoms and limiting sex to one uninfected partner reduces the risk of contracting AIDS.

Younger and never-married respondents are less likely than older respondents and ever-married respondents to know ways to avoid getting the HIV virus. Urban women are more likely to be aware of safe sexual practices than rural women. Looking at regional patterns, knowledge about safe sex practices is generally lowest in the DRS region and highest in the GBAO region.

Table 14. Knowledge of HIV prevention methods

Percentage of women age 15-49 who, in response to prompted questions, say that people can reduce the risk of getting the AIDS virus, by using condoms every time they have sexual intercourse and by having one sex partner who is not infected and has no other partners, by background characteristics, Tajikistan 2012

Background characteristic	Percentage of women who say HIV can be prevented by:			Number of women
	Using condoms ¹	Limiting sexual intercourse to one uninfected partner ²	Using condoms and limiting sexual intercourse to one uninfected partner ^{1,2}	
Age				
15-24	28.3	33.4	25.1	3,963
15-19	21.3	25.2	18.6	2,013
20-24	35.5	41.8	31.8	1,950
25-29	40.2	46.1	36.5	1,609
30-39	44.2	50.8	40.0	2,217
40-49	41.1	51.6	37.6	1,866
Marital status				
Never married	24.1	29.6	21.6	2,648
Married or living together	41.1	47.9	37.2	6,504
Divorced/separated/widowed	40.1	50.7	36.4	504
Residence				
Urban	42.1	49.7	37.1	2,413
Rural	34.5	40.8	31.4	7,243
Region				
GBAO	47.3	67.7	44.1	220
Sughd	44.9	51.5	39.4	2,872
Khatlon	34.1	40.8	30.8	3,444
Dushanbe	37.3	43.1	33.4	881
DRS	27.7	33.0	26.3	2,240
Education				
No education/primary	18.5	22.8	17.1	567
General basic	26.7	31.4	23.4	3,349
General secondary	38.1	45.4	34.6	4,474
Professional primary/middle	60.2	69.7	55.0	645
Higher	68.2	78.8	62.9	620
Total	36.4	43.0	32.9	9,656

¹ Using condoms every time they have sexual intercourse

² Partner who has no other partners

There is a strong positive relationship between the respondent's educational background and her knowledge of ways to prevent getting HIV. For example, 23 percent of women with general basic education say that the risk of getting the HIV virus can be reduced by using condoms *and* limiting sex to one uninfected partner, compared with 63 percent of women with higher education.

Overall, women's knowledge of HIV prevention methods at the national level has improved substantially during the last seven years when compared with the results of the 2005 MICS, when condom use and limiting the number of sexual partners or staying faithful to one partner who has no other partners was cited by 21 and 25 percent of women, respectively (SCS, 2007).

Multiple sexual partnerships and condom use

Given that the majority of HIV infections among women in Tajikistan are contracted through heterosexual contact, information on sexual behaviour is important in designing and monitoring intervention programs to control the spread of the epidemic. In the context of HIV/AIDS prevention, limiting the number of sexual partners and having protected sex are crucial to combating the epidemic.

The 2012 TjDHS included questions on respondents' sexual partners during the 12 months preceding the survey. Information on the use of condoms at the last sexual encounter was also collected. Finally, sexually active women were asked about the total number of partners they had during their lifetime. These questions are of course sensitive, and in interpreting the results in this section, it is important to remember that respondents' answers are likely subject to at least some reporting bias. Table 15 shows that almost no women reported having more than one sexual partner in the reference period. Among those who ever had sexual intercourse, the mean number of lifetime sexual partners is 1.0.

Table 15 Multiple sexual partners in the past 12 months among women

Among all women age 15-49, the percentage who had sexual intercourse with more than one sexual partner in the past 12 months, and the mean number of sexual partners during their lifetime for women who ever had sexual intercourse, by background characteristics, Tajikistan 2012

Background characteristic	All women		Among women who ever had sexual intercourse ¹ :	
	Percentage who had 2+ partners in the past 12 months	Number of women	Mean number of sexual partners in lifetime	Number of women
Age				
15-24	0.0	3,963	1.0	1,643
15-19	0.0	2,013	1.0	268
20-24	0.0	1,950	1.0	1,375
25-29	0.0	1,609	1.0	1,402
30-39	0.2	2,217	1.1	2,106
40-49	0.0	1,866	1.1	1,846
Marital status				
Never married	0.0	2,648	*	0
Married/living together	0.0	6,504	1.0	6,493
Divorced/separated/widowed	0.5	504	1.1	504
Residence				
Urban	0.1	2,413	1.1	1,755
Rural	0.0	7,243	1.0	5,241
Region				
GBAO	0.0	220	1.0	138
Sughd	0.0	2,872	1.1	2,145
Khalton	0.1	3,444	1.0	2,409
Dushanbe	0.1	881	1.1	633
DRS	0.0	2,240	1.0	1,672
Education				
No education/primary	0.0	567	1.0	391
General basic	0.0	3,349	1.0	2,150
General secondary	0.1	4,474	1.0	3,499
Professional primary/middle	0.0	645	1.0	518
Higher	0.2	620	1.1	440
Total	0.0	9,656	1.0	6,997

Note: An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

¹ Means are calculated excluding respondents who gave non-numeric responses.

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