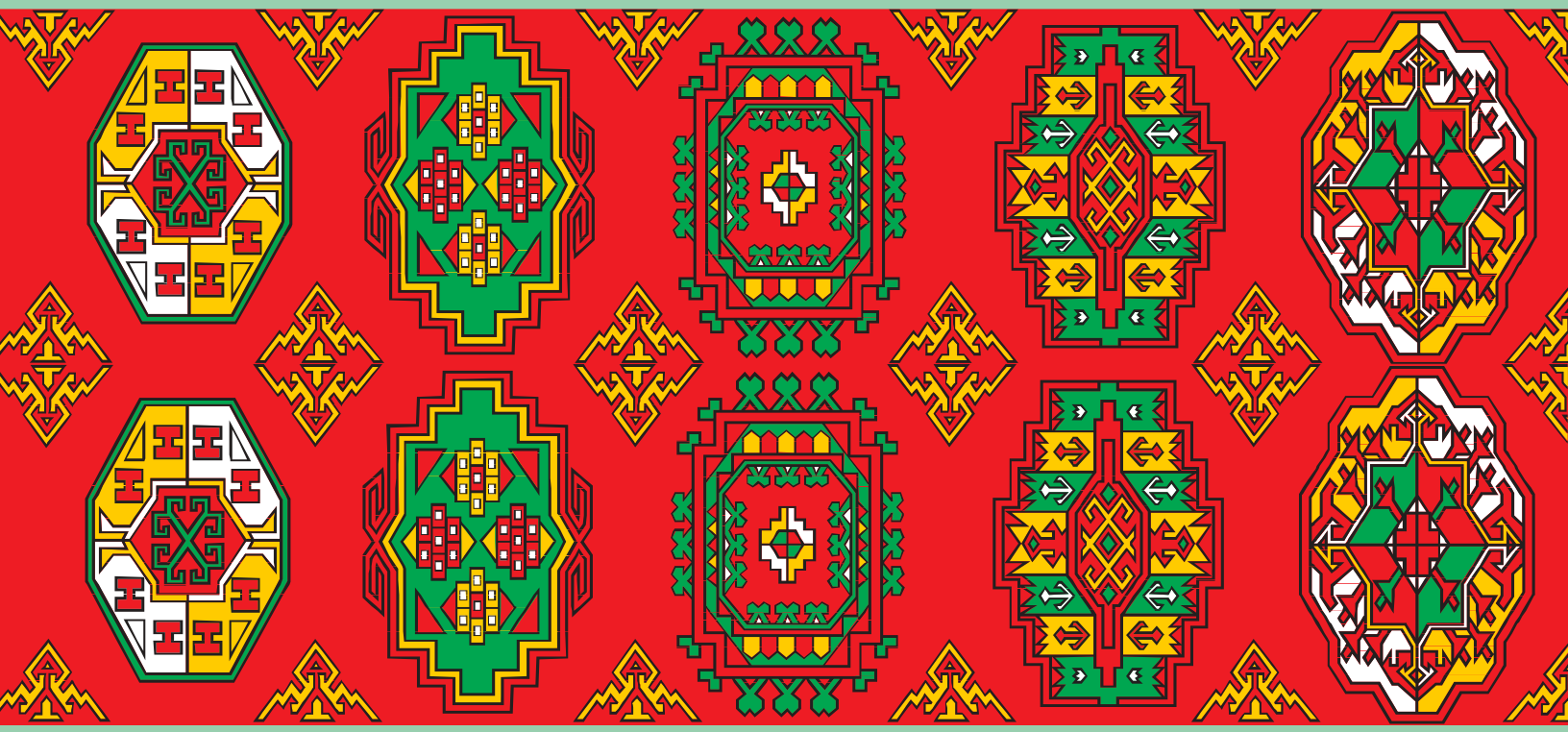
Turkmenistan



Demographic and Health Survey

2000

World Summit for Children Indicators, Turkmenistan 2000

Childhood mortality	Infant mortality rate	74 per 1,000
	Under-five mortality rate	94 per 1,000
Childhood undernutrition	Percent stunted (children under 5 years)	22.3
	Percent wasted (children under 5 years)	5.7
	Percent underweight (children under 5 years)	12.0
Clean water supply	Percent of households within 15 minutes of safe water supply[1]	62.1
Sanitary excreta disposal	Percent of households with flush toilets, pit toilet/latrine	99.2
Basic education	Net primary school attendance rate[2]	84.9
Family planning	Contraceptive prevalence rate (any method, currently married women)	61.8
	Contraceptive prevalence rate (any method, all women)	39.2
Antenatal care	Percent of women who received antenatal care from a health professional[3]	98.1
Delivery care	Percent of births in the 5 years preceding the survey attended by a health professional	97.2
Low birth weight	Percent of births in the 5 years preceding the survey at low birth weight[4]	6.0
Iodized salt intake	Percent of households that use iodized salt[5]	75.3
Vitamin A supplements	Percent of children age 6-59 months who received a vitamin A dose in the six months preceding the survey	15.3
Exclusive breastfeeding	Percent of children under 6 months who are exclusively breastfed	15.9
Continued breastfeeding	Percent of children age 12-15 months still breastfeeding	75.1
	Percent of children age 20-23 months still breastfeeding	26.1
Timely complementary feeding	Percent of children age 6-9 months receiving breast milk and complementary foods	70.6
Vaccinations	Percent of children age 12-23 months with BCG vaccination	99.1
	Percent of children age 12-23 months with at least 3 doses of DPT vaccinations	97.9
	Percent of children age 12-23 months with at least 3 doses of polio vaccinations	97.1
	Percent of children age 12-23 months with measles vaccination	92.9
Diarrhea control	Percent of children age 0-59 months with diarrhea in the 2 weeks preceding the survey who received oral rehydration salts (ORS) or recommended home fluids (RHF)	46.7
Acute respiratory infection	Percent of children age 0-59 months with acute respiratory infection (ARI) in the 2 weeks preceding the survey who were taken to a health provider	50.9
Home management of illness	Percent of children age 0-59 months with diarrhea who were taken to a health provider	38.5
Children in especially difficult situations	Percent of children with at least one parent dead[6]	4.5
	Percent of children who do not live with either biological parent[6]	1.1
HIV/AIDS	Percent of women age 15-49 who correctly state 2 ways of avoiding HIV infection[7]	40.6
	Percent of women age 15-49 who believe that AIDS can be transmitted from mother to child during pregnancy, delivery and breastfeeding,	52.6
	Percent of women age 15-49 who know of a place to get tested for the AIDS virus	12.4
	Percent of women age 15-49 who have been tested for the AIDS virus	4.2

[1] Piped water or protected well water
[2] Based on de facto children
[3] For the last live birth in the five years preceding the survey
[4] For children without a reported birth weight, the proportion with low birth weight is assumed to be the same as the proportion with low birth weight in each birth size category among children who have a reported birth weight.
[5] 15 parts per million or more
[6] Based on de jure children
[7] Having sex with only one partner who has no other partners and using a condom every time they have sex

Turkmenistan Demographic and Health Survey 2000

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Ministry of Health and Medical Industry
Ashgabad, Turkmenistan

ORC Macro
Calverton, Maryland, USA

September 2001

Gurbansoltan Eje
Clinical Research Center for
Maternal and Child Health

MEASURE *DHS+* **ORC Macro**

The report summarizes the findings of the 2000 Turkmenistan Demographic and Health Survey (2000 TDHS), which was conducted by the Gurbansoltan Eje Clinical Research Center for Maternal and Child Health of the Ministry of Health and Medical Industry of Turkmenistan. ORC Macro provided technical assistance. Funding was provided by the U.S. Agency for International Development (USAID) and logistical support was provided by UNFPA/Turkmenistan.

The TDHS is part of the worldwide Demographic and Health Surveys (DHS) program, which is designed to collect data on fertility, family planning, and maternal and child health. Additional information on the Turkmenistan survey may be obtained from

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Recommended citation:

Gurbansoltan Eje Clinical Research Center for Maternal and Child Health (GECRCMCH), Ministry of Health and Medical Industry [Turkmenistan], and ORC Macro. 2001. *Turkmenistan Demographic and Health Survey 2000.* Calverton, Maryland, USA: GECRCMCH and ORC Macro.

CONTENTS

Page

Page

Page

TABLES AND FIGURES

Page

CHAPTER 1 INTRODUCTION, OBJECTIVES, AND SURVEY DESIGN

CHAPTER 2 HOUSING CHARACTERISTICS

CHAPTER 3 WOMEN'S CHARACTERISTICS AND STATUS

CHAPTER 4 FERTILITY

Page

CHAPTER 5 CONTRACEPTION

CHAPTER 6 INDUCED ABORTION

Page

CHAPTER 7 OTHER PROXIMATE DETERMINANTS OF FERTILITY

CHAPTER 8 FERTILITY PREFERENCES

CHAPTER 9 INFANT AND CHILD MORTALITY

Page

CHAPTER 10 MATERNAL AND CHILD HEALTH

CHAPTER 11 NUTRITION OF WOMEN AND CHILDREN

CHAPTER 12 ANEMIA

Page

CHAPTER 13 SEXUALLY TRANSMITTED INFECTIONS

APPENDIX A: SAMPLE DESIGN

APPENDIX B: ESTIMATES OF SAMPLING ERRORS

APPENDIX C: DATA QUALITY TABLES

FOREWORD

Protecting and strengthening the health of each citizen is a priority goal of the National program of the President of Turkmenistan, Saparmurat Turkmenbashi, "Strategy for Social-economic Transformation to the Year 2010." The Ministry of Health and Medical Industry directs significant efforts to improve quality and accessibility of medical services in Turkmenistan. Special attention is paid to medical services for women and children as well as preventive care and medical services in rural areas. Preventive care is a fundamental principle of the national health policy.

The 2000 Turkmenistan Demographic and Health Survey (TDHS) was the first national-level population and health survey in Turkmenistan. The purpose of the survey was to provide objective information on fertility, health, and nutrition of women and children. This information is important for understanding the factors that influence the reproductive health of women and the health and survival of infants and young children. It can be used in planning effective policies and programs regarding the health and nutrition of women and their children in Turkmenistan.

The 2000 TDHS was implemented by the Gurbansoltan Eje Clinical Research Center for Maternal and Child Health. It was sponsored by the Ministry of Health and Medical Industry. Sampling design and listing operations for the survey were carried out by the staff of the National Institute of State Statistics and Information. The 2000 TDHS survey was funded by the U. S. Agency for International Development (USAID) through the UNFPA Turkmenistan country office. Technical assistance for the program was provided by the MEASURE *DHS+* project of ORC Macro in Calverton, Maryland, USA.

I would like to express my thanks to the USAID Regional Office for Central Asia, the USAID Mission in Turkmenistan and the UNFPA Country Office in Turkmenistan for their support of the survey. I am grateful to the staff of the MEASURE *DHS+* program for their technical backstopping. Also, my sincere thanks go to the 2000 TDHS senior technical staff and to the members of all interviewing teams and the data processing team for their devotion and efforts in accomplishing the survey activities on time.

Gurbanguly M. Berdymukhamedov
Minister of Health and Medical Industry
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SUMMARY OF FINDINGS

The Turkmenistan Demographic and Health Survey (TDHS) is a nationally representative survey of 7,919 women of reproductive age (15-49). Survey fieldwork was conducted from June to September 2000.

The TDHS was sponsored by the Ministry of Health and Medical Industry (MOHMI) of the Republic of Turkmenistan. The Gurbansoltan Eje Clinical Research Center for Maternal and Child Health implemented the survey with technical assistance from the Demographic and Health Surveys Program. The National Institute of State Statistics and Information (Turkmenmelihasabat) conducted sampling activities for the survey. The U.S. Agency for International Development (USAID) provided funding for the survey. UNFPA/Turkmenistan assisted with survey coordination and logistic support.

The TDHS was designed to provide policymakers and program managers at MOHMI with detailed information on the health status of women and children.

Some of the health indicators provided by the TDHS—such as fertility and infant mortality rates—are available from other sources. However, other survey indicators are not available from other sources—for example anemia status and nutritional indices for women and children. Thus, when taken together, the TDHS and existing data provide a more complete picture of health conditions in Turkmenistan than was previously available.

RESPONDENT CHARACTERISTICS

Marital status and ethnicity. Sixty-two percent of women age 15-49 are currently married, 6 percent are widowed, divorced or separated and 32 percent have never been married. The great majority of respondents practice Islam (93 percent) and most are of Turkmen ethnicity (78 percent).

Education and media exposure. Women in Turkmenistan are well educated. Seventy-two percent have attended primary/secondary school, another 20 percent have attended secondary-special and 7 percent have a higher education. Access to the mass media is good; 94 percent of respondents reported watching television weekly.

Employment and earnings. Women participate extensively in economic activities. Approximately half of respondents (49 percent) were working and almost all working women (99 percent) reported cash earnings. Most respondents (77 percent) said that they had full or partial control over how their earnings were spent.

FERTILITY

Fertility rates. For the three years preceding the survey (mid-1997 to mid-2000), the estimated crude birth rate was 24.6 births per 1,000 population. This is higher than the MOHMI rate of 20.3 (the average of the annual rates for calendar years 1997 to 1999).

Another index of current fertility is the total fertility rate (TFR). The TFR indicates the number of children a woman would have if she passed through the childbearing ages at the current age-specific fertility rates. The survey estimate of the TFR was 2.9 children per woman. This is significantly higher than the TFR for the neighboring country of Kazakhstan (2.1 children per woman) for approximately the same period.

The TFR is lower by about one child in urban areas (2.5 children per woman) than in rural areas (3.3 children per woman). By region, fertility is lowest in Ashgabad City (2.1 children per woman) and highest in Dashoguz (3.1 children per woman).

Trends over time. Official estimates of the crude birth rate (CBR) for the 1990s indicate substantial fertility decline. For example, between 1993 and 1997 the CBR declined by

37 percent (from 33.1 per 1,000 to 21.6 per 1,000). The survey confirmed this rapid decline, indicating a decline in fertility of 25 percent over approximately the same period.

Age at first birth. Childbearing in the teenage years is associated with increased social and health problems for both the mother and her child. The TDHS found that only 2.6 percent of women age 15-19 have given birth. Moreover, almost all births to teenage women occurred at age 19. Thus, the median age at initiation of childbearing in Turkmenistan is 23 years, which is older than in Kazakhstan, Uzbekistan, or the Kyrgyz Republic.

Birth intervals. Children born soon after a previous birth, especially those born within 24 months of the previous birth, have an increased risk of illness and death. In Turkmenistan, 36 percent of second and higher order births occurred after a birth interval of less than 24 months. The percentage of births following a birth interval of less than 24 months was greater among women in rural areas (40 percent) than among women in urban areas (30 percent).

CONTRACEPTION

Knowledge. Knowledge of contraceptive methods is widespread in Turkmenistan. Among currently married women, knowledge of at least one method is universal (99 percent). Married women have knowledge of, on average, six methods of contraception. Married women of all ages, all educational levels, all ethnic groups, and all regions of the country have a high level of knowledge of contraceptive methods.

Ever use. Among currently married women, 89 percent have used contraception at some time. As expected, older women are more likely to have used contraception than younger women.

Current use. Among currently married women, 62 percent are currently using contraception. Fifty-three percent are using a modern method and 9 percent are using a traditional method. The IUD is by far the most commonly used method: two out of three current users have an IUD (39 percent of currently married women). Among the 9 percent of traditional users, withdrawal is the most popular method (5 percent of currently married women).

As expected, contraceptive prevalence rates increase with the respondent's age and the number of living children that she has. However, there is little difference in levels of current use by background characteristics. For example, current use is virtually the same for married women in both urban (62 percent) and rural areas (61 percent).

Discontinuation of use. An important issue in the provision of contraceptive services to current users is the rate of discontinuation of use and the reasons for discontinuation. Among women who began to use a method in the five years preceding the survey, 58 percent stopped using that method within 12 months. The rate of discontinuation was highest among users of the lactation amenorrhea method, the condom, and withdrawal (85, 56, and 44 percent). The most frequently reported reasons for discontinuation were switching to another method, health concerns, and desire to become pregnant.

Source of supply. Most users of modern contraceptive methods obtain their method through the public sector (96 percent). Fifty-four percent obtain their method from hospitals or public health clinics, 15 percent from women's consulting centers, and 27 percent from public pharmacies.

Fertility preferences. Among currently married women, 60 percent reported that they want no more children (53 percent) or that they are infecund or have been sterilized (7 percent). Another 32 percent want another child, and 8 percent are undecided about having another child.

Future use. Of the 38 percent of currently married women who are not using contraception, almost half (47 percent) reported that they intend to use in the future. Most women (89 percent) who intend to use in the future indicated that the IUD is their preferred method.

INDUCED ABORTION

In Turkmenistan, as in most of the former Soviet Union, induced abortion has long been used as a means of fertility control. In a manner analogous to the analysis of fertility, the total abortion rate (TAR) provides a useful measure of the incidence of induced abortion. The TAR is the number of induced abortions a woman would have in her lifetime if she passed through her childbearing ages at the current age-specific abortion rates.

Abortion rates. For the three-year period preceding the survey (mid-1977 to mid-2000), the total abortion rate for Turkmenistan was 0.9. The total abortion rate was higher in urban areas (1.0 abortions per woman) than in rural areas (0.7 abortions per woman). The highest levels of induced abortion were in Ashgabad City and the Lebap Region (1.1 and 1.2 abortions per woman, respectively).

Attitudes toward abortion. Sixty percent of respondents indicated that they disapprove of induced abortion. However, about one-quarter of respondents reported that if confronted with an unintentional pregnancy, they would have an abortion, and another one-quarter said they were undecided about whether they would have an abortion if they unintentionally became pregnant.

MATERNAL AND CHILD HEALTH

Turkmenistan has a well-developed health system with an extensive infrastructure of facilities. This system includes general hospitals, delivery hospitals, women's consulting centers, and doctor's assistant/midwife posts. There is an extensive network of the latter facilities in rural areas.

Antenatal care. Almost all respondents who gave birth in the last five years (98 percent) received antenatal care from either a doctor (81 percent) or a nurse/midwife (17 percent). In general, in Turkmenistan women seek antenatal care early and continue to receive care throughout their pregnancy. The median number of antenatal care visits is ten.

Place of delivery. Most births in Turkmenistan (95 percent) occur in public facilities, primarily hospitals (89 percent). Almost all deliveries (97 percent) are under the supervision of a doctor (82 percent) or a nurse/midwife (15 percent).

Vaccination rates. Among children 12-23 months of age (i.e., children who should be fully vaccinated), the survey found high levels of coverage for the vaccines recommended by the World Health Organization (WHO). Coverage exceeds 97 percent for BCG (protection against tuberculosis), DPT/DT (protection against diphtheria, pertussis, and tetanus), polio, and measles. Overall, 90 percent of children have received all of these WHO-recommended vaccinations.

Breastfeeding. Breastfeeding is nearly universal in Turkmenistan: 97 percent of children born in the three years preceding the survey were breastfed. Overall, 18 percent of children are breastfed within an hour of delivery, and 76 percent are breastfed within 24 hours of delivery. The median duration of breastfeeding is 18 months. However, the median duration of exclusive breastfeeding, which WHO recommends for six months, is only 0.5 months.

Among breastfed children, there is little complementary feeding in the period immediately after birth. At 2-3 months of age, only 7 percent of children receive solid foods. This figure increases to 43 percent for children 4-5 months of age and exceeds 90 percent for children 8-9 months of age.

Nutritional status of children. Two important nutritional indicators for children are the proportion stunted (short for their age) and the proportion wasted (underweight relative to their height). In a well-nourished population, it is expected that about 2.3 percent of children will be moderately or severely stunted or wasted.

Among children under age five in Turkmenistan, 22 percent are stunted and 6 percent are wasted. There are regional differ-

ences, particularly for stunting. The percentage of children stunted in Dashoguz (27 percent) is twice as high as in Ashgabad City (13 percent).

Infant Mortality Rates

Official government estimates of infant mortality are based on data collected according to protocols established during the time of the former Soviet Union. Those protocols classify a pregnancy that ends at less than 28 weeks of gestation as a miscarriage unless the infant survives for at least seven days.

In the TDHS, infant mortality data were collected based on the international definition of a live birth, i.e., a birth that shows any sign of life, irrespective of the gestational age at the time of delivery (United Nations, 1999). Because of the difference between the government data collection system and that of the TDHS in the definition of a live birth, the TDHS estimate of the infant mortality rate (IMR) would be expected to exceed the official government estimates.

IMR estimates. The government estimate of the IMR for the five-year period 1996-2000 is 32 per 1,000. The survey IMR estimate for that period is 74 per 1,000. The IMR estimate for Kazakhstan, for approximately the same period, is 62 per 1,000.

IMR differentials. It is known that closely spaced births (i.e., births within 24 months of a previous birth) put infants at relatively high risk of dying. In Turkmenistan, 36 percent of second and higher order births occur within 24 months of a previous birth. Infant mortality for those births (94 per 1,000) is almost twice as high as for births occurring after an interval of 48 or more months (49 per 1,000). This suggests that a program promoting birth spacing could reduce infant mortality.

The survey also found significant differences in the IMR between urban areas (60 per 1,000) and rural areas (80 per 1,000).

Anemia Status

The TDHS was the first study of anemia in Turkmenistan based on a nationally representative sample of women and children. The survey measured the hemoglobin level of capillary blood.

Anemia among women. Nine percent of respondents in the TDHS had hemoglobin levels indicating moderate (8 percent) or severe anemia (1 percent). These figures are identical to recent findings for Kazakhstan.

There were notable differences in the level of moderate to severe anemia by region. The level was twice as high in the Balkan and Dashoguz regions (12 percent) as in Ashgabad City (6 percent).

Anemia among children. Seventeen percent of children under the age of five exhibited moderate (16 percent) or severe anemia (1 percent). Again, these figures are almost identical to recent findings for Kazakhstan (17 percent moderate and 1 percent severe anemia).

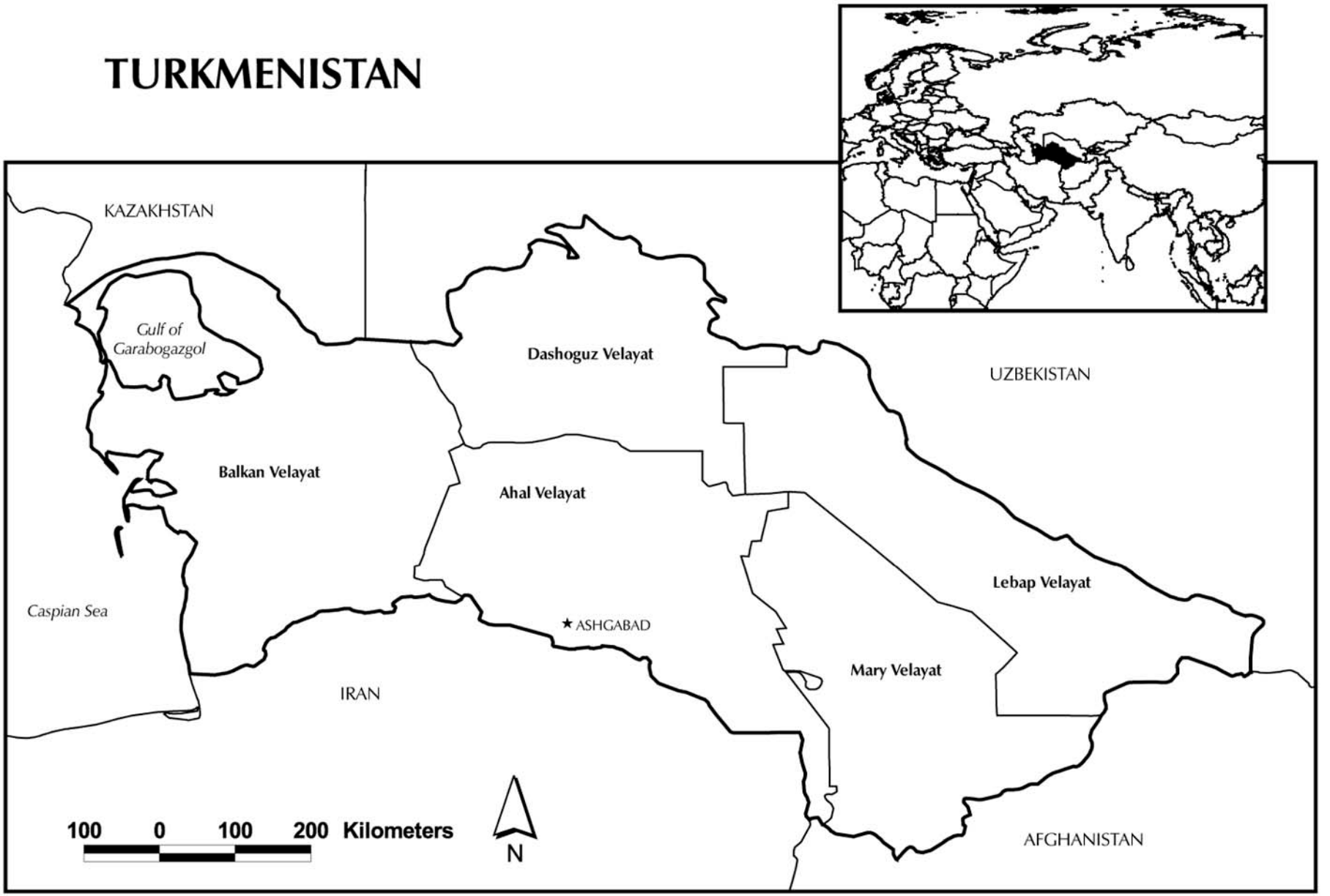
Acquired Immune Deficiency Syndrome (AIDS)

Compared with other parts of the world, Turkmenistan has been relatively untouched by the AIDS epidemic. Currently, there is only one known case of AIDS and one other person known to be HIV positive in Turkmenistan. Almost no respondents reported that they knew an HIV-infected person or anyone who had died of AIDS.

Knowledge. Awareness and knowledge of HIV/AIDS is limited. Seventy-three percent of respondents reported having heard of HIV/AIDS, but only 50 percent believe that they could adopt behavior patterns that would reduce their risk of contracting the disease. Further evidence of limited knowledge of HIV/AIDS was the fact that only 31 percent of respondents recognized that condom use is a risk-reducing behavior.

Attitudes toward infected individuals. The survey found unsympathetic attitudes toward HIV-infected individuals. Only a small proportion of respondents (24 percent) reported that an infected person should be allowed to keep that information private, and a large proportion (73 percent) reported that they believe an infected person should not be allowed to work alongside other people in a shop or office. These findings suggest that respondents have the mistaken idea that they can become HIV-infected through ordinary human contact.

Use of the media for AIDS education. The survey indicates that much needs to be done to educate the population about HIV/AIDS. It is significant that more than 95 percent of respondents felt it would be acceptable to provide HIV/AIDS educational messages via radio, television, and the print media.


TURKMENISTAN
KAZAKHSTAN
Gulf of Garabogazgol
Dashoguz Velayat
UZBEKISTAN
Balkan Velayat
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INTRODUCTION, OBJECTIVES, AND SURVEY DESIGN 1

B.S. Sopyev and C.M. Nazarov

1.1 GEOGRAPHY AND POPULATION

Turkmenistan is situated in the center of central Asia to the north of the Kopetdag mountain range, bounded by the Caspian Sea to the west and the Amu Daria River to the east. The territory of Turkmenistan is 491,200 square kilometers; it stretches 1,100 kilometers from west to east and 650 kilometers from north to south. The country borders Kazakhstan to the north, Uzbekistan to the east and northeast, Iran to the south, and Afghanistan to the southeast. The Karakum Desert occupies a large part of the territory of Turkmenistan. The Kopetdag Mountains and Small and Big Balkan ranges stretch from Turkmenbashy City to the Serax Region.

The official state language is Turkmen, which belongs to the Turkic language group. The main religion is Sunni Islam.

According to the data of the National Institute of State Statistics and Information (Turkmenmelihasabat), as of January 1, 2001, the population of Turkmenistan was 5.2 million people. Forty-five percent of the population is urban.

Currently, Turkmenistan is experiencing intensive socioeconomic changes with significant impact on population and health. The demographic changes in Turkmenistan are characterized by population growth in urban and rural areas primarily due to high natural increase.

High population growth has resulted in a unique population age structure. The percentage of children and teenagers in the population is high (40.3 percent). The proportion of the population that is working is also large (53.6 percent). Women now represent 50 percent of the population.

The main factors currently determining the demographic situation in Turkmenistan are the following: a high proportion of married women, a low level of divorce, and a high birth rate. Nevertheless, in recent years, it has become evident that the birth rate has decreased. Another demographic feature of Turkmenistan is that the majority of women give birth at a young age, which is more favorable for childbearing and birth.

One of the most important components of population growth in addition to the birth rate is the mortality rate. According to government statistics, the mortality rate has declined. In urban and rural areas, male mortality prevails over female mortality. As a result, average life expectancy for men is 63.4 years, compared with 70.4 years for women. The level of population replacement is comparatively high in Turkmenistan: there are 3.5 births for each death. The birth rate in rural areas is 1.8 times higher than in urban areas. Life expectancy at birth is 66.8 years in Turkmenistan. Life expectancy is constantly increasing through decline in newborn and maternal mortality. The number of fertile women increased during the last 5 years to approximately 1,570,000.

Migration and natural translocations influence population growth. In the process of international migration, the contribution of different republics of the former Soviet Union is not

equal: Russian Federation, 60.3 percent; Uzbekistan, 14.5 percent; Ukraine, 3.4 percent; Kazakhstan, 13.1 percent; Azerbaijan, 2 percent. Of the total migration, 66 percent is rural population migration.

1.2 HISTORY

Turkmenistan has a unique history and in both a geographical and political sense, plays an important role in the development of central Asia. Turkmen from ancient times have inhabited the territory of modern Turkmenistan. They have broad multilateral relationships with Asian countries, especially neighboring states such as Iran and Afghanistan. The Russian-Turkmen trade relationship has existed since the 10th century.

Until gaining its independence, Turkmenistan did not have full sovereignty in conducting internal and foreign policy as a part of Russia and as a part of the Soviet Union.

Turkmenistan was founded as a result of the people's will, as expressed in an independence referendum on October 27, 1991, that was adopted by the Parliament.

The first elections for the President of Turkmenistan were held October 27,1990, after the new Turkmenistan Constitution had been adopted. On June 21, 1992, recurring elections for the President of Turkmenistan were held. Saparmurad Ataevich Niazov was unanimously elected as President of Turkmenistan.

On December 12, 1995, Turkmenistan was granted the status of neutrality by the United Nations (UN) General Assembly. Turkmenistan is the only country that has been granted constant-neutrality status in the history of the UN. State neutrality status demonstrates the will of Turkmenistan to follow a hands-off policy and peaceful coexistence with neighboring countries and all nations of the world. Neutrality also has a positive influence on internal human rights protection and creates an environment for providing for the welfare of the population.

1.3 ECONOMY

During its years of independence, Turkmenistan has developed its own state and economic model, which is based on historical, national, ethnic, and social traditions of the Turkmen nation. The model of governmental development for Turkmenistan has proved highly effective. The social security of the population and equal opportunities for the commonwealth are based on economic achievements and internal production growth.

Turkmenistan has large mineral resources, such as oil, gas, sulfate, salt, and limestone. The country possesses 64 percent of all oil reserves in central Asia and is the fourth largest natural gas producer in the world.

Besides mineral products, other components of the Turkmenistan economy are the growth and export of cotton, the production of chemicals, the construction of machinery, the production of construction materials, the textile industry, and carpet weaving. Imports include mainly industrial and technical goods. Besides Commonwealth of Independent States (CIS) countries, the main trade partners of Turkmenistan are Turkey, Iran, Japan, Germany, Italy, and Israel.

In agriculture, the government considers it most important to have efficient composition of economic relations, liberalization, and governmental protection. In agrobusiness, priority is given

to food production and the integration of different levels of producers into the manufacturing of final products.

Turkmenistan pays close attention to the expansion and modification of road and railway networks and the development of new air and sea routes. Such attention helps not only for the development of internal transportation networks but also for including them in the international communications system. Civil aviation and the sea fleet are constantly increasing their pool of aircraft and vessels.

Overall, structural shifts in the economy have supported the development of the market structure of the country, ensuring that the country will move forward, maintain food security and advance the well-being of the population. For example, Turkmenistan, is the only country in the world where gas, water, electricity, and salt are free of charge for its citizens. Public transportation costs are subsidized, and flour is available at a privileged price for children, students, invalids, and retired people.

The literacy level in Turkmenistan is 99 percent. The education system includes preschools, secondary schools, vocational schools, and high schools.

Prior to independence, Turkmenistan was developing as a regional subsystem of one national economic complex of a large country. The structure of its economy was determined by interunion labor subdivision. The supply of national consumer goods and food for the population was provided through a centralized system.

The government now implements an active policy aimed at ensuring economic stability. The main document for the policy is the program "Ten Years of Stability." In 2000, the national program "The Strategy for Social Economic Reform till 2010" was adopted. High levels of gas, oil, and cotton production are foreseen in it. Food independence is also an area of focus in the program. The technological context is aimed at a high production of fuel, energy, mineral, and agricultural resources. All of this will ensure high rates of economic growth, which will promote human development.

1.4 Health Care System and Epidemiological Situation

The highest value for every country is a healthy nation, and the main objective of state policy is the creation of conditions for the thorough development of each citizen. For improvement of health services delivery, the President of Turkmenistan approved the program "Health in 1995." The objective of the national program was the improvement of health through reforming the health care system. The priority directions for the health care system were identified: mother and child health protection; tuberculosis (TB) control; sexually transmitted infections (STIs), AIDS, viral hepatitis, and cardiovascular disease prevention. For solving those problems, it was indicated as necessary to retrain medical staff, to modify treatment protocols, to improve the population information system, and to guarantee the drug supply and the medical equipment supply for primary health units.

The reforms in health care are in the spheres of health management, financing, primary health care, hospital services, drug supply and use of people's resources, infrastructure, medical science, and legislation.

The governmental allocations to the health care system are aimed first of all at preventive medicine.

Beginning in 1996, family practice was implemented all over the country, and the state system of voluntary health insurance began to work. Currently, 92 percent of the population participates in the insurance system. Insurance payments go directly to the State Fund of Health Development and compose about 90 percent of it. The purchase of essential drugs, vaccines, and immune-prevention drugs are provided for by the fund. Essential drugs are sold for insurance receipts. The contract system of hiring staff is operating in all health institutions. Beginning in February 1996, the Ministry of Health and Medical Industry (MOHMI) of Turkmenistan started to implement state licensing of medical and pharmaceutical activities.

With the aim to concentrate financial, human, and technical resources, all inefficient, small etrap (regional), velayat (district), and central health institutions were disbanded and replaced by large multifunctional medical facilities that were renamed hospitals. A total of 1,470 health-preventive institutions were disbanded and replaced by rural or urban houses of health, central hospitals, and maternal and child health (MCH) centers at the regional, town, and district levels.

The network of district multiprofile hospitals has successfully developed, merging with diagnostic centers and consultative departments. Such merging helps to avoid profile duplications and to reorient the main part of the resources from inpatient care to primary health and preventive medicine. The number of hospitalizations significantly decreased by means of controlling the number of directions for hospitalization. That was achieved by improving the level of primary and medicosanitary services. The level of bed use increased through the decrease of average length of stay in the hospital (from 14.8 days in 1995 to 11.8 days in 1999). The use of international standards for calculation of bed rotation helped to decrease the average length of staying in bed for the patient to 9.1 days (during a 10-month period in 2000).

Medical staff resources in health care are undergoing reform through revision of the quantity and quality of medical education. Beginning in 1995 in the area of health reform, 20,000 jobs (about 18.4 percent) were eliminated. This was done mainly by the elimination of vacant positions for doctors (2,000) and middle medical personal (12,500). Currently, the third step of the reform is underway, causing the elimination 10,000 more jobs. Reducing the number of staff in health institutions will improve the professional level and will help to distribute the staff rationally.
For successful implementation of the above-named objectives, MOHMI and the World Health Organization (WHO) have designed and are implementing the pilot project, including a model for a village primary-health treatment-prevention unit, founded on the basis of former FAPs (feldsher-obstetrician points) and SVAs (village ambulances) using the staff of former units.

Pilot project activities are oriented toward effective integrated medical service delivery, which will ensure delivery of a number of services: health improvement, reproductive health for families, prevention, diagnostics, and treatment. The pilot site experience will be applied to other primary health units around the country.

For decreasing infant mortality rates, MOHMI has focused on the prevention of acute respiratory infection (ARI), acute intestinal infection (AII), and poliomyelitis. The United Nations Population Fund (UNFPA) and United Nations Children's Fund (UNICEF) support the implementation of these projects.

In 1999, MOHMI adopted recommendations on "Adaptation and Implementation of WHO/UNICEF Materials on Integrated Management of Child Infections in Turkmenistan." An orientation meeting has been held to provide health workers information on WHO/UNICEF clinical approaches to integrated management of child infections. The pilot regions have been

chosen—Turkmenabat City and Gizilarbat Region. Data on child mortality and morbidity has been provided to WHO experts for program planning purposes.

1.5 Reproductive Health Policy and Programs

The government is paying close attention to the issues of maternal and child health. After adopting the Cairo Program of Actions, MOHMI, together with UNFPA, approved the Strategic Plan on reproductive health through 2005. According to this plan, Turkmenistan will provide the reproductive health services to give women the opportunity to successfully complete pregnancy and labor and to give couples a good chance to have a healthy child. The government gives families and individuals the right to decide the number of their children, as well as optional birth spacing, and supplies families with information on these issues.

The most important medical-social problems for women are reproductive health and decrease of mortality and morbidity. In 1998, after rationalization of primary health institutions, polyclinics were reorganized into houses of health, and women's consultations were moved to the houses of health according to district principals. Each institution provides an exact list of reproductive health services at the level of primary contact with a patient.

In Turkmenistan reproductive health services do not pursue the objective of decreasing the birth rate in the country or limiting the number of children. According to national interests, it is oriented toward avoiding pregnancy for women from high-risk groups, toward preventing maternal mortality, and toward ensuring optimal birth spacing.

Of all methods of contraception, the IUD is the most commonly used (20 percent of women of fertile age) due to its security and convenience of use. Less popular are hormonal pills (1.3 percent) and injectables (0.6 percent). Surgical methods of sterilization are familiar but are not in demand. Overall, government statistics indicate that approximately 22 percent of women in the fertile age use modern contraceptives.

In connection with the implementation of the Reproductive Health Program, the tendency of the abortion rate to decrease becomes obvious. Recently, miniabortions have begun to prevail in the total abortion rate. Currently, with the decrease of the total abortion rate, the number of miniabortions has also decreased. Because of the availability of medical abortions up to 12 weeks of pregnancy, criminal abortions are not frequent. Their part in the total abortion rate was only 0.4 percent to 0.06 percent for 1998-1999. The number of abortions for women under 15 was even less (0.1 percent in 1998 and 0.01 percent in 1999).

1.6 Demographic and Health Data Collection System in Turkmenistan

The demographic and health data collection system in Turkmenistan is based on the registration of events and a periodical census. Demographic data collection and analysis is the prerogative of the Turkmenmelihasabat (National Institute of State Statistics and Information). The data on birth, death, marriage, and divorce are registered at the local administrative level. These data are forwarded to the Turkmenmelihasabat through regional and district statistical offices. The Turkmenmelihasabat is responsible for conducting censuses and demographic analysis during the periods between censuses. The last census in Turkmenistan was conducted in 1995, and its results were published in 1996. The Turkmenmelihasabat is also responsible for the tabulation of health data for the country and the publication of demographic data and social and economic information.

1.7 Objectives and Organization of the Survey

The Turkmenistan Demographic and Health Survey (TDHS 2000) is the first national survey of maternal and child health in Turkmenistan. The survey was implemented by the Gurbansoltan Eje Clinical Research Center for Maternal and Child Health (MCH Institute) and was financed through the U.S. Agency for International Development (USAID). Technical support was provided by the MEASURE *DHS+* project of ORC Macro and logistical support by UNFPA/Turkemenistan.

The purpose of the survey was to develop a single integrated set of data for the government of Turkmenistan to use in planning effective policies and programs in the areas of health and nutrition. TDHS 2000 collected data on women's reproductive history, knowledge and use of contraceptive methods, breastfeeding practices and nutrition, vaccination coverage, and episodes of diseases among children under the age of five. Information on the knowledge of and attitudes toward HIV/AIDS, other sexually transmitted infections, and tuberculosis were also collected. The survey also included the measurement of the hemoglobin level in the blood to assess the prevalence of anemia and measurements of height and weight to assess nutrition status.

The TDHS 2000 also contributes to the growing international database on demographic and health-related variables.

Sampling Design and Implementation

Sampling and listing of households were designed and implemented by the Turkmenmelihasabat (National Institute of State Statistics and Information) with support from the MEASURE *DHS+* project of Macro International Inc.

The TDHS 2000 was designed to collect demographic and health data from a nationally representative sample of women in the reproductive ages (i.e., women 15-49). The design specification was based on the objectives of estimating sociodemographic and health indicators, including fertility and mortality rates, at the national level, for urban and rural areas and for the six regions of the country (Ashgabad City and Akhal, Balkan, Dashoguz, Lebap and Mary).

The sample design was specified in terms of households. The design called for a two-stage stratified probability sample that was self-weighting within each of the six regions. In the first stage, standard segments were selected with probability proportional to size. Overall, 231 PSUs were selected: 118 in urban areas and 113 in rural areas. A complete household listing was conducted in the PSUs. In the second stage, households were selected with probability proportional to the inverse of the first stage probability of PSU selection.

Among the 6,391 currently occupied households in the selected sample, the Household Schedule was completed in 6,302, for a response rate of 98.6 percent. Of the eligible 8,250 women age 15-49 in those households, 7,919 were interviewed for a response rate of 96.0 percent. The overall survey response rate was 94.7 percent.

Additional details of sampling procedures are given in Appendix A and estimates of the sampling errors for selected statistics are given in Appendix B.

Questionnaires

Two questionnaires were used for TDHS 2000: the Household Questionnaire and Women's Questionnaire. These questionnaires were based on the model survey instruments developed for the MEASURE *DHS+* project and were adapted to the data needs of Turkmenistan during consultations with specialists in the area of reproductive health and child health and nutrition. The questionnaires were developed at first in English and then translated into Russian and Turkmen. A pretest was conducted in April 2000. Based on the pretest, the questionnaires were revised and finalized.

The Household Questionnaire was used to enumerate all usual members and visitors in a sample household and to collect information related to the socioeconomic status of the household. In the first part of the Household Questionnaire, information was collected on age, sex, education attainment, and relationship to the head of household for each person listed as a household member or visitor. A primary objective of the first part of the Household Questionnaire was to identify women who would be eligible for the individual interview. In the second part of the Household Questionnaire, information was collected on the characteristics of the dwelling unit, such as the source of water and the type of toilet facilities, and on the availability of a variety of consumer goods.

The Women's Questionnaire was used to collect information from eligible respondents (i.e., women age 15-49 who were usual household members or who were present in the household the night before interviewer's visit) on the following major topics:

- Background characteristics
- Pregnancy history
- Outcome of pregnancies, antenatal and postnatal care
- Child health and nutrition practices
- Child immunization and episodes of diarrhea and respiratory illness
- Knowledge and use of contraception
- Marriage and fertility preferences
- Husband's background and women's work
- Knowledge of HIV/AIDS and other sexually transmitted infections
- Maternal and child anthropometry
- Hemoglobin measurement of women and children.

Training and Fieldwork

The TDHS 2000 questionnaires were pretested in April 2000. Eight interviewers were trained during a one-week period at the MCH Institute of Turkmenistan. The pretest included one week of interviewing in an urban area (Ashgabad City). A total of 100 women were interviewed. Pretest interviewers were retained to serve as supervisors and field editors for the main survey.

Fifty-five people, mostly physicians, were recruited as field supervisors, editors, health investigators, and interviewers for the main survey fieldwork. They were trained at the MCH Institute for three and a half weeks in June 2000. Training consisted of lectures and practice in the classroom, as well as role playing. The training of health investigators, who were responsible for anthropometric measurements (height and weight) and hemoglobin testing of women and children, was accomplished in two days in the classroom and three days in the field.

At the end of the training, the field staff was divided into six survey teams. Each team consisted of eight people, including one supervisor, one editor, five interviewers, and one health investigator. Besides this, six field coordinators were recruited from the staff of the MCH Institute and were responsible for communication and coordination of activities between the center and field teams.

The personnel for the survey teams were partly recruited from the staff of the MCH Institute and partly from different regions of the country.

All six teams started data collection on June 28, 2000, in Ashgabad. Beginning in mid-July, all six teams started data collection in the field. Data collection was completed on September 15, 2000.

Data Processing

Questionnaires were returned to the MCH Institute for final editing and data processing. The office editing staff checked that questionnaires for all selected households and eligible respondents were returned from the field. Additionally, final editing included coding for a set of categories such as occupation and type of iron pills. Data were then entered and edited on computers using the Integrated System for Survey Analysis (ISSA) package, with data software translated into Russian. Office editing and data entry activities began on August 15 and were completed on October 14, 2000.

Survey Response Rates

Table 1.1 summarizes the results of the fieldwork for the TDHS 2000. Overall, the household response rate was 98.6 percent and the individual women response rate was 96.0 percent. As is usually the case in household surveys, response rates were somewhat higher in rural than in urban areas.

Table 1.1 Results of the household and individual interviews

Number of households, number of interviews and response rates, Turkmenistan 2000

	Residence		
Result	Urban	Rural	Total
Household interviews			
Households sampled	3,688	3,162	6,850
Households found	3,347	3,044	6,391
Households interviewed	3,277	3,026	6,303
Household response rate	97.9	99.4	98.6
Individual interviews			
Number of eligible women	3,836	4,414	8,250
Number of eligible women interviewed	3,693	4,226	7,919
Eligible woman response rate	96.3	95.7	96.0

HOUSEHOLD POPULATION AND HOUSING CHARACTERISTICS 2

B.S. Sopyev and K. Fair

This chapter provides a descriptive summary of the demographic and socioeconomic characteristics of the household population and the individual respondents in the 2000 Turkmenistan Demographic and Health Survey (TDHS). This information is useful for interpreting the survey findings and serves as an approximate indicator of the representativeness of the survey and of the quality of the data.

This chapter is divided into three parts. The first part deals with the characteristics of the household population in terms of age-sex composition, household size and distribution, and educational background. The second part describes the housing environment in which the respondents and their children live. The background characteristics of women age 15 to 49 years are discussed in the last part of the chapter.

2.1 DEMOGRAPHIC CHARACTERISTICS OF HOUSEHOLDS

The Household Questionnaire was used in the TDHS 2000 to collect data on the demographic and social characteristics of all the usual residents of the sampled household and visitors who had spent the previous night in the household. A household, as defined in the survey, refers to a person or group of people usually living and eating together and jointly running the household's economy (de jure population). A visitor is someone who is not a usual resident of the household but slept in the household the night before the interview.

The distribution of the TDHS 2000 household population is presented in Table 2.1 and Figure 2.1, by five-year age groups according to urban-rural residence and sex. The total de facto population in the selected households was 30,830 people. In general, the survey results show that females outnumber males in Turkmenistan (52 and 48 percent, respectively). The male/female ratio varies by age. It is as high as 108 males per 100 females among those below age 15 and as low as 75 males per 100 females among those, age 65 and older. The ratio is almost similar in urban and rural areas (94 and 95 males per 100 women, respectively)

More than one-third (36 percent) of the population consists of children 14 years of age and under, with the proportion of children in rural areas greater than in urban areas (38 and 34 percent, respectively). Starting with age group 10-14, there is a gradual decrease in the proportion of the population in each successive age group. The relatively small size of the male and female populations in age group 55-59 is a reflection of the low birth rates during World War II (i.e., 55 to 60 years prior to the TDHS 2000). Women 15-49 years of age, who are the main TDHS respondents, constitute about one-half of the de facto household population: 51 percent.

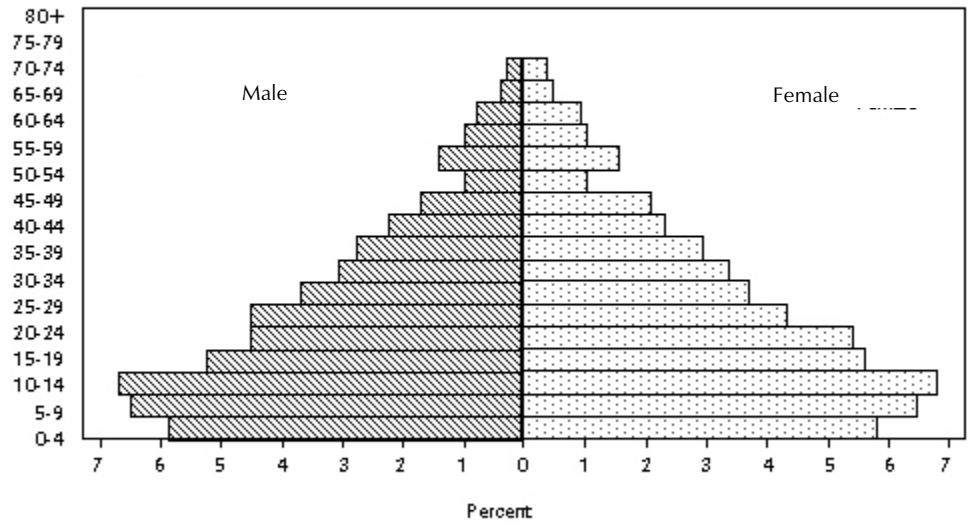
The results further indicate that 59 percent of the population of Turkmenistan is in the 15-64 age group, and the population age 65 years and older accounts for 5 percent of the total population. A distinct feature of the age distribution of the population is that the proportion of the dependent population—those younger than 15 or older than 65—is higher in rural areas (43 percent) than in urban areas (39 percent). This difference may be attributed to rural-urban migration of the economically active population—those age 15 to 65—especially youth, in search of jobs.

Table 2.1 Household population by age, residence, and sex

Percent distribution of the de facto household population by five-year age group, according to sex and urban-rural residence, Turkmenistan 2000

	Urban			Rural			Total		
Age	Male	Female	Total	Male	Female	Total	Male	Female	Total
0-4	9.8	9.5	9.6	13.1	11.6	12.3	11.7	10.6	11.1
5-9	12.5	11.4	11.9	13.2	12.3	12.7	12.9	11.9	12.4
10-14	13.0	11.3	12.2	13.3	13.2	13.2	13.2	12.4	12.8
15-19	9.8	9.3	9.5	10.6	11.2	10.9	10.2	10.4	10.3
20-24	8.6	8.8	8.7	9.1	10.8	10.0	8.9	9.9	9.4
25-29	8.4	7.9	8.2	9.1	7.9	8.5	8.8	7.9	8.3
30-34	7.7	7.5	7.6	6.8	6.1	6.4	7.1	6.7	6.9
35-39	6.8	6.7	6.7	5.2	5.8	5.5	5.9	6.2	6.0
40-44	5.7	5.9	5.8	4.9	5.0	5.0	5.3	5.4	5.3
45-49	4.9	5.2	5.0	3.8	3.6	3.7	4.3	4.3	4.3
50-54	4.0	4.5	4.2	2.6	3.3	3.0	3.2	3.8	3.5
55-59	2.0	2.2	2.1	1.8	1.9	1.8	1.9	2.0	1.9
60-64	2.8	3.4	3.1	2.4	2.5	2.5	2.6	2.9	2.8
65-69	1.7	2.1	1.9	1.8	1.8	1.8	1.8	2.0	1.9
70-74	1.5	2.1	1.8	1.3	1.6	1.5	1.4	1.8	1.6
75-79	0.7	1.3	1.0	0.5	0.7	0.6	0.6	1.0	0.8
80+	0.3	1.0	0.7	0.4	0.7	0.6	0.4	0.8	0.6
Missing/don't know	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	6,497	6,947	13,443	8,449	8,938	17,387	14,946	15,885	30,830

Figure 2.1 Population Pyramid of Turkmenistan



The percent distribution of the population by broad age groups according to the 1995 Turkmenistan Census and the TDHS 2000 is presented in Table 2.2. There appears to be a progressive decline since the 1995 Census in the proportion of the population under 15, as well as a concomitant increase in the median age. The growth of the 15-64 age group results in a declining dependency ratio, calculated as the ratio of people in the dependent age groups to people in the economically active age group. This slight aging of the population is the result of a continuous decline in fertility levels since 1990. Correspondence of the percent distribution of the population in broad age groups between the TDHS 2000 and the 1995 Turkmenistan Census confirms the overall quality of the TDHS sample.

Table 2.2 Population by age, according to select sources

Percent distribution of the population by age group, according to selected sources, Turkmenistan 2000

Age group	1995 Census	2000 TDHS
<15	40.5	36.3
15-64	56.0	58.8
65+	3.4	4.9
Missing/DK	0.1	0.0
Total	100.0	100.0
Median age	19.6	21.8

2.2 HOUSEHOLD COMPOSITION

Information on the size and composition of sample households by urban-rural residence is presented on Table 2.3. The head of household (as recognized by other members) and the relationship of each household member to the head was determined in each household. In general, heads of households are male (74 percent). In urban areas the proportion of households headed by men (65 percent) is less than the proportion in rural areas (81 percent).

Table 2.3 Household composition

Percent distribution of households by sex of head of household, household size, and presence of foster children in household, according to urban-rural residence, Turkmenistan 2000

Characteristic	Residence		Total
	Urban	Rural	
Sex of household head			
Male	65.6	81.4	73.5
Female	34.4	18.6	26.5
Total	100.0	100.0	100.0
Number of usual members			
1	9.5	3.9	6.7
2	12.3	4.4	8.4
3	13.8	7.6	10.7
4	19.2	13.8	16.5
5	17.5	18.8	18.1
6	11.5	18.1	14.8
7	7.6	13.6	10.6
8	3.5	7.7	5.6
9+	4.8	12.1	8.4
Total	100.0	100.0	100.0
Mean size	4.4	5.7	5.1
Percentage with foster children	3.6	3.2	3.4

Note: Table is based on de jure household members, i.e., usual residents

About 42 percent of households consist of between one and four members, with the average size of a household in Turkmenistan being 5.1 members. There are significant differences in the household size between urban and rural areas, with the average urban household consisting of 4.4 members compared to 5.7 in rural households. Only 3 percent of households include a child under 15 neither of whose parents were household members.

Table 2.4 presents information on children under age 15 by survival status of the parents according to selected socio-biological factors.

Eighty-eight percent of children under age 15 live with both parents. As children get older, fewer of them live with both parents; 94 percent of children in the age group 0-live with both parents, compared to 84 percent in the age group 10-14 years. Rural children are more likely than urban children to live with both parents. Eight percent of

children under 15 are living with only their mother; of these, 3 percent have lost their fathers and 5 percent have fathers who are still alive.

Regarding orphanhood, about 3 percent of children under age 15 have fathers who have died, and less than 1 percent have mothers who have died, while an insignificant proportion (0.1 percent) have lost both parents.

Table 2.4 Fosterhood and orphanhood

Percent distribution of de jure children under age 15 by survival status of parents and child's living arrangements, according to background characteristics, Turkmenistan 2000

Background characteristic	Living with both parents	Living with mother but not father		Living with father but not mother		Not living with either parent				Missing info. on father/ mother	Total	Number of children
		Father alive	Father dead	Mother alive	Mother dead	Both alive	Father only alive	Mother only alive	Both dead			
Age												
0-2	93.9	4.5	0.7	0.1	0.0	0.4	0.0	0.0	0.0	0.4	100.0	2,058
3-5	91.0	4.5	1.6	0.3	0.5	1.1	0.2	0.1	0.0	0.8	100.0	2,175
6-9	87.1	5.1	3.4	0.6	0.9	0.9	0.1	0.2	0.2	1.5	100.0	3,164
10-14	83.6	4.9	5.5	0.7	1.6	0.8	0.1	0.2	0.2	2.4	100.0	3,999
Sex												
Male	88.2	4.4	3.3	0.5	0.8	0.8	0.0	0.1	0.1	1.7	100.0	5,736
Female	87.5	5.2	3.3	0.4	1.1	0.8	0.2	0.2	0.1	1.2	100.0	5,660
Residence												
Urban	81.7	9.1	4.4	0.7	0.8	1.2	0.0	0.2	0.1	1.7	100.0	4,656
Rural	92.1	1.8	2.5	0.3	1.0	0.6	0.1	0.1	0.2	1.3	100.0	6,740
Region												
Ashgabad City	77.5	13.0	4.6	0.5	0.3	1.4	0.0	0.3	0.1	2.2	100.0	1,104
Akhal	90.7	2.5	3.4	0.4	0.8	0.6	0.3	0.1	0.1	1.2	100.0	1,732
Balkan	86.8	4.9	4.6	0.4	0.8	1.4	0.0	0.0	0.1	0.9	100.0	975
Dashoguz	91.2	3.1	2.0	0.5	0.8	0.8	0.1	0.1	0.1	1.3	100.0	2,334
Lebap	86.8	4.5	3.7	0.7	0.9	0.8	0.2	0.1	0.2	2.3	100.0	2,736
Mary	89.0	4.7	2.8	0.2	1.5	0.5	0.0	0.2	0.2	0.9	100.0	2,514
Total	87.9	4.8	3.3	0.5	0.9	0.8	0.1	0.1	0.1	1.5	100.0	11,396

Note: Orphans are children with both parents dead

2.3 Educational Level of Household Members

The high correlation between level of education and positive health and other social indicators makes education an important variable in any study of households. Higher education, especially for women, is usually associated with greater knowledge and use of sound health practices and family planning methods.

Turkmenistan's primary and secondary educational system has three levels: primary (classes 1 through 4, age 7 to 10 years), principal (classes 5 through 9, age 11 to 15 years), secondary (classes 10 and 11, age 16 to 17 years). Most schools in Turkmenistan offer all three levels of *primary/secondary education*. The primary and principal education levels are compulsory. Students who leave school after the principal level may continue in secondary-special (vocational) education. Students who finish all three levels of primary/secondary school can continue on in higher education at universities or in academic training classes.

2.3.1 Educational Attainment of Household Members

Table 2.5 presents information on the highest level of education attained by the population according to sex, age, residence, and region. The data shows the high educational level of Turkmenistan's population with about 97 percent of men and 95 percent of women having had at least some education.

Educational attainment is slightly higher among men than women, although the differences are minor. Most of household members age 6 and older have attended school, and 10 percent of men and nearly 6 percent of women have some higher education. There are noticeable attainment differences by residence, with urban residents being more likely than rural residents to have attended secondary special or higher education. Educational attainment is also significantly higher in Ashgabad City than elsewhere.

Patterns in educational attainment among female respondents (women age 15-49) are similar to those among the entire female household population. Nearly all women have attended school, with younger women being more likely than older women to have attended school and attained higher levels of schooling. The greatest differences in attainment are between urban and rural areas, and between Ashgabad City and other regions.

2.3.2 School Attendance Ratios

Table 2.6 presents net and gross attendance ratios by school level, sex, and residence. The net attendance ratio (NAR) indicates participation in schooling among those of official school age, which is age 7-10 for primary and 11-17 for secondary. The gross attendance ratio (GAR) indicates participation in schooling among youth of any age, from age 7-24, and is expressed as a percentage of the school-age population for that level of schooling. The GAR is always higher than the NAR for the same level, because the GAR includes participation by youth who may be older, or younger, than the official age range for that level.[1] A NAR of 100 percent would indicate that all of the children in the official age range for the level are attending that level. The GAR can exceed 100 percent, if there is significant overage or underage participation at that level of schooling. The difference between these ratios indicates the incidence of overage and underage participation.

School participation among those household members of school age is generally high, though participation is lower at the secondary level. The primary NAR is slightly higher among male than female children (86 versus 84 percent) and at the secondary level, is virtually the same among male and female youth (both about 79 percent). The NAR at both the primary and secondary levels is comparable in urban and rural areas.

[1] Youth who are overage for a given level of schooling may have started school overage, or may have repeated one or more grades in school, or may have dropped out of school and later returned.

Table 2.5 Educational attainment of household population

Percent distribution of the de facto male and female household population age six and over by highest level of education attended, according to background characteristics, Turkmenistan 2000

Background characteristic	Level of education					Total	Number	Median number of years
	No education	Primary/ secondary	Secondary-special	Higher	Don't' know/ missing			
				MALES				
Age								
6-9	21.9	78.1	0.0	0.0	0.0	100.0	1,154	0.9
10-14	1.1	98.8	0.0	0.1	0.0	100.0	1,969	4.7
15-19	0.5	93.2	3.4	3.0	0.0	100.0	1,527	8.5
20-24	0.7	73.7	17.1	8.5	0.0	100.0	1,326	9.6
25-29	0.2	61.9	26.4	11.5	0.0	100.0	1,312	9.8
30-34	1.1	53.7	30.9	14.2	0.0	100.0	1,068	9.9
35-39	0.6	52.0	31.1	16.1	0.2	100.0	881	10.0
40-44	1.0	52.5	26.7	19.8	0.0	100.0	789	9.9
45-49	0.8	44.3	29.0	25.6	0.2	100.0	636	11.2
50-54	0.1	45.8	24.2	29.6	0.2	100.0	479	11.3
55-59	1.5	47.5	25.7	25.2	0.0	100.0	279	11.0
60-64	3.1	58.7	19.8	17.7	0.7	100.0	388	9.5
65+	8.8	68.2	9.9	12.9	0.3	100.0	622	6.7
Missing/DK	68.7	31.3	0.0	0.0	0.0	100.0	3	0.0
Residence								
Urban	2.9	63.9	19.5	13.7	0.1	100.0	5,540	9.3
Rural	3.5	76.2	12.6	7.6	0.0	100.0	6,893	9.1
Region								
Ashgabad City	2.1	56.1	18.6	22.9	0.3	100.0	1,505	9.6
Akhal	2.2	75.6	14.5	7.7	0.0	100.0	1,848	9.1
Balkan	3.4	69.9	18.4	8.3	0.0	100.0	1,206	9.2
Dashoguz	3.5	78.5	10.6	7.4	0.0	100.0	2,436	9.2
Lebap	3.5	66.2	20.9	9.4	0.1	100.0	2,797	9.2
Mary	3.9	73.6	12.8	9.7	0.0	100.0	2,641	9.1
Total	3.2	70.7	15.7	10.3	0.1	100.0	12,434	9.2
				FEMALES				
Age								
6-9	24.3	75.7	0.0	0.0	0.0	100.0	1,115	0.8
10-14	1.4	98.6	0.0	0.0	0.0	100.0	1,965	4.8
15-19	0.7	93.6	4.5	1.1	0.1	100.0	1,647	8.5
20-24	0.6	78.2	16.3	4.8	0.1	100.0	1,577	9.5
25-29	1.6	62.5	27.9	8.0	0.0	100.0	1,257	9.8
30-34	1.3	55.4	31.3	12.1	0.0	100.0	1,064	9.9
35-39	2.1	63.5	26.3	7.9	0.2	100.0	979	9.7
40-44	2.0	69.3	18.6	9.9	0.2	100.0	852	9.7
45-49	3.2	64.4	21.9	10.5	0.0	100.0	683	9.6
50-54	2.5	63.2	17.7	16.1	0.5	100.0	603	9.6
55-59	4.1	78.1	9.3	7.6	0.9	100.0	318	7.4
60-64	5.2	74.1	12.6	7.9	0.1	100.0	460	6.9
65+	17.6	68.8	8.2	5.3	0.1	100.0	891	6.2
Missing/DK	100.0	0.0	0.0	0.0	0.0	100.0	2	0.0
Residence								
Urban	3.9	66.0	20.7	9.3	0.2	100.0	5,964	9.2
Rural	5.3	83.6	8.2	2.8	0.0	100.0	7,450	8.7
Region	3.4	57.1	21.8	17.2	0.5	100.0	1,709	9.5
Ashgabad City	5.0	85.8	7.5	1.6	0.0	100.0	1,969	8.7
Akhal	5.0	77.0	14.8	3.0	0.1	100.0	1,236	8.9
Balkan	4.8	81.1	10.5	3.6	0.0	100.0	2,540	9.0
Dashoguz	4.2	68.5	20.2	7.1	0.0	100.0	3,106	9.1
Lebap	5.5	82.7	8.7	3.0	0.1	100.0	2,853	8.9
Mary								
Total	4.7	75.8	13.8	5.7	0.1	100.0	13,414	9.0

Table 2.6 School attendance ratios

Net attendance ratios (NAR) and gross attendance ratios (GAR) for the de facto household population, by level of schooling, sex and residence, Turkmenistan 2000

Residence	Net attendance ratio[1]			Gross attendance ratio[2]		
	Male	Female	Total	Male	Female	Total
PRIMARY SCHOOL						
Urban	86.4	84.0	85.3	102.1	98.4	100.3
Rural	84.9	84.3	84.6	100.8	100.6	100.7
Total	85.6	84.2	84.9	101.3	99.7	100.5
SECONDARY SCHOOL						
Urban	78.8	80.1	79.4	86.8	87.1	87.0
Rural	78.2	78.3	78.3	83.6	81.6	82.5
Total	78.5	79.0	78.7	85.0	83.8	84.4

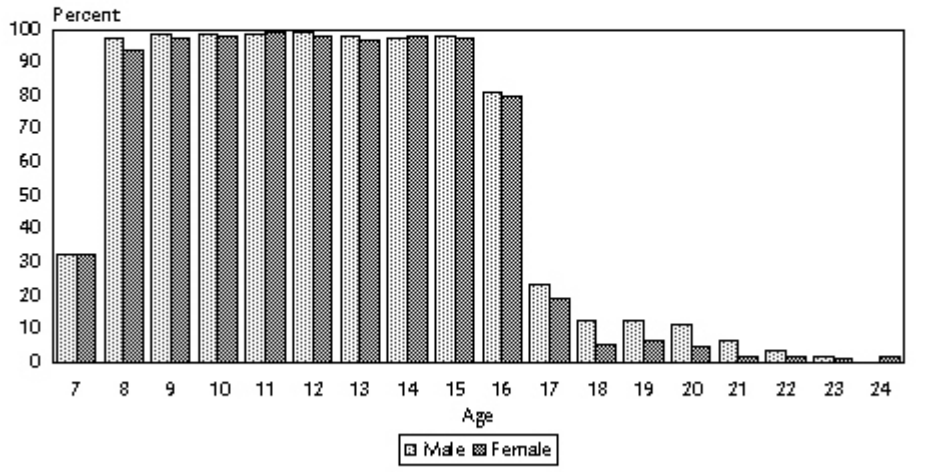
[1] The NAR for primary school is the percentage of the primary-school age (7-10 years) population that is attending primary school. The NAR for secondary school is the percentage of the secondary-school-age (11-17 years) population that is attending secondary school. By definition the NAR cannot exceed 100%.

[2] The GAR for primary school is the total number of primary school students, expressed as a percentage of the official primary-school-age population. The GAR for secondary school is the total number of secondary school students, expressed as a percentage of the official secondary-school-age population. If there are significant numbers of overage and underage students at a given level of schooling, the GAR can exceed 100%.

There is significant overage participation at the primary school level, as indicated by the gap between the net and gross attendance ratios: About 15 percent of the students are either older than age 10 or younger than age 7, with most being overage rather than underage. At the secondary level, a far smaller proportion of students are overage (5 percent).

Figure 2.2 presents the age-specific attendance rates (ASAR) for the population age 7-24, by sex. The ASAR indicates participation in schooling at any level, from primary through higher education. The closer the ASAR is to 100 percent, the higher is the proportion of people of the given age that is attending school. Most of youth of primary to secondary school age (7-17) attend school, and there are no significant differences by gender. The relatively lower age-specific attendance rate (ASAR) among children age 7 (32 percent) reflects the fact that many of these 7-year-olds were likely only age 6 during the school year covered by the survey, and hence were not eligible to attend school at that point in time. From age 17-24, a successively smaller proportion of individuals attend school.

Figure 2.2 Age-specific Attendance Rates
(Percentage of the De Facto Household Population Age 7-24 Attending School)



TDHS 2000

2.4 HOUSING CHARACTERISTICS

Table 2.7 provides information on selected housing characteristics by residence. This information is helpful in assessing the general socioeconomic conditions of the population. To assess the conditions in which respondents live, they were asked questions about certain characteristics of their households, including electricity, source of drinking water, type of sanitation facilities, time to water sources, handwashing facilities, type of fuel for cooking, quality of the floor, and ownership of a garden or dacha and animals.

As seen from Table 2.7, virtually all sampled households are supplied with electricity. The source of drinking water usually determines its quality. Fifty-five percent of households in Turkmenistan have piped water. Most other households use well water. Eighty-one percent of urban households use piped water, most of which (50 percent) have the pipes inside. In rural areas, 29 percent of households have piped water, while more than one-third of the population uses water from wells, and 20 percent uses water from open sources. Tanker trucks provide water to 6 percent of rural households. Most or urban and rural households are within 15 minutes of a source of water.

One indicator of sanitary conditions is the type of toilet in a household. In Turkmenistan, a majority of households (71 percent) have traditional pit toilets (latrines) and 28 percent have flush toilets. In urban areas, 55 percent of households have a flush toilet, compared with 1 percent in rural areas. Ninety-eight percent of rural households have traditional pit toilets.

Handwashing facilities are available in most households: 78 percent or more of households have water, soap or another cleaning agent, and a basin available for handwashing.

Table 2.7 Housing characteristics

Percent distribution of households by housing characteristics, according to residence, Turkmenistan 2000

Background characteristic	Residence		
	Urban	Rural	Total
Electricity			
Yes	99.7	99.6	99.6
No	0.2	0.2	0.2
Missing	0.2	0.2	0.2
Total	100.0	100.0	100.0
Source of drinking water			
Piped into residence	49.9	1.1	25.7
Piped into yard/plot	31.1	27.9	29.5
Public tap	8.1	5.6	6.9
Open well in residence	0.3	3.2	1.7
Open well in yard/plot	6.1	24.4	15.2
Open public well	1.6	10.4	6.0
Open water	0.6	20.0	10.2
Tanker truck	1.9	6.3	4.0
Bottled water	0.0	0.0	0.0
Other	0.1	1.0	0.5
Missing	0.2	0.2	0.2
Total	100.0	100.0	100.0
Time to water source			
<15 minutes (%)	96.3	88.6	92.5
Sanitation facilities			
Own flush toilet	54.5	0.9	27.9
Traditional pit toilet	44.9	98.0	71.3
No facility/bush	0.3	0.9	0.6
Other	0.1	0.0	0.0
Missing	0.2	0.2	0.2
Total	100.0	100.0	100.0
Handwashing facilities			
Water/tap in household	90.1	66.0	78.2
Soap/cleansing agent in household	91.8	75.8	83.9
Basin in household	89.7	73.5	81.6
Type of cooking fuel			
Electricity	0.6	0.4	0.5
LPG, natural gas	97.9	94.1	96.0
Biogas	1.3	4.9	3.1
Charcoal	0.0	0.0	0.0
Firewood, straw	0.0	0.5	0.3
Missing	0.2	0.1	0.2
Total	100.0	100.0	100.0
Flooring material			
Earth/sand	0.8	4.1	2.4
Wood planks	70.7	90.9	80.7
Parquet/polished wood	0.9	0.0	0.5
Linoleum	24.6	0.8	12.8
PVC tiles	2.7	4.1	3.4
Cement	0.1	0.0	0.0
Other	0.0	0.0	0.0
Missing	0.2	0.0	0.1
Total	100.0	100.0	100.0
Household owns			
A dacha or access to garden	23.1	79.4	51.1
Animals	32.4	86.6	59.3
Total	3.174	3,129	6,303

Virtually all households in Turkmenistan use biogas or natural gas for cooking.

Regarding the type of flooring material, a large percentage (81 percent) of households have wood planks, which are slightly more common in rural households (91 percent) than urban households (71 percent). Twenty-five percent of urban households have linoleum floors.

In the TDHS 2000, households were asked if any member owned a dacha or had access to a garden from which he or she obtained fruits and vegetables during the growing season. The data indicate that 23 percent of urban households and 79 percent of rural households in Turkmenistan have access to a dacha or garden. Households were also asked about ownership of animals. Eighty-seven percent of rural households own animals, compared with only 32 percent in urban areas.

Household Durable Goods

Table 2.8 indicates the percentage of households owning specific durable goods by residence. Ownership of a radio or a television is a measure of access to mass media; refrigerator ownership indicates the capacity for hygienic food storage; and ownership of a bicycle, motorcycle, or private car shows the means of transportation available to the household. The availability of durable consumer goods is a rough measure of household socioeconomic status.

The results show that 46 percent of households have a radio, 93 percent have a television, 86 percent have a refrigerator, 42 percent have a telephone, 13 percent have a bicycle, 18 percent have a private motorcycle, and 29 percent have a car. About 3 percent of households have none of these durable goods.

Urban-rural differentials can be seen in the ownership of specific durable goods. In general, these goods are more available in urban households than in rural households except for the car and motorcycle ownership. For example, more than half of urban households have a telephone (66 percent), while the proportion in rural areas is only 17 percent. Ninety-one percent of households in urban areas have a refrigerator, compared with 82 percent in rural areas. A higher proportion of both urban and rural households own a television (94 and 92 percent, respectively). Rural households are almost three times more likely to own a motorcycle than urban households due to the greater need for transportation in rural areas.

Table 2.8 Household durable goods

Percentage of households possessing various durable consumer goods, by residence, Turkmenistan 2000

Durable consumer goods	Residence		
	Urban	Rural	Total
Radio	47.1	43.9	45.5
Television	94.3	92.1	93.2
Telephone	66.0	17.3	41.9
Refrigerator	90.5	81.5	86.1
Bicycle	9.9	16.3	13.1
Motorcycle	9.7	26.1	17.8
Car/truck	27.2	30.8	29.0
None of the above	2.1	2.9	2.5
Number of households	3,174	3,129	6,303

WOMEN'S CHARACTERISTICS AND STATUS 3

A.Y. Khaitova, B.A. Gairova, and S. Kishor

The purpose of this chapter is to present a profile of the demographic and socioeconomic characteristics of women age 15-49 who were identified by the TDHS 2000 Household Questionnaire as eligible respondents for the Women's Questionnaire. In addition, data are presented on women's status in Turkmenistan. This information is useful for understanding the context of reproduction and health and provides indicators of the status of women and of women's empowerment. Three aspects of women's situation are presented: education, employment, and direct measures of empowerment. While education and employment can contribute to women's empowerment, direct measures of women's empowerment allow an evaluation of women's perception of their own rights and their degree of control over their own lives.

3.1 Characteristics of Survey Respondents

3.1.1 Background Characteristics

Table 3.1 presents the percent distribution of women by age, current marital status, residence, region, highest educational level, and ethnicity. Women were asked two questions to determine their ages: "In what month and year were you born?" and "How old were you at your last birthday?" Interviewers were trained in probing techniques for situations in which respondents did not know their age or date of birth.

Results show that the percentage of women in five-year age groups declines steadily with increasing age. About 39 percent of women are in the age group 15-24 and 29 percent of women are in the age group 25-34. Married women comprise large proportions of the total women interviewed (62 percent), while never-married women constitute 32 percent. Two percent of women are widowed and 4 percent of women are divorced.

Forty-seven percent of respondents reside in urban areas and 53 percent live in rural areas. The percent distribution of the interviewed women by region of residence is as follows: 13 percent live in Ashgabad City, 15 percent in Akhal Region, 9 percent in Balkan Region, 21 percent in Dashoguz Region, 20 percent in Lebap Region, and 23 percent in Mary Region.

Almost all TDHS 2000 respondents had attended at least primary/secondary school, 20 percent had a secondary-special education, and 7 percent had a higher education.

Ethnically, the respondents in the TDHS 2000 are distributed as follows: ethnic Turkmens, 78 percent; ethnic Uzbeks, 11 percent; ethnic Russians, 5 percent; ethnic Kazakhs, 1 percent and other ethnic groups 5 percent.

Table 3.2 shows the distribution of women by ethnicity, religion, and residence according to region. The data indicates that Turkmens are dominant ethnic group in all survey regions. Dashoguz and Lebap regions have relatively high concentration of women of Uzbek ethnicity. Russian women make up 27 percent of the respondents in Ashgabad City and present in less than 5 percent in other survey regions.

Table 3.1 Background characteristics of respondents

Percent distribution of women by background characteristics, Turkmenistan 2000

Background characteristic	Weighted percent	Number of women	
		Weighted	Un-weighted
Age			
15-19	19.9	1,574	1,589
20-24	19.5	1,541	1,580
25-29	15.9	1,256	1,260
30-34	13.4	1,060	1,059
35-39	12.3	974	958
40-44	10.7	845	817
45-49	8.4	669	656
Marital status			
Never married	32.4	2,563	2,655
Married/living together	61.8	4,892	4,829
Widowed	2.2	174	168
Divorced/separated	3.7	289	267
Residence			
Urban	46.6	3,691	3,693
Rural	53.4	4,228	4,226
Region			
Ashgabad City	13.1	1,038	585
Akhal	14.5	1,145	1,081
Balkan	9.0	709	1,000
Dashoguz	20.6	1,628	2,833
Lebap	20.3	1,607	1,263
Mary	22.6	1,791	1,157
Education			
No education	1.0	76	76
Primary/secondary	72.3	5,725	5,843
Secondary-special	19.6	1,556	1,515
Higher	7.1	563	485
Ethnicity			
Turkmen	78.2	6,191	5,906
Uzbek	10.8	857	1,269
Russian	5.3	420	299
Kazakh	1.0	80	133
Other	4.7	371	312
Total	100.0	7,919	7,919

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

The dominant religion in Turkmenistan is Muslim: more than 90 percent of the respondents in all survey regions except Ashgabad City reported that they are Muslims. In the capital city of Ashgabad, which has high concentration of women of Russian ethnicity, 27 percent of women said they are Christians. The majority of women in Turkmenistan reside in rural areas. An exception is Balkan region, where 80 percent of women reside in urban areas.

3.1.2 Educational Level of Respondents

Table 3.3 shows the percent distribution of women by the highest level of education attended according to background characteristics. Approximately 72 percent of respondents have attended primary/secondary school, 20 percent have attended secondary-special school, and 7 percent have had higher education.

There are significant differences in education between urban and rural areas and between regions. The proportion of respondents with higher education in urban areas is more than three times higher than in rural areas. This proportion is also higher in Ashgabad City compared to other regions. The proportion of respondents with secondary-special education in urban areas is more than two times higher than in rural areas This proportion is higher in Ashgabad City, Balkan and Lebap regions compared to other survey regions.

The level of education of Turkmen and Uzbek women is about similar. More than 70 percent of Turkmen and Uzbek women have primary/secondary education. Sixteen percent of Turkmen and 22 percent of Uzbek women have secondary-special education. Seven percent of Turkmen and 5 percent of Uzbek women have higher education. Among women of other ethnic groups 41 percent have attended secondary-special school, and 12 percent have had higher education.

Table 3.2 Residence, ethnicity, and religion by region

Percent distribution of women by residence, ethnicity, and religion, according to region, Turkmenistan 2000

Background characteristic	Region						Total
	Ashgabad City	Akhal	Balkan	Dashoguz	Lebap	Mary	
Residence							
Urban	100.0	32.0	79.6	32.8	44.3	26.5	46.6
Rural	0.0	68.0	20.4	67.2	55.7	73.5	53.4
Ethnicity							
Turkmen	67.4	94.1	88.7	59.0	80.1	85.8	78.2
Uzbek	0.5	0.2	0.3	36.5	14.9	0.8	10.8
Russian	23.8	2.3	4.0	0.6	2.5	3.9	5.3
Kazakh	0.0	0.4	2.4	2.6	0.2	0.7	1.0
Other	8.3	3.1	4.6	1.3	2.4	8.8	4.7
Religion							
Muslim	71.6	97.1	94.8	99.1	96.8	93.5	93.1
Christian	27.3	2.8	5.1	0.7	2.9	5.2	6.3
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Not religious	1.0	0.0	0.0	0.1	0.2	1.1	0.4
Don't know	0.2	0.1	0.1	0.0	0.1	0.1	0.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	1,038	1,145	709	1,628	1,607	1,791	7,919

Table 3.3 Educational attainment by background characteristics

Percent distribution of women by highest level of schooling attained, and median number of years of schooling, according to background characteristics, Turkmenistan 2000

Background characteristic	Highest level of education attended			Total	Number of women	Median years of schooling
	None/ Primary/ secondary	Secondary-special	Higher			
Age						
15-19	94.0	4.5	1.4	100.0	1,574	8.5
20-24	79.3	15.8	4.9	100.0	1,541	9.5
25-29	64.2	28.1	7.8	100.0	1,256	9.8
30-34	56.8	31.0	12.2	100.0	1,060	9.9
35-39	65.4	26.0	8.6	100.0	974	9.7
40-44	71.2	19.2	9.6	100.0	845	9.7
45-49	67.6	21.5	10.9	100.0	669	9.6
Residence						
Urban	60.5	28.0	11.4	100.0	3,691	9.7
Rural	84.3	12.3	3.3	100.0	4,228	9.4
Region						
Ashgabad City	51.7	27.5	20.8	100.0	1,038	9.9
Akhal	86.4	11.4	2.2	100.0	1,145	9.3
Balkan	73.6	22.1	4.3	100.0	709	9.5
Dashoguz	79.7	15.5	4.8	100.0	1,628	9.5
Lebap	59.1	31.9	9.0	100.0	1,607	9.8
Mary	84.0	12.2	3.8	100.0	1,791	9.4
Ethnicity						
Turkmen	76.9	16.4	6.7	100.0	6,191	9.5
Uzbek	73.6	21.6	4.8	100.0	857	9.6
Other	46.9	40.9	12.2	100.0	871	10.8
Total	73.2	19.6	7.1	100.0	7,919	9.5

3.1.3 Access to Mass Media

During the TDHS 2000 interviews, women were asked about their exposure to the mass media which is an indicator of their access to information about health and family planning.

Table 3.4 shows that 94 percent of women watch TV weekly, 33 percent listen to the radio weekly, while 31 percent read a newspaper at least once a week. There is little difference by age in access to the mass media. Women in Ashgabad City, Balkan and Dashoguz regions have more access to all three types of mass media (24, 19 and 18 percent, respectively) than women in Akhal, Lebap and Mary regions (7, 16 and 12 percent, respectively). There is an association between a respondent's exposure to mass media and her education level; the higher the education level, more likely they are to avail themselves of all three media.

Table 3.4 Access to mass media

Percentage of women who usually read a newspaper once a week, watch television once a week, or listen to the radio daily, by background characteristics, Turkmenistan 2000

Background characteristic	No mass media	Mass media: Reads a newspaper weekly	Mass media: Watches television weekly	Mass media: Listens to the radio daily	Mass media: All three media	Number of women
Age						
15-19	4.1	29.8	95.3	28.8	13.1	1,574
20-24	4.7	31.1	93.9	30.7	15.0	1,541
25-29	4.6	34.2	93.9	31.4	15.6	1,256
30-34	4.4	33.7	93.7	36.1	17.1	1,060
35-39	5.6	30.5	92.7	34.8	16.7	974
40-44	6.9	32.8	92.1	36.3	16.9	845
45-49	5.0	26.6	92.2	38.4	13.6	669
Residence						
Urban	3.3	38.6	95.4	35.5	19.2	3,691
Rural	6.2	25.1	92.2	30.7	11.8	4,228
Region						
Ashgabad City	1.5	40.6	97.5	44.8	24.0	1,038
Akhal	8.9	11.2	89.7	33.6	6.5	1,145
Balkan	8.0	41.0	88.8	38.5	19.2	709
Dashoguz	4.0	28.6	94.9	31.6	18.0	1,628
Lebap	4.1	37.8	94.8	29.1	15.5	1,607
Mary	4.6	32.0	93.7	28.0	11.6	1,791
Education						
Primary/secondary	6.1	23.1	92.4	29.8	10.6	5,800
Secondary-special	1.9	46.7	96.5	38.3	23.1	1,556
Higher	0.6	75.2	98.7	50.7	42.2	563
Ethnicity						
Turkmen	5.2	30.2	93.4	33.7	15.0	6,191
Uzbek	3.5	28.5	95.5	24.2	12.8	857
Other	4.3	42.6	93.8	35.9	19.5	871
Total	4.9	31.4	93.7	32.9	15.3	7,919

3.1.4 Employment Status

The TDHS 2000 asked a series of questions to determine women's employment status over the 12 months preceding the survey. For women who were employed, information was also obtained on the nature of employment including occupation and type of earnings, if any.

Like education, employment can also be a source of empowerment for women, especially if it puts them in control of income. The measurement of women's employment is difficult, however. The difficulty arises largely because some of the work that women do, especially work on family farms, family businesses or in the informal sector is often not perceived by women themselves as employment, and hence not reported as such. To avoid underestimating women's employment, the TDHS 2000 asked women several questions to ascertain their employment status. First women were asked "Aside from your own housework, are you currently working?" Women who answered "No" to this question were then asked "As you know, some women take up jobs for which they are paid in cash or kind. Others sell things, have a small business, or work on the family farm or in the family business. Are you currently doing any of these things or any other work?" Women who answered "No" to this question were asked "Have you done any work in the last 12 months?" Women are currently employed if they answered "Yes" to either of the first two questions. Women who answered "Yes" to the third question are not currently employed but have worked in the past 12 months. All employed women were asked their occupation, whether they were paid in cash, in kind, or not paid at all, and where and for whom they worked.

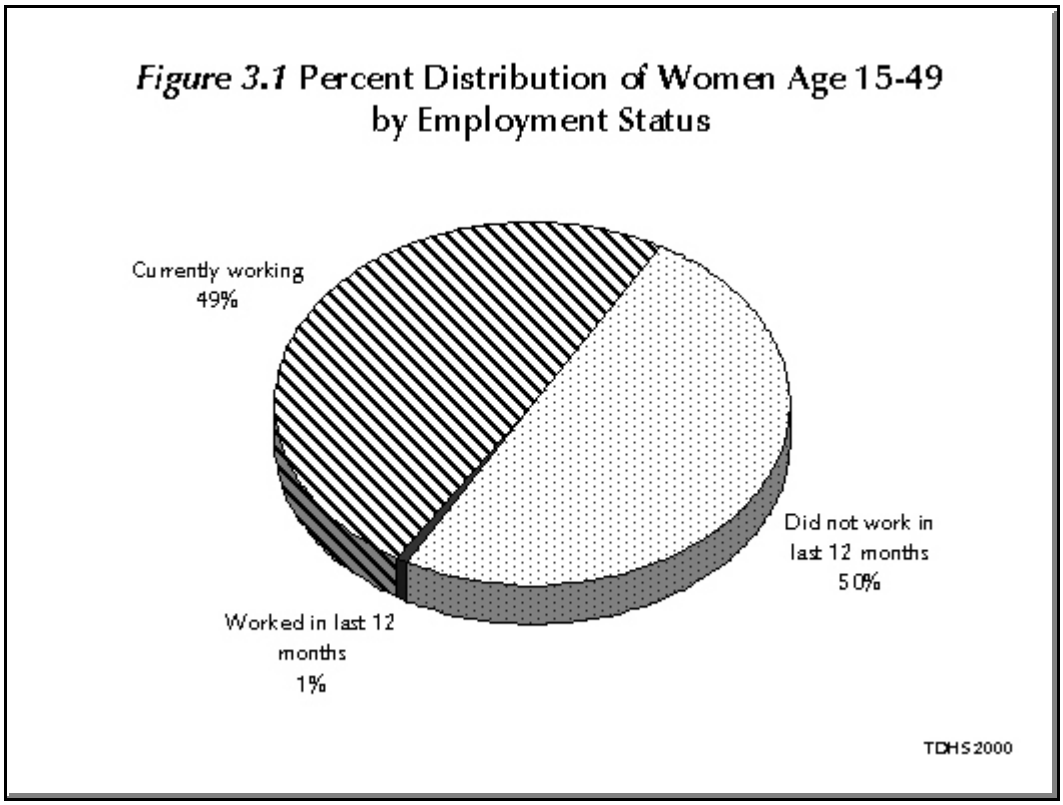
Table 3.5 and Figure 3.1 show that, in Turkmenistan, half of all women age 15-49 were either currently employed or had worked during the 12 months preceding the survey. Almost all women who had worked at all during the 12 months preceding the survey, were also working at the time of the survey. Only 2 percent of women who had worked at any time during the past 12 months (1 percent of all women) were not currently working. Women's current work participation first increases with age from 27 percent for women age 15-19 to 57 percent for women age 30-34 and then plateaus at 61-62 percent for women in the older age groups (age 35-49). Urban women are slightly more likely than rural women to be employed, although the differential by residence, especially in the proportion currently employed, is small. By region, the proportion of women employed at any time in the past 12 months is highest in the Lebap Region (55 percent) and lowest in the Dashoguz, Akhal, and Mary regions (46-47 percent). The likelihood of employment varies sharply with education. Only 42 percent of women who have no more than secondary education worked at any time in the 12 months preceding the survey compared with 70 percent of women with secondary-special education and 80 percent of women with higher education. Uzbek women (47 percent), followed by Turkmen women (50 percent) are less likely than women of other ethnicities (60 percent) to have been employed at any time in the 12 months preceding the survey.

In Turkmenistan, almost all women who work earn cash for the work they do (Table 3.5). Overall, only 1 percent of women who are employed are not earning cash, and this proportion is never greater than 2 percent for any subgroup of employed women.

Table 3.5 Employment

Percent distribution of women by employment status in the 12 months preceding the survey and, among those currently working, whether or not they earned cash, according to background characteristics, Turkmenistan 2000

Background characteristic	Employed in the 12 months preceding the survey: Currently employed	Employed in the 12 months preceding the survey: Not currently employed	Not employed in the 12 months preceding the survey	Missing	Total	Number	Currently working: Earned cash	Currently working: Did not earn cash	Total	Number
Age										
15-19	27.1	1.0	71.6	0.3	100.0	1,574	97.9	2.1	100.0	426
20-24	46.4	1.2	52.2	0.2	100.0	1,541	99.0	1.0	100.0	715
25-29	51.1	1.2	47.5	0.1	100.0	1,256	99.2	0.8	100.0	643
30-34	57.1	0.6	42.3	0.0	100.0	1,060	99.4	0.6	100.0	605
35-39	61.1	0.6	38.1	0.2	100.0	974	98.6	1.4	100.0	595
40-44	61.2	0.5	38.3	0.0	100.0	845	98.1	1.9	100.0	517
45-49	61.5	1.3	37.2	0.0	100.0	669	99.6	0.4	100.0	411
Marital status										
Never married	41.1	1.2	57.4	0.3	100.0	2,563	98.3	1.7	100.0	1,055
Married/living together	52.3	0.9	46.8	0.1	100.0	4,892	99.1	0.9	100.0	2,557
Widowed	68.8	0.4	30.8	0.0	100.0	174	97.3	2.7	100.0	120
Divorced, separated	62.4	0.6	37.0	0.0	100.0	289	100.0	0.0	100.0	181
Number of living children										
0	41.3	1.2	57.2	0.3	100.0	2,942	98.5	1.5	100.0	1,214
1-2	50.7	0.9	48.4	0.0	100.0	2,334	99.5	0.5	100.0	1,183
3-4	57.0	0.7	42.2	0.1	100.0	1,710	98.7	1.3	100.0	975
5+	57.9	0.6	41.4	0.1	100.0	934	98.5	1.5	100.0	541
Residence										
Urban	51.2	1.5	47.2	0.1	100.0	3,691	98.8	1.2	100.0	1,891
Rural	47.8	0.5	51.5	0.2	100.0	4,228	98.9	1.1	100.0	2,021
Region										
Ashgabad City	51.4	2.1	46.3	0.2	100.0	1,038	99.4	0.6	100.0	534
Akhal	46.9	0.1	52.7	0.3	100.0	1,145	98.6	1.4	100.0	537
Balkan	51.7	4.4	43.7	0.1	100.0	709	98.8	1.2	100.0	367
Dashoguz	46.3	0.2	53.3	0.1	100.0	1,628	98.4	1.6	100.0	754
Lebap	54.7	0.4	44.7	0.2	100.0	1,607	98.3	1.7	100.0	879
Mary	47.0	0.6	52.5	0.0	100.0	1,791	99.6	0.4	100.0	841
Education										
None/primary/secondary	41.4	1.0	57.5	0.1	100.0	5,800	98.4	1.6	100.0	2,399
Secondary-special	68.7	0.9	30.3	0.2	100.0	1,556	99.5	0.5	100.0	1,068
Higher	79.0	0.6	20.4	0.0	100.0	563	99.4	0.6	100.0	445
Ethnicity										
Turkmen	48.5	1.0	50.4	0.1	100.0	6,191	98.7	1.3	100.0	3,000
Uzbek	46.2	0.5	53.2	0.1	100.0	857	98.4	1.6	100.0	396
Other	59.3	0.9	39.6	0.2	100.0	871	100.0	0.0	100.0	516
Total	49.4	0.9	49.5	0.1	100.0	7,919	98.9	1.1	100.0	3,912



3.1.5 Occupation

Table 3.6 shows the occupational profiles of currently employed women by background characteristics. Over one-third (39 percent) of all employed women are in professional, technical, or managerial occupations, 28 percent are in agricultural occupations, 14 percent are in skilled manual occupations, and 9 percent are in the unskilled manual occupations. Sales and service occupations account for only 5 percent of women's employment. The largest variation in the proportion of women in the professional, technical, or managerial occupations is by level of education. Only 19 percent of women who have completed at most secondary school are in professional, technical, or managerial occupations compared with 66 percent of women who have secondary-special education and 86 percent of women who have higher education. Notably, these occupations also account for about half of all employed women who are divorced or separated, have 1-2 children, live in urban areas, live in Ashgabad City, belong to ethnic groups other than Turkmen and Uzbek, or are age 25-34. Working women who have no children, and those in the Dashoguz area are about equally likely to be in agricultural occupations as in professional, technical, or managerial occupations. By contrast, working women who are age 15-19, are never married, have five or more children, live in rural areas or in the Akhal or Mary regions, or have only secondary education or less, are much more likely to be in agricultural occupations than in any other kind of occupations. Sales and service occupations are relatively more important in the occupational profiles of urban women and women who are not Turkmen, whereas unskilled manual occupations are relatively more important in the occupational profiles of the oldest women, widowed or other formerly married women, women with three or more children, and women with secondary education or less, than for any other women. Women's participation in skilled manual occupations declines sharply with age and number of living children. One-fourth or more of employed women age 15-19, never-married women, and women living in the Akhal and Balkan regions are employed in skilled manual occupations.

Table 3.6 Occupation

Percent distribution of currently employed women by occupation (agricultural or nonagricultural occupation) and type of nonagricultural occupation, according to background characteristics, Turkmenistan 2000

Background characteristic	Agriculture	Nonagricultural occupation				Missing	Total	Number
		Professional/ Technical/ Managerial	Sales, services	Skilled manual	Unskilled manual			
Age								
15-19	39.7	15.0	4.0	30.8	6.9	3.5	100.0	426
20-24	26.5	35.0	4.5	19.4	7.9	6.6	100.0	715
25-29	20.9	49.7	3.7	14.0	5.8	5.9	100.0	643
30-34	21.2	47.2	5.9	10.3	10.1	5.3	100.0	605
35-39	30.1	43.5	3.7	8.8	8.9	5.0	100.0	595
40-44	31.2	39.2	6.2	9.8	9.8	3.8	100.0	517
45-49	29.6	37.4	4.6	6.9	15.2	6.4	100.0	411
Marital status								
Never married	31.7	27.9	3.9	24.9	6.5	5.0	100.0	1,055
Married/living together	28.2	42.7	4.7	10.0	9.3	5.2	100.0	2,557
Widowed	18.0	44.6	8.9	8.1	16.1	4.3	100.0	120
Divorced/separated	3.9	52.8	6.0	15.2	13.1	9.1	100.0	181
Number of living children								
0	29.6	30.4	4.3	23.7	6.7	5.2	100.0	1,214
1-2	14.7	53.6	4.2	11.2	7.8	8.5	100.0	1,183
3-4	28.8	41.1	6.2	9.4	11.7	2.8	100.0	975
5+	49.9	24.1	3.4	8.1	11.6	2.9	100.0	541
Residence								
Urban	0.8	54.8	7.7	17.0	10.8	8.8	100.0	1,891
Rural	52.8	24.6	1.8	11.5	7.2	2.0	100.0	2,021
Region								
Ashgabad City	0.3	55.2	6.8	12.9	9.1	15.7	100.0	534
Akhal	36.3	20.4	2.2	27.6	9.9	3.7	100.0	537
Balkan	2.2	40.1	5.4	37.4	10.3	4.6	100.0	367
Dashoguz	40.8	39.0	4.0	6.1	7.3	2.7	100.0	754
Lebap	23.9	45.5	6.9	9.7	10.2	3.8	100.0	879
Mary	43.0	34.4	2.7	8.2	7.9	3.9	100.0	841
Education								
Primary/secondary	42.7	18.7	4.3	18.4	12.2	3.8	100.0	2,399
Secondary-special	5.4	65.8	5.9	9.8	5.5	7.6	100.0	1,068
Higher	0.4	86.4	3.3	1.9	0.0	7.9	100.0	445
Ethnicity								
Turkmen	32.1	35.8	3.5	15.6	9.1	3.8	100.0	3,000
Uzbek	23.1	45.1	8.3	11.3	8.2	4.0	100.0	396
Other	5.8	54.5	8.3	8.2	8.4	14.8	100.0	516
Total	27.7	39.2	4.6	14.2	9.0	5.3	100.0	3,912

3.1.6 Employer and Forms of Earnings

Table 3.7 shows the percent distribution of employed women by type of employer and type of earnings according to background characteristics. In Turkmenistan, 3 percent of women who are currently working are self employed, 17 percent are employed by a family member, and the vast majority, 81 percent, are employed by someone else. Almost all women who work, irrespective of the type of employer, work for cash. Although the majority of working women in all subgroups of the population are working for someone else, the type of employer does vary substantially by the background characteristics of women. The youngest women (age 15-19), followed by women age 20-24, are much more likely than women in older age groups to be working for a family member

Table 3.7 Employer and form of earnings

Percent distribution of currently employed women by employer and type of earnings, (cash, in kind, no payment), according to background characteristics, Turkmenistan 2000

Background characteristic	Self-employed		Employed by a nonrelative		Employed by a relative		Missing	Total	Number
	Earns cash	Does not earn cash	Earns cash	Does not earn cash	Earns cash	Does not earn cash			
Age									
15-19	3.1	0.7	58.5	0.1	36.3	0.9	0.3	100.0	426
20-24	3.4	0.4	77.2	0.2	18.4	0.4	0.0	100.0	715
25-29	2.1	0.6	85.6	0.1	11.5	0.2	0.0	100.0	643
30-34	2.2	0.2	84.6	0.3	12.3	0.0	0.3	100.0	605
35-39	1.6	0.0	83.6	0.4	13.4	1.0	0.0	100.0	595
40-44	1.3	0.0	82.9	1.6	13.9	0.4	0.0	100.0	517
45-49	0.9	0.0	85.7	0.4	12.6	0.0	0.4	100.0	411
Residence									
Urban	3.1	0.3	84.8	0.2	11.0	0.6	0.0	100.0	1,891
Rural	1.3	0.2	76.1	0.7	21.3	0.2	0.2	100.0	2,021
Region									
Ashgabad City	4.9	0.3	87.4	0.0	7.1	0.3	0.0	100.0	534
Akhal	0.4	0.8	53.8	0.0	44.4	0.6	0.0	100.0	537
Balkan	4.4	0.0	64.9	0.0	29.5	1.1	0.2	100.0	367
Dashoguz	1.5	0.1	91.4	1.4	5.6	0.1	0.0	100.0	754
Lebap	2.2	0.3	87.6	0.6	8.6	0.7	0.1	100.0	879
Mary	1.1	0.2	81.9	0.2	16.3	0.0	0.4	100.0	841
Education									
Primary/secondary	2.3	0.4	72.0	0.6	24.0	0.5	0.2	100.0	2,399
Secondary-special	2.1	0.0	92.6	0.2	4.9	0.3	0.0	100.0	1,068
Higher	1.7	0.4	95.3	0.2	2.3	0.0	0.0	100.0	445
Occupation									
Agricultural	0.5	0.1	71.1	1.1	26.8	0.3	0.1	100.0	1,084
Nonagricultural	2.8	0.3	83.8	0.2	12.3	0.4	0.1	100.0	2,828
Ethnicity									
Turkmen	2.2	0.3	77.8	0.5	18.6	0.5	0.1	100.0	3,000
Uzbek	2.1	0.5	85.1	0.4	11.1	0.4	0.3	100.0	396
Other	1.9	0.0	91.1	0.0	7.0	0.0	0.0	100.0	516
Total	2.2	0.3	80.3	0.4	16.3	0.4	0.1	100.0	3,912

Note: *Earns cash* includes both women who receive only cash and those who receive both cash and in-kind payment. *Does not earn cash* includes both women who receive only in-kind payment and those who receive no payment.

or to be self employed. Only 59 percent of working women age 15-19 work for someone else, compared with 83 percent or more of women age 25 or older. Rural working women (22 percent) are about twice as likely as urban working women (12 percent), to be working for a family member. Twenty-five percent of working women who have at most completed secondary education work for a family member, compared with 5 percent or less of working women with secondary-special or higher education. One in five Turkmen working women work for a family member compared with about one in ten or less of women from other ethnic groups. Women working in agricultural occupations are also more than twice as likely as those working in nonagricultural occupations to be employed by a family member. Working for a family member is most common, however, in the Akhal and Balkan regions. In these regions, 45 percent and 31 percent, respectively, of working women work for a family member, higher than in any other subgroup of the population. Although very few women are self employed, the proportion self employed is much higher among working women in Ashgabad City and in the Balkan Region (4-5 percent) than among women in most of the other subgroups of the population.

3.1.7 Decisionmaking Regarding Use of Cash Earnings

Employed women who earn cash for their work were asked who the main decisionmaker is with regard to the use of their earnings. This information allows the assessment of women's control over their own earnings. Table 3.8 shows how working women's control over their own earnings varies by background characteristics. While 24 percent of women alone decide how their earnings are to be used, the majority, 54 percent, take these decisions jointly with their partner or someone else. More than one out of five women (22 percent) have no part in the decision on how their earnings are used. The likelihood that women do not participate at all in the decision about how their earnings are to be used declines sharply with age, from 51 percent for women age 15-19 to 5 percent for women age 45-49. Among currently married women the proportion not participating in this decision is only 14 percent, but few also make this decision alone (19 percent). Almost all (91 percent) of widowed, divorced, or separated women tend to take this decision alone, however. In addition, working women who belong to ethnicities other than Turkmen or Uzbek (48 percent) or who live in Ashgabad City (45 percent) are also more likely than most other women to take the decision about the use of their earnings by themselves. About one-third of women who live in urban areas, have secondary-special education, live in the Balkan Region, or have 1-2 children, take these decisions alone. Notably, about one-third or more of women who are never married, have no children, live in rural areas, or live in the Mary Region do not participate at all in decisions about how their earnings are to be used.

In order to assess the relative importance of women's earnings in meeting household expenditures, TDHS 2000 asked employed women who earned cash "On average, how much of your household's expenditure do your earnings pay for: almost none, less than half, about half, more than half, or all?" This information not only allows an evaluation of the relative importance of women's earnings in the household economy, but has implications for the empowerment of women. It is expected that employment and earnings are more likely to empower women if they perceive their earnings as important for meeting the needs of their households. The variation by background characteristics in the extent to which women's earnings pay for their households' expenditures (for women who are employed and earn cash), is also shown in Table 3.8.

From Table 3.8, it is clear that when women work for cash, their earnings are critical to meeting household expenditures in a substantial proportion of cases. Specifically, in the case of 35 percent of women who earn cash, the woman's earnings alone pay for at least half of her household's expenditures. This suggests that the households of almost one in five women age 15-49 are dependent on the earnings of women alone to meet the majority of their expenditures. For women who earn cash, the likelihood that their earnings pay for at least half of their household's expenditures rises with age, from 16 percent for women age 15-19 to over 40 percent for women age 30-49. At least half of the household's expenditures are met by the woman's earnings in the case of 40 percent or more of working women with 1-4 children. Notably too, households' of at least half of the women who are divorced, separated, or widowed, who live in the Balkan Region, who have higher education, or who belong to ethnicities other than Turkmen or Uzbek depend on women's earnings to meet at least half of their expenditures. The earnings of women play a much more important role in meeting household expenditures in urban than rural areas.

Table 3.9 shows whether working women's control over their own earnings varies by the extent to which their earnings help to meet household expenditures. With the exception of women whose earnings pay for almost none of their households' expenditures, among all other women who work for cash, the proportion who alone take the decision about how their earnings are to be used increases with the extent to which their earnings pay for household expenditures. For example,

Table 3.8 Decision of use of earnings and contribution of earnings to household expenditures

Percent distribution of women receiving cash earnings by person who decides how earnings are used and by proportion of household expenditures met by earnings, according to background characteristics, Turkmenistan 2000

Background characteristic	Person who decides how earnings are used					Proportion of household expenditures met by earnings						
	Self only	Jointly	Someone else	Missing	Total	Almost none	Less than half	Half or more	All	Missing	Total	Number
Age												
15-19	12.8	35.7	51.1	0.4	100.0	3.9	80.0	15.4	0.4	0.3	100.0	418
20-24	17.2	39.7	42.9	0.2	100.0	4.3	72.6	20.1	2.8	0.2	100.0	708
25-29	24.0	49.8	26.0	0.2	100.0	2.6	65.2	28.5	3.7	0.0	100.0	637
30-34	25.2	62.7	12.1	0.0	100.0	1.4	54.5	39.3	4.8	0.0	100.0	602
35-39	27.6	65.0	7.4	0.0	100.0	1.1	56.9	33.5	8.5	0.0	100.0	587
40-44	24.2	66.1	9.7	0.0	100.0	0.7	54.4	39.6	5.3	0.0	100.0	507
45-49	38.8	56.6	4.6	0.0	100.0	0.6	56.4	33.9	9.1	0.0	100.0	410
Marital status												
Never married	17.4	34.1	48.1	0.4	100.0	4.5	76.2	18.0	1.0	0.3	100.0	1,037
Married or in union	18.6	67.2	14.2	0.0	100.0	1.3	60.8	34.3	3.6	0.0	100.0	2,533
Divorced, separated, widowed	91.3	5.4	3.3	0.0	100.0	1.6	34.0	35.3	29.0	0.0	100.0	297
Number of living children												
0	19.6	35.3	44.7	0.4	100.0	4.4	74.7	18.9	1.7	0.2	100.0	1,196
1-2	30.8	52.1	17.1	0.0	100.0	1.5	55.0	35.1	8.4	0.0	100.0	1,177
3-4	23.4	68.6	8.0	0.0	100.0	0.7	58.7	35.2	5.4	0.0	100.0	962
5+	19.1	70.7	10.2	0.0	100.0	1.3	61.1	34.4	3.1	0.0	100.0	533
Residence												
Urban	35.5	50.8	13.6	0.1	100.0	1.9	54.6	35.7	7.9	0.0	100.0	1,869
Rural	13.1	56.1	30.7	0.1	100.0	2.5	70.6	24.7	2.0	0.1	100.0	1,998
Region												
Ashgabad City	44.9	44.6	10.4	0.0	100.0	1.0	56.0	33.3	9.7	0.0	100.0	530
Akhal	13.4	61.2	25.3	0.0	100.0	0.8	85.5	12.3	1.4	0.0	100.0	530
Balkan	32.1	52.9	15.0	0.0	100.0	2.7	43.2	51.3	2.8	0.0	100.0	362
Dashoguz	20.0	61.0	18.8	0.2	100.0	1.5	70.0	25.2	3.2	0.2	100.0	743
Lebap	24.3	57.2	18.6	0.0	100.0	3.9	57.6	34.4	4.2	0.0	100.0	864
Mary	16.7	44.5	38.5	0.3	100.0	2.4	60.6	29.8	7.0	0.2	100.0	838
Education												
Primary/secondary	18.9	52.0	29.0	0.1	100.0	2.5	69.2	24.9	3.4	0.1	100.0	2,362
Secondary-special	32.7	54.1	13.2	0.0	100.0	1.9	54.6	36.1	7.4	0.0	100.0	1,063
Higher	29.7	60.5	9.3	0.5	100.0	1.3	49.0	42.9	6.7	0.1	100.0	442
Ethnicity												
Turkmen	19.4	54.5	26.0	0.1	100.0	2.4	66.0	28.3	3.3	0.1	100.0	2,961
Uzbek	26.5	59.0	14.2	0.3	100.0	1.9	59.9	29.7	8.3	0.2	100.0	389
Other	47.5	44.2	8.3	0.0	100.0	1.3	47.2	40.3	11.2	0.0	100.0	516
Total	23.9	53.6	22.4	0.1	100.0	2.2	62.9	30.0	4.9	0.1	100.0	3,867

among currently married women 15 percent of women whose earnings pay for less than half of household expenditures, 21 percent of women whose earnings pay for half or more of household expenditures, and 53 percent of women whose earnings pay for all household expenditures alone take the decision on how their earnings should be used. Surprisingly, however, among currently married women, the proportion who do not participate at all in the decision on the use of their earnings first declines from 17 percent to 9 percent as contributions to household expenditures increase from less than half to half or more than half, but then rises again to 14 percent for women whose earnings are used to meet all of the household's expenditures. Among women, whose earnings meet almost none of their households' expenditures, the use of earnings is about equally likely to be decided alone by women themselves as by a husband or someone else if the woman is currently married; but if she is not currently married, she alone is most likely to decide how her earnings are to be used.

3.2 Direct Measures of Women's Empowerment

In addition to information on women's education, employment status, and earnings control, TDHS 2000 also obtained information on some additional direct measures of women's status and empowerment. Specifically, questions were asked on women's participation in household decisionmaking and on their opinions about when a wife should be able to refuse sex to her husband. These data provide insight into women's control over their lives and their environment and their attitudes toward traditional gender roles, which are all important aspects of women's empowerment relevant for understanding demographic and health behaviors.

These questions are used to define two different indicators of women's empowerment: women's participation in decisionmaking and their degree of acceptance of a wife's right to refuse her husband sex. The first measure requires little justification since the ability to take decisions about ones own life is essential to the concept of empowerment. Beliefs about whether and when a woman can refuse sex to her husband reflect issues of gender equity with regard to sexual rights and bodily integrity. Besides yielding an important measure of empowerment, the information about women's attitudes toward sexual rights will be useful for improving and monitoring reproductive health programs that depend on women's willingness and ability to control their own sexual lives.

3.2.1 Household Decisionmaking

In order to assess women's decisionmaking roles, women were asked who in their families usually has the final say in five different decisions, namely, decisions about the respondent's own health care, making large household purchases, making household purchases for daily needs, visits to family, friends, or relatives, and what food should be cooked each day. Table 3.10 shows the percent distribution of women according to who in the household usually has the final say on each one of the different types of decisions.

Most currently married women, three out of four, usually take decisions alone on what food to cook each day. Only a minority of women, however, alone have the final say on each of the other decisions. Even in decisions about their own health care, only 41 percent of women alone have the final say, and in decisions about daily household purchases, only 33 percent alone have the final say. One in ten women or less alone have the final say about visits to family or relatives or about large household purchases. In addition, for 17 percent of currently married women, husbands or someone else takes decisions about the woman's health care without her involvement in the final say. Similarly, more than one-fifth of currently married women are not involved at all (either alone or jointly with someone else in the final say) in each of the decisions about large household purchases, daily household purchases, and visits to family and relatives. Notably, women who are currently not married are even more likely than married women to not have the final say at all in each of the different decisions. For example, about half of unmarried or formerly married women do not participate in decisions about their own health care and in decisions about what food to cook; the proportion not involved at all rises to two-thirds for decisions about daily household purchases and large household purchases.

Table 3.11 shows how participation in decisionmaking varies for all women by background characteristics. Women are said to participate in a decision if they alone or jointly with a husband or someone else have the final say. The proportion of women who participate in all five decisions increases more or less steadily with age, from 18 percent for women age 15-19 to 78 percent for women age 45-49. At least 3 out of 4 women in all the age groups 30-34 and above participate in

Table 3.9 Control over earnings according to contribution to household expenditures

Percent distribution of women receiving cash earnings by person who decides how earnings are used and marital status, according to how much of household expenditures are met by earnings, Turkmenistan 2000

Contribution to household expenditures	Married/living together							Not married/not living together					
	Self only	Jointly with husband	Jointly with someone else	Husband only	Someone else only	Total	Number	Self only	Jointly with someone else	Someone else only	Missing	Total	Number
Proportion of household expenditures met by earnings													
Almost none	(26.5)	(42.7)	(4.9)	(17.2)	(8.6)	100.0	32	52.1	6.0	41.8	0.0	100.0	52
Less than half	15.1	65.8	2.6	7.6	9.0	100.0	1,540	21.4	32.7	45.5	0.4	100.0	891
Half of more	21.0	69.0	0.6	7.7	1.7	100.0	870	48.6	24.8	26.6	0.0	100.0	291
All	53.0	28.4	3.6	14.9	0.0	100.0	91	95.8	2.5	1.6	0.0	100.0	96
Total[1]	18.6	65.2	2.0	8.0	6.1	100.0	2,533	33.9	27.7	38.1	0.3	100.0	1,334

Note: Not married/not living together includes never married, divorced, widowed and separated women. Parentheses indicate that a figure is based on 25-49 unweighted cases.
[1] Total includes 3 cases for which proportion of household expenditures met by earnings was missing.

Table 3.10 Household decisionmaking

Percent distribution of women by person who makes specific household decisions and marital status, according to type of decision, Turkmenistan 2000

Household decision	Married/living together								Not married/not living together							
	Self only	Jointly with husband	Jointly with someone else	Husband only	Someone else only	Missing	Total	Number	Self only	Jointly with husband	Jointly with someone else	Husband only	Someone else only	Missing	Total	Number
Own health care	40.3	40.4	2.6	9.3	7.3	0.1	100.0	4,892	32.3	0.3	20.4	0.1	46.8	0.0	100.0	3,027
Large household purchases	7.2	61.1	4.0	13.6	14.1	0.0	100.0	4,892	13.4	0.5	18.2	0.2	67.7	0.0	100.0	3,027
Daily household purchases	32.3	39.1	3.6	10.9	14.0	0.1	100.0	4,892	17.4	0.5	16.3	0.1	65.6	0.1	100.0	3,027
Visits to family, friends, or relatives	9.8	64.2	3.8	10.4	11.8	0.0	100.0	4,892	17.3	0.7	24.1	0.1	57.8	0.1	100.0	3,027
What food to cook each day	76.3	9.8	5.4	0.9	7.6	0.0	100.0	4,892	28.9	0.2	22.8	0.0	48.1	0.0	100.0	3,027

Note: Not married/not living together includes never married, divorced, widowed and separated women.

3.11 Final say in household decisions

Percentage of women who say that they alone or jointly have the final say in specific household decisions, according to background characteristics, Turkmenistan 2000

Background characteristic	Alone or jointly have say in: Own health care	Making large purchases	Making daily purchases	Visits to family, relatives, friends	What food to cook daily	Has final say in all specified decisions	Has final say in no specified decisions	Number of women
Age								
15-19	41.1	19.9	22.6	31.0	43.2	17.7	43.3	1,574
20-24	60.9	35.4	38.8	45.4	61.4	28.9	25.2	1,541
25-29	76.6	58.6	60.1	65.0	82.2	48.1	9.7	1,256
30-34	84.8	77.2	77.5	80.2	93.5	63.4	2.9	1,060
35-39	88.8	82.4	83.7	85.6	96.0	72.7	2.4	974
40-44	89.9	83.9	89.8	91.3	97.6	73.5	0.6	845
45-49	90.9	87.7	90.0	92.1	95.5	78.4	1.9	669
Marital status								
Never married	46.3	22.9	25.2	34.1	45.2	19.9	39.3	2,563
Married/living together	83.3	72.3	75.0	77.8	91.6	61.0	4.8	4,892
Widowed	95.9	92.3	93.3	92.2	94.9	86.8	1.2	174
Divorced, separated	87.1	78.2	78.9	82.0	84.4	72.6	6.7	289
Number of living children								
0	50.0	26.2	28.7	37.1	49.1	22.5	36.2	2,942
1-2	80.8	68.9	70.5	73.5	88.1	58.2	6.7	2,334
3-4	87.4	79.2	82.6	84.2	96.2	67.6	2.0	1,710
5+	88.9	83.3	86.0	89.1	96.7	72.6	1.0	934
Residence								
Urban	78.4	63.9	66.5	71.9	80.9	55.1	11.0	3,691
Rural	65.9	50.9	53.3	57.3	72.4	43.1	20.3	4,228
Region								
Ashgabad City	81.3	64.9	68.1	74.1	81.8	55.8	9.0	1,038
Akhal	81.4	66.3	67.3	77.6	79.0	61.4	12.4	1,145
Balkan	83.8	67.8	64.1	79.2	80.6	57.0	8.3	709
Dashoguz	78.3	60.9	61.7	64.4	78.4	57.3	13.2	1,628
Lebap	67.9	49.6	53.7	55.1	73.3	40.9	18.2	1,607
Mary	52.6	45.1	50.7	51.5	70.8	32.2	25.8	1,791
Education								
Primary/secondary	67.3	52.0	54.3	59.7	73.0	44.4	19.2	5,800
Secondary-special	82.4	69.6	71.6	74.2	84.7	59.0	7.9	1,556
Higher	87.6	72.7	78.5	81.8	88.3	63.8	4.4	563
Ethnicity								
Turkmen	69.1	54.5	57.1	62.0	74.6	46.4	17.9	6,191
Uzbek	79.2	61.0	63.5	64.4	81.9	53.5	9.4	857
Other	82.9	70.3	72.4	78.9	83.6	60.2	8.8	871
Current employment								
Not employed	65.7	48.9	51.4	55.7	70.9	41.6	21.3	3,995
For cash	78.1	65.4	67.8	72.8	82.1	56.0	10.4	3,867
Not for cash	(69.5)	(55.8)	(61.2)	(64.5)	(71.1)	(48.7)	(16.6)	43
Total[1]	71.7	57.0	59.4	64.1	76.4	48.7	16.0	7,919

Note: Parentheses indicate that a figure is based on 25-49 unweighted cases.
[1] Total includes 13 cases for which information employment status was missing.

each decision. Among younger women, however, participation varies greatly by type of decision. By marital status, never-married women are least likely to participate in each decision and widowed women are the most likely to do so. Notably, more than one-third of never-married women do not participate in all of these decisions. Participation in all decisions, as well as in each of the different decisions increases with the number of children. Twenty-three percent of women with no children participate in all decisions compared with 73 percent of women with five or more children. Urban women are more likely than rural women to participate in decisionmaking, and participation in each decision increases with education. By region, participation in all decisions varies from 61 percent for women in the Akhal Region and 56-57 percent for women in the Dashoguz, Balkan, and Ashgabad City regions, to 32 percent for women in the Mary Region. One in four women in the Mary Region and one in five in the Lebap Region do not participate in any of these decisions at all. Turkmen women are somewhat less likely to participate in each of the decisions than Uzbek women, as well as women of other ethnicities. As expected women who work, especially women who work for cash, are more likely than women who do not work, to participate in all decisions.

Women may have a say in some and not in other decisions. To assess each woman's overall degree of engagement in household decisionmaking, the total number of decisions she participates in (i.e., she alone has the final say or does so jointly with her husband or someone else) are added together. The total number of decisions a woman participates in yields a very simple measure of her empowerment in terms of decisionmaking control. Figure 3.3 shows the percent distribution of women in Turkmenistan according to this measure. Overall, about half (49 percent) of the women participate in all five of the decisions, and 16 percent do not participate in any of the decisions. The remainder of the women are distributed about equally among those who participate in only one, only two, only three, and only four decisions.

3.2.2 Women's Agreement with Reasons for Refusing Sexual Relations

The extent of control women have over when and with whom they have sex has important implications for demographic and health outcomes. To measure women's agreement with a woman's right to refuse her husband sex, TDHS 2000 asked respondents whether a wife is justified in refusing to have sex with her husband under four circumstances: she is tired or not in the mood, she has recently given birth, she knows her husband has sex with other women, and she knows her husband has a sexually transmitted disease. These four circumstances for which women's opinions are sought were chosen because they are effective in combining issues regarding women's rights and women's health. Table 3.12 shows the percentage of women who say that women are justified in refusing sex to their husbands for specific reasons by background characteristics. The table also shows how this indicator of women's empowerment varies with the women's participation in decisionmaking. It is worth noting that, unlike in the case of the previous indicator of empowerment, this indicator is positively related to empowerment: the more the reasons women agree with, the higher is their empowerment in terms of their belief in women's sexual rights.

Overall, 52 percent of women in Turkmenistan agree that women can refuse sex to their husbands for all of the four reasons they were asked about. Women are least likely to say that a wife is justified in refusing her husband sex if she is tired or not in the mood (61 percent) and most likely to agree that a wife is justified in refusing sex (75 percent) if she has recently given birth. Notably, however, 20 percent of women say that a wife is not justified in refusing her husband sex for any of the four reasons. Rural women are more likely than urban women to not agree with any of the reasons, and by region, women in the Akhal Region, followed by those in the Mary and Dashoguz regions are more likely than women in other regions to not agree with any of the reasons for refusing sex. However the women who appear least empowered in terms of this indicator are the

Table 3.12 Women's agreement with reasons for refusing sexual relations

Percentage of women who agree with specific reasons for justifying a wife refusing to have sexual relations with her husband, according to background characteristics, Turkmenistan 2000

Background characteristic	Reason justifying wife refusing sexual relations with husband						Number of women
	Tired, not in the mood	Gave birth recently	Knows husband has sexual relations with other women	Knows husband has AIDS[1]	Agrees with all specified reasons	Agrees with no specified reason	
Age							
15-19	32.8	41.3	37.4	38.5	26.0	51.9	1,574
20-24	54.9	66.8	59.1	64.5	46.7	26.7	1,541
25-29	68.8	86.7	77.1	83.3	60.5	8.8	1,256
30-34	72.4	88.0	77.9	85.8	63.8	6.3	1,060
35-39	71.7	89.3	78.5	84.0	63.3	7.3	974
40-44	73.3	88.4	76.4	84.0	62.5	7.8	845
45-49	72.6	90.5	78.0	83.6	63.0	6.2	669
Marital status							
Never married	35.2	43.9	39.9	42.5	28.8	49.2	2,563
Married or in union	72.9	89.6	78.6	85.1	63.3	5.9	4,892
Divorced, separated, widowed	71.5	88.8	77.3	84.1	63.7	7.3	463
No. of living children							
0	39.7	49.2	44.2	47.3	32.6	44.0	2,942
1-2	75.1	91.1	80.9	87.5	67.0	5.0	2,334
3-4	71.9	89.8	78.4	85.7	62.5	5.7	1,710
5+	69.5	87.4	74.5	79.4	58.0	8.2	934
Residence							
Urban	68.0	80.7	73.0	78.4	60.3	14.6	3,691
Rural	54.2	69.6	59.9	65.0	45.1	24.7	4,228
Region							
Ashgabad City	72.0	84.4	77.4	81.5	65.5	12.7	1,038
Akhal	49.6	61.7	53.9	50.9	43.7	36.0	1,145
Balkan	67.5	83.1	75.7	74.8	58.9	12.4	709
Dashoguz	61.6	67.9	59.6	70.1	53.5	22.5	1,628
Lebap	72.9	85.9	75.8	80.2	61.3	9.4	1,607
Mary	46.3	70.7	60.2	69.9	37.8	24.3	1,791
Education							
None/primary/secondary	54.1	69.4	60.4	64.8	45.2	24.9	5,800
Secondary-special	76.8	89.6	80.6	88.4	69.4	6.6	1,556
Higher	82.2	90.1	83.5	90.8	76.5	6.8	563
Ethnicity							
Turkmen	57.8	73.3	64.2	69.0	49.4	21.5	6,191
Uzbek	68.1	76.4	68.5	75.5	58.8	16.3	857
Other	72.8	83.9	76.2	83.0	65.1	13.0	871
Current employment							
Not employed	55.1	69.9	61.5	65.5	46.9	24.6	3,995
For cash	66.1	79.9	70.6	77.2	57.6	15.3	3,867
Not for cash	71.1	83.2	74.1	76.0	63.4	13.7	43
Number of decisions in which women has final say[2]							
0	34.7	43.4	40.7	42.0	28.9	49.1	1,264
1-2	55.7	71.5	62.9	67.1	45.9	21.9	1,535
3-4	63.2	84.3	69.9	77.9	52.4	11.3	1,265
5	70.2	83.3	74.2	80.3	62.2	12.6	3,855
Total[3]	60.6	74.8	66.0	71.2	52.2	20.0	7,919

Note: Parentheses indicate that a figure is based on 25-49 unweighted cases
[1] Acquired Immuno Deficiency Syndrome
[2] Either by herself or jointly with others
[3] Total includes 13 cases for which information on employment status was missing

youngest women (age 15-19), never-married women, women with no children, and women who do not participate in any household decisions. Almost half of all of these women say that women are not justified in refusing their husbands sex for any of the four reasons asked about. Employed women are more likely to agree with each of the four reasons for refusing sex, than unemployed women. Also the likelihood that women will agree with all of the four reasons increases sharply with women's participation in decision making: only 29 percent of women who do not participate in any decision say that women can refuse sex to their husbands for all of the four reasons compared with 62 percent of women who participate in all five decisions. Women in Turkmenistan, in general, score high on this measure of empowerment. Nonetheless, the fact that 48 percent of all women, as well as 23 percent of the most educated women and 38 percent of women with the highest level of decision making participation, say that there is at least one reason out of these four for which women are not justified in refusing sex to their husbands does suggest that a significant proportion of women do not feel that a wife has the right to unconditionally decide whether and when she wishes to have sex with her husband. This has implications not only for women's empowerment, but also for those health initiatives that rest implicitly on the assumption that women can control sexual encounters or feel justified in doing so.

FERTILITY 4

C.M. Nazarov, A. Mukhamedova, and K. Weinstein

For the TDHS 2000 data to accurately describe the fertility status of the population of Turkmenistan, it was necessary for women to state their complete pregnancy history. To promote reporting of all pregnancies that women have had, the TDHS asked women to make separate accountings of live births, abortions (both induced and miniabortions), miscarriages, and stillbirths. The accounting of live births was achieved by asking separately about the number of sons and daughters living with the respondent, the number living elsewhere, and the number who had died. The accounting of all pregnancies was double-checked by interviewers probing for intervening pregnancies in all pregnancy intervals.

Each woman's pregnancy history was obtained in reverse chronological order, from the most recent pregnancy to the respondent's first pregnancy. The outcome of each pregnancy was recorded (live birth, induced abortion, miniabortion, miscarriage, or stillbirth), as was the date the pregnancy ended. For each pregnancy that resulted in a live birth, information was collected on the sex of the child, survival status, and age (for living children) or age at death (for deceased children). For each pregnancy that did not result in a live birth, duration of the pregnancy was collected and recorded in the calendar portion of the questionnaire. This chapter presents the findings pertaining to live births. Findings pertaining to pregnancy loss are presented in chapter 6 of this report.

4.1 CURRENT FERTILITY

Age-specific fertility rates (ASFRs) and the total fertility rate (TFR) presented in Table 4.1 and Figure 4.1 were calculated directly from the information obtained in the pregnancy history. The reported rates refer to the three-year period preceding the survey. Age-specific fertility rates were calculated by dividing the number of births to women in a five-year age interval by the number of woman-years lived in that age interval.[1] The total fertility rate is a construct of the age-specific rates computed by summing the age-specific rates and multiplying by five. The TFR is expressed per woman and is calculated to provide a snapshot view of current fertility levels. The TFR is interpreted as the number of children a woman would have in her lifetime if she experienced the currently observed age-specific fertility rates during her childbearing years.

If fertility were to remain constant at current levels, Turkmen women would give birth to an average of 2.9 children. Fertility among urban women is lower than it is among rural women during most of the childbearing years, resulting in a TFR among urban women that is 0.8 children lower than among rural women. If fertility were to remain constant at current levels, urban women would have 2.5 children, while rural women would have 3.3 children. Urban women experience their peak childbearing years during their early twenties (age 20-24) while rural women go on to experience their highest rates of childbearing in their late twenties (25-29).

[1] Numerators for age-specific fertility rates are calculated by summing the number of live births that occurred in the 1 to 36 months preceding the survey (determined from the date of interview and birth date of the child) and classifying them by age (in five-year groups) of the mother at the time of birth (determined from the birth date of the mother). The denominators of the rates are the number of woman-years lived in each of the specified five-year age groups during the 1 to 36 months preceding the survey.

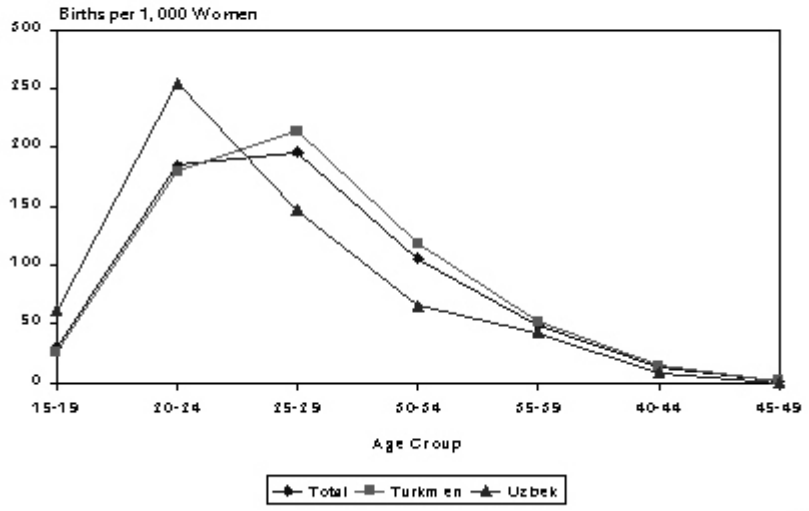
Table 4.1 Current fertility

Age-specific and cumulative fertility rates and the crude birth rate for the three years preceding the survey, by residence and ethnicity, Turkmenistan 2000

	Residence		Ethnicity			
Age group	Urban	Rural	Turkmen	Uzbek	Other	Total
15-19	36	26	26	61	21	30
20-24	165	199	179	255	143	184
25-29	144	244	213	147	105	195
30-34	87	124	118	65	44	105
35-39	50	47	51	42	33	48
40-44	11	17	15	9	9	14
45-49	0	3	2	(0)	(0)	1
TFR 15-49	2.46	3.30	3.02	2.90	1.78	2.89
TFR 15-44	2.46	3.28	3.01	2.90	1.78	2.88
GFR	87	116	107	114	59	103
CBR	20.5	28.2	-	-	-	24.6

Note: Rates are for the period 1-36 months preceding the survey. Rates for age group 45-49 may be slightly biased due to truncation. Rates in parentheses indicate that they are based on fewer than 250 woman-years of exposure.
TFR: Total fertility rate, expressed per woman
GFR: General fertility rate (births divided by number of women 15-44), expressed per 1,000 women
CBR: Crude birth rate, expressed per 1,000 population

Figure 4.1 Age-specific Fertility Rates by Ethnicity



Women of Turkmen and Uzbek ethnicity exhibit similar overall levels of fertility: Turkmen women exhibit a TFR of 3.0 and Uzbek women exhibit a TFR of 2.9. Women of other ethnicities exhibit a significantly lower level of fertility than either Turkmen or Uzbek women, exhibiting a TFR of only 1.8 children.

Table 4.1 also presents two other summary measures of fertility: the general fertility rate (GFR) and the crude birth rate (CBR). These measures are calculated from the birth history data for the three-year period preceding the survey and the age and sex distribution of the household population. The GFR represents the annual number of births in the population per 1,000 women age 15-44. The crude birth rate is the annual number of births in the population per 1,000 population. The CBR of 24.6 as calculated from the TDHS data is higher than that reported by the Ministry of Health and Medical Industry for 1999 of 18.5.[2]

Table 4.2 and Figure 4.2 present TFRs for the three years preceding the survey by background characteristics. The greatest regional variation in fertility is seen between Ashgabad City and the rest of Turkmenistan. With a TFR of 2.1, women in Ashgabad City exhibit a TFR that is one child fewer than women elsewhere in Turkmenistan, who exhibit TFRs between 2.9 and 3.1, with the exception of the Balkan Region, which exhibits a slightly lower TFR of 2.7.

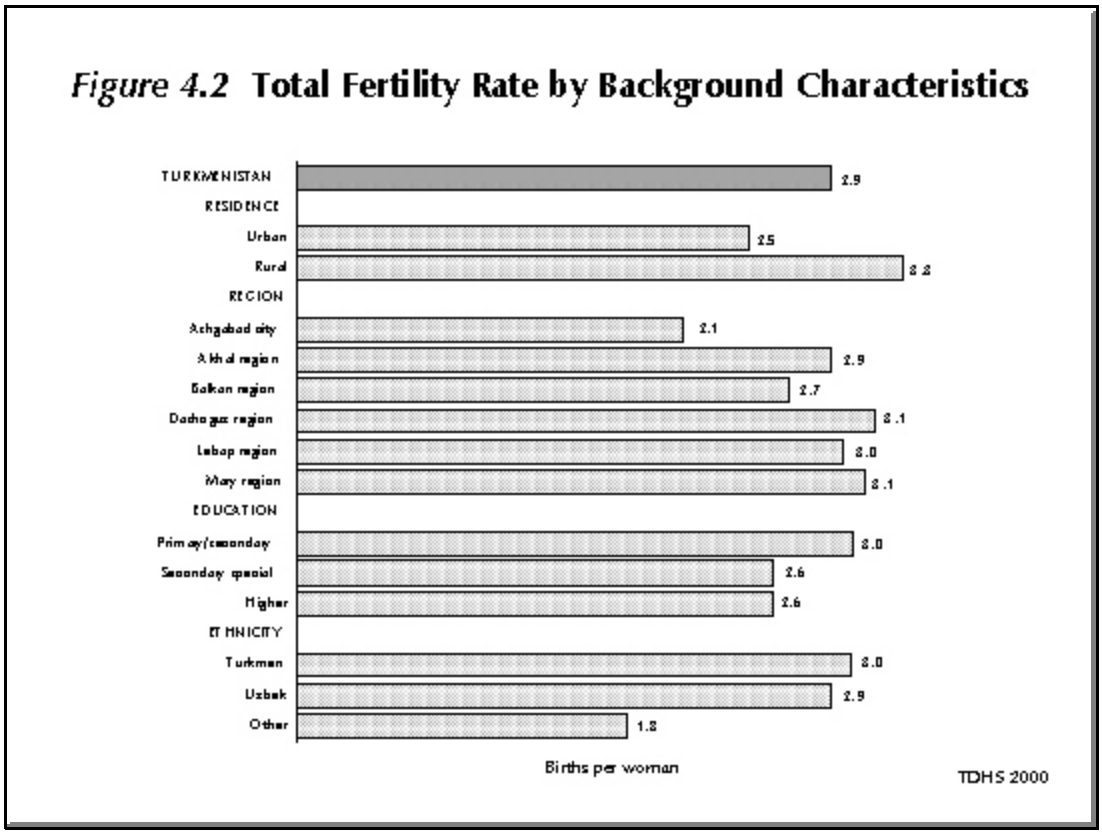
Table 4.2 Fertility by background characteristics

Total fertility rate for the three years preceding the survey, percentage currently pregnant and mean number of children ever born to women age 40-49, by background characteristics, Turkmenistan 2000

Background characteristic	Total fertility rate[1]	Percentage currently pregnant[1]	Mean number of children ever born to women age 40-49
Residence			
Urban	2.46	3.65	4.05
Rural	3.30	5.07	5.71
Region			
Ashgabad City	2.10	3.46	3.25
Akhal	2.91	4.68	5.27
Balkan	2.68	3.41	4.82
Dashoguz	3.14	4.98	5.77
Lebap	2.97	5.40	4.78
Mary	3.09	3.79	4.92
Education			
Primary/secondary	3.03	4.58	5.40
Secondary-special	2.59	3.76	3.57
Higher	2.59	4.42	3.52
Ethnicity			
Turkmen	3.02	4.52	5.25
Uzbek	2.90	5.25	5.31
Other	1.78	2.80	2.87
Total	2.89	4.41	4.84

[1]Women age 15-49 years

[2] The Ministry of Health and Medical Industry reports the following crude birth rates: 28.1 in 1995, 24.0 in 1996, 21.6 in 1997, 20.8 in 1998, and 18.5 in 1999.



Women in Turkmenistan exhibit a childbearing pattern, observed in many societies, of lower fertility among women with higher education. The TFR declines from 3 children per woman among women with primary or secondary education to 2.6 children among women with either secondary-special or higher education.

Table 4.2 also shows the percentage of women who report themselves to be currently pregnant. Because women at early stages of pregnancy may not yet know they are pregnant, this proportion may be underestimated. Percentages are generally low, commensurate with fertility that is relatively low overall.

Table 4.2 also shows the mean number of children ever born (CEB) to women age 40-49. Trends in fertility can be inferred by comparing the TFR (a measure of current fertility) with the mean number of CEB (a measure of completed fertility). If there had been no change in fertility for three or more decades before the survey, the TFR and CEB would be nearly the same. That the TFR (2.9 children per woman) is as much as two children lower than the CEB (4.8) indicates that fertility has declined in Turkmenistan over the past three decades. The TFR is lower than the CEB among both urban and rural women and in every region, educational level, and ethnic group.

4.2 FERTILITY TRENDS

To examine fertility trends more directly, it is possible to look at the ASFRs over time. Age-specific fertility rates can be calculated for the preceding 20 years from the TDHS data.[3] Table 4.3 presents age-specific fertility rates for five-year periods preceding the survey using data on live births from respondents' pregnancy histories. With the exception of 15- to 19-year-olds, there is evidence of a decline in fertility for all cohorts for which rates can be calculated. The decline in fertility from 5 to 9 to 0 to 4 years prior to the survey increases from a 14 percent decline among 20- to 24-year-olds to a 36 percent decline among 35- to 39-year-olds. The TDHS data indicate that fertility among 25- to 29-year-olds has fallen by one-quarter over the past 20 years. Figure 4.3 provides a graphical representation of these declines.

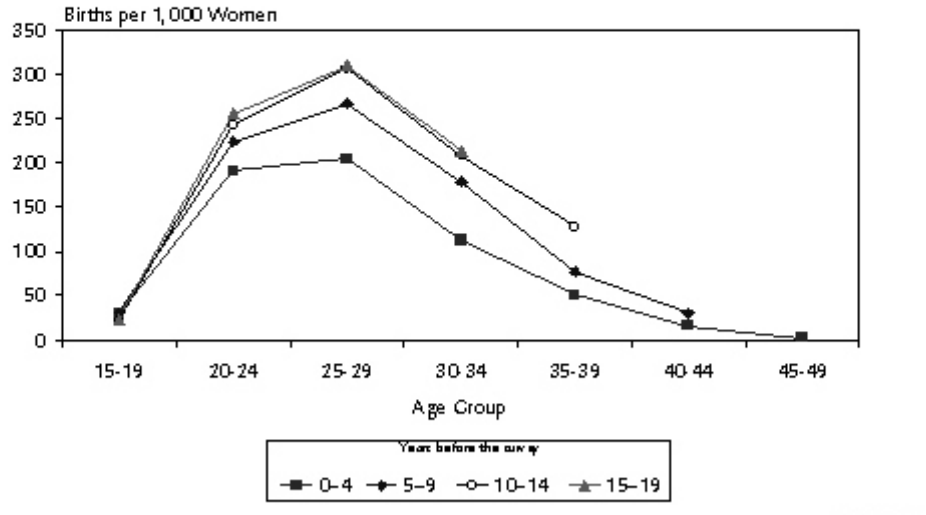
Table 4.3 Trends in age-specific fertility rates

Age-specific fertility rates for five-year periods preceding the survey, by mother's age at the time of birth, Turkmenistan 2000

	Number of years preceding the survey			
Mother's age	0-4	5-9	10-14	15-19
15-19	29	30	21	24
20-24	192	224	243	256
25-29	204	267	307	310
30-34	113	179	208	[214]
35-39	50	78	[128]	-
40-44	16	[30]	-	-
45-49	[2]	-	-	-

Note: Age-specific fertility rates are per 1,000 women. Estimates in brackets are truncated.

Figure 4.3 Trends in Age-specific Fertility Rates



[3] Truncation progressively limits how far into the past fertility rates can be calculated. For example, rates cannot be calculated for women age 40-44 for the period 10-14 years before the survey because these women would have been over age 50 years at the time of the survey and therefore not interviewed. Partial rates (based on partial exposure time) can be calculated for women age 40-44 for the period 5-9 years before the survey because some of these women were age 45-49 at the time of the survey and therefore included for interview. Partial rates that are subject to truncation are shown in brackets in Table 4.3.

4.3 CHILDREN EVER BORN AND LIVING

Table 4.4 presents the distribution of all women and currently married women by number of children ever born. The main difference between the data for currently married women and the total sample occurs among women under the age of 25, the majority of whom are unmarried, with no children. The table also shows the mean number of children ever born by five-year age group of the mother. The mean number of children ever born among all women is only two children; among currently married women, it is three children. Again, the difference is largely due to the fact that the youngest women have not yet had their children. The mean number of children ever born rises steadily with age, reaching five children among women age 45-49.

A cursory view of the survival status of children can be made by comparing the mean number of children ever born to the mean number surviving, which is also shown in Table 4.4. Overall, 10 percent of live births had not survived to the time of the survey. The proportion of children who have not survived to the time of the survey slowly increases from 8 percent among women currently age 20-24 to 13 percent among women age 45-49.

4.4 Children ever born and living

Percent distribution of all women and currently married women by number of children ever born, and mean number of children ever born and mean number of ever born living children, according to five-year age group, Turkmenistan 2000

Age group	Number of children ever born (CEB)											Total	Number of women	Mean number of CEB	Mean number of living children
	0	1	2	3	4	5	6	7	8	9	10+				
ALL WOMEN															
15-19	97.4	2.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	1,574	0.03	0.03
20-24	61.4	21.6	13.3	3.2	0.3	0.1	0.0	0.0	0.0	0.0	0.0	100.0	1,541	0.60	0.55
25-29	21.4	20.6	36.2	16.1	4.4	1.1	0.2	0.0	0.0	0.0	0.0	100.0	1,256	1.66	1.52
30-34	6.7	9.8	26.4	30.2	17.8	5.4	2.8	0.7	0.1	0.1	0.0	100.0	1,060	2.75	2.51
35-39	5.1	5.3	14.3	22.5	22.8	18.3	7.7	2.7	0.5	0.5	0.3	100.0	974	3.61	3.21
40-44	2.6	3.6	9.3	13.8	18.2	18.1	16.5	8.7	4.9	2.4	1.8	100.0	845	4.68	4.14
45-59	1.4	6.8	8.7	11.8	11.1	18.3	14.4	12.8	6.8	4.0	4.0	100.0	669	5.05	4.38
Total	36.6	10.90	15.4	12.5	8.8	6.7	4.3	2.5	1.2	0.7	0.6	100.0	7,919	2.12	1.90
CURRENTLY MARRIED WOMEN															
15-19	55.5	42.7	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	83	0.46	0.42
20-24	18.3	44.5	29.1	7.3	0.6	0.3	0.0	0.0	0.0	0.0	0.0	100.0	682	1.28	1.19
25-29	7.2	23.2	43.1	19.6	5.3	1.3	0.2	0.1	0.0	0.0	0.0	100.0	1,015	1.98	1.82
30-34	1.8	8.4	27.3	32.5	19.9	6.0	3.1	0.8	0.1	0.1	0.0	100.0	934	2.97	2.70
35-39	2.6	4.8	12.8	23.3	24.2	19.3	8.6	2.9	0.6	0.5	0.3	100.0	857	3.79	3.38
40-44	1.6	2.9	8.5	12.4	19.0	19.2	17.9	9.4	4.8	2.3	2.0	100.0	765	4.84	4.28
45-49	0.7	5.4	7.3	11.3	11.1	18.0	16.2	13.7	7.2	4.7	4.3	100.0	556	5.27	4.59
Total	6.1	15.3	22.6	18.6	13.5	9.9	6.8	3.7	1.7	1.0	0.9	100.0	4,892	3.18	2.85

4.4 BIRTH INTERVALS

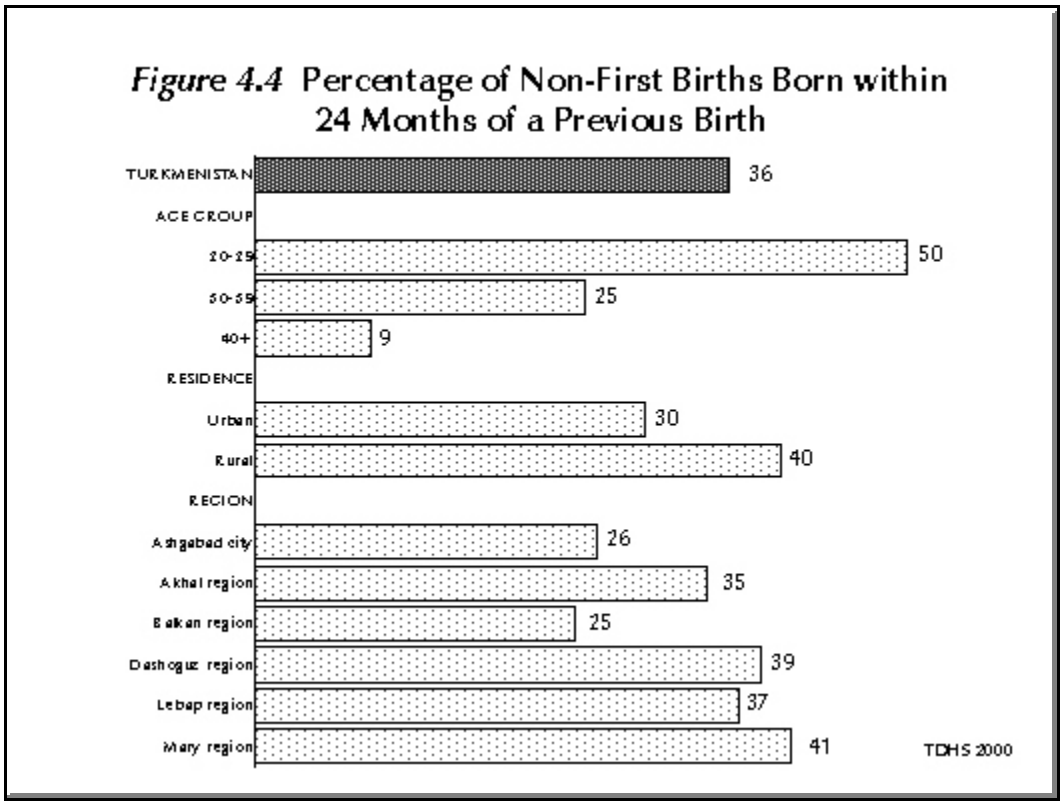
The length of birth intervals is an important component of childbearing. Research has shown that children born too close to a previous birth have an increased risk of dying, especially when the interval between births is less than 24 months. Table 4.5 presents the percent distribution of second- and higher-order births in the five years prior to the survey by the number of months since the previous birth. The median birth interval length is 27.7 months, just over 2 years. Overall, 36 percent of births occur within 24 months of the previous birth (see Figure 4.4).

Table 4.5 Birth intervals

Percent distribution of non-first births in the five years preceding the survey by number of months since previous birth, according to demographic and socioeconomic characteristics, Turkmenistan 2000

Characteristic	Number of months since previous birth					Total	Median number of months	Number of births
	7-17	18-23	24-35	36-47	48+			
Age of mother								
15-19	*	*	*	*	*	100.0	*	2
20-29	27.1	23.0	33.0	9.5	7.4	100.0	24.0	1,161
30-39	10.5	14.8	33.5	13.9	27.3	100.0	31.7	1,093
40+	2.6	6.2	19.5	17.0	54.8	100.0	55.0	146
Birth order								
2-3	21.3	20.7	32.3	10.9	14.9	100.0	26.1	1,666
4-6	11.6	12.4	33.0	13.8	29.3	100.0	32.3	626
7+	5.5	15.4	30.2	18.5	30.4	100.0	34.9	109
Sex of prior birth								
Male	17.3	19.1	30.1	12.5	21.0	100.0	28.3	1,168
Female	18.8	17.5	34.5	11.4	17.8	100.0	27.3	1,233
Survival of prior birth								
Yes	15.2	18.8	33.1	12.7	20.3	100.0	28.3	2,113
No	38.7	14.7	27.6	6.8	12.2	100.0	22.9	288
Residence								
Urban	14.7	15.2	29.5	12.9	27.6	100.0	29.9	920
Rural	20.1	20.2	34.2	11.4	14.2	100.0	26.4	1,481
Region								
Ashgabad City	14.4	11.9	34.9	9.2	29.6	100.0	30.0	220
Akhal	15.7	19.0	31.8	12.4	21.0	100.0	27.9	340
Balkan	12.3	12.2	28.1	16.6	30.7	100.0	34.8	177
Dashoguz	17.3	21.5	35.7	11.1	14.3	100.0	26.6	564
Lebap	18.2	18.9	30.2	14.2	18.5	100.0	27.3	480
Mary	22.7	18.4	31.7	10.5	16.7	100.0	26.9	620
Education								
Primary/secondary	18.4	18.9	34.1	11.6	17.0	100.0	27.4	1,679
Secondary-special	17.9	18.2	27.6	12.7	23.6	100.0	28.2	538
Higher	14.9	13.0	30.9	13.7	27.5	100.0	30.6	184
Ethnicity								
Turkman	18.8	18.8	32.6	11.9	17.8	100.0	27.3	1,994
Uzbek	14.9	18.1	34.5	14.0	18.6	100.0	28.2	276
Other	13.9	10.5	24.2	8.2	43.2	100.0	36.5	132
Total	18.0	18.3	32.4	12.0	19.3	100.0	27.7	2,401

Note: First births are excluded. The interval for multiple births is the number of months since the preceding pregnancy that ended in a live birth. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.



Two-thirds of closely spaced births occur to women who are in their twenties. Half the births these women had were born within 24 months of the previous birth. Because these are young women, the lowest birth orders (two or three births) also show the greatest likelihood of being born soon after the previous birth. Births that occur after a prior death are more likely than births following a living child to be born within 24 months: half versus one-third, respectively.

Table 4.5 shows that the distribution of births by birth interval length varies by other background characteristics as well. Forty percent of births born to rural women were born within 24 months of the previous birth, whereas 30 percent of births to urban women were born so soon thereafter. Births to women in the regions of Mary, Dashoguz, Lebap, and Akhal are all more likely to be born within 24 months of the previous birth (35 to 41 percent are born within this interval) than are births to women in Ashgabad City or the Balkan Region, where one-quarter of births are born within this interval. A differential of the same magnitude is observed by education and ethnicity. Thirty-seven percent of births to women with primary, secondary, or secondary-special education are born within 24 months of the previous birth, whereas 28 percent of births to women with higher education are born within this interval. Thirty-eight percent of births to Turkmen women and 33 percent of births to Uzbek women are born within 24 months of the previous birth, whereas 24 percent of births born to women of other ethnicities are born within this interval.

4.5 AGE AT FIRST BIRTH

The age at which childbearing begins has important demographic consequences for society as a whole as well as for the health and welfare of mother and child. Early initiation into childbearing is generally associated with large family size and rapid population growth when family planning is not widely practiced.

Table 4.6 presents the percent distribution of women by age at first birth according to current age. Initiation into childbearing is heavily concentrated within the ages of 20-24. Women now in their twenties and thirties are less likely than women now in their forties to have begun childbearing in their teens. So while initiation into childbearing is concentrated within the early twenties, there has been a slight shift, resulting in a median age of initiation among women in their late twenties and thirties that is 1 year later than the median age among women in their early forties and 1.5 years later than women in their late forties.

Table 4.6 Age at first birth

Percent distribution of women 15-49 by age at first birth, according to current age, Turkmenistan 2000

Current age	Women with no births	Age at first birth						Total	Number of women	Median age at first birth
		<15	15-17	18-19	20-21	22-24	25+			
15-19	97.4	0.0	1.0	1.6	na	na	na	100.0	1,574	a
20-24	61.4	0.1	1.8	12.6	14.8	9.4	0.0	100.0	1,541	a
25-29	21.4	0.1	1.7	11.0	22.4	30.6	12.9	100.0	1,256	23.3
30-34	6.7	0.1	0.8	9.1	21.8	38.1	23.5	100.0	1,060	23.4
35-39	5.1	0.0	1.5	8.6	24.7	34.9	25.3	100.0	974	23.3
40-44	2.6	0.0	1.2	17.7	30.0	30.6	18.0	100.0	845	22.1
45-49	1.4	0.2	3.9	21.5	28.8	28.7	15.6	100.0	669	21.7

na = Not applicable
[a] Median not included because less than 50 percent of the women in the age group *x* to *x+4* had a birth by age *x*

This slight increase among women age 25-39, compared with women in their forties, can also be seen in Table 4.7, which presents the median age at first birth for cohorts age 25 and above across background characteristics. The only other differential of note is by ethnicity. Turkmen women initiate childbearing, on average, at a later age than do Uzbek women or women of other ethnicities. Turkmen women age 25-29 have a median age at first birth (23.7) that is two years later than Uzbek women (21.6) or women of other ethnicities (21.4).

Table 4.7 Median age at first birth

Median age at first birth among women age 25-49 years, by current age and background characteristics, Turkmenistan 2000

Background characteristic	Current age					Ages 25-49
	25-29	30-34	35-39	40-44	45-49	
Residence						
Urban	22.8	23.1	23.2	22.1	21.9	22.7
Rural	23.6	23.7	23.3	22.1	21.6	23.0
Region						
Ashgabad City	23.2	22.8	23.7	22.3	22.5	23.0
Akhal	23.6	23.2	23.2	22.2	21.5	22.9
Balkan	23.7	24.3	24.0	23.0	21.6	23.5
Dashoguz	23.9	24.3	23.5	21.9	21.8	23.2
Lebap	22.3	22.7	22.6	22.5	21.1	22.3
Mary	23.4	23.5	22.8	21.7	21.7	22.8
Education						
Primary/secondary	23.1	23.3	23.0	21.7	21.4	22.5
Secondary-special	23.0	23.2	23.4	22.7	21.7	23.0
Higher	a	24.4	24.8	25.1	24.5	24.8
Ethnicity						
Turkmen	23.7	23.7	23.5	22.3	21.7	23.2
Uzbek	21.6	22.4	21.9	21.5	21.4	21.7
Other	21.4	21.7	22.4	21.6	21.7	21.8
Total	23.3	23.4	23.3	22.1	21.7	22.9

Note: The medians for cohorts 15-19 and 20-24 could not be determined because half the women have not had a birth before reaching age 15 and age 20, respectively.
[a] Omitted because less than 50 percent of the women in the age group *x* to *x*+*4* have had a birth by age *x*.

4.6 PREGNANCY AND MOTHERHOOD AMONG WOMEN AGE 15-19

Fertility among women age 15-19 warrants special attention because young mothers at this age as, well as their children, are at high risk of encountering social and health problems. There has been much research done on this topic, but the causality of the problems has proven difficult to identify. Children born to young mothers are associated with higher levels of illness and mortality during childhood than are children born to older mothers.

Table 4.8 presents the percentage of women age 15-19 who are mothers or pregnant with their first child. The TDHS reports that early childbearing is minimal in Turkmenistan, almost nonexistent before the age of 19. Twelve percent of women age 19 have begun childbearing in Turkmenistan.

Table 4.8 Pregnancy and motherhood among women age 15-19

Percentage of women 15-19 who are mothers or pregnant with their first child, by background characteristics, Turkmenistan 2000

Background characteristic	Percentage who are: Mothers	Pregnant with 1st child	Percentage who have begun child bearing	Number of women
Age				
15	0.0	0.0	0.0	296
16	0.0	0.2	0.2	319
17	1.4	1.9	3.3	320
18	3.1	2.4	5.5	307
19	8.3	3.3	11.7	333
Residence				
Urban	2.8	1.0	3.8	659
Rural	2.5	2.1	4.6	915
Education				
Primary/secondary	2.8	1.5	4.3	1,480
Secondary-special	0.0	4.1	4.1	71
Higher	*	*	*	23
Region				
Ashgabad City	0.0	0.0	0.0	157
Akhal	3.4	2.1	5.5	241
Balkan	4.1	2.9	7.0	128
Dashoguz	2.4	1.3	3.7	336
Lebap	2.8	2.2	5.0	349
Mary	2.8	1.3	4.1	364
Ethnicity				
Turkmen	2.5	1.4	3.9	1,263
Uzbek	4.3	2.0	6.3	178
Other	1.8	3.6	5.4	132
Total	2.6	1.6	4.3	1,574

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

CONTRACEPTION 5

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A primary function of reproductive health programs is to advocate conscious entry into parenthood for both men and women, i.e., to grant families the right to define their desired number of children and provide the means to achieve that goal. This involves the control of reproductive behavior, including conception, preservation of the fetus, and childbearing, as well as prevention of conception and interruption of pregnancy. Contraception not only helps couples avoid undesired pregnancies but also allows them to control the timing of their childbearing. By controlling the time they enter into parenthood, the time they stop childbearing, and the intervals between births, couples can achieve their ultimate desired family size. Appropriate spacing of pregnancies and births has positive effects on the overall health of both mother and child and is also a contributing factor in the reduction of maternal and infant mortality and secondary sterility. The efficacy of contraception depends on people's knowledge of methods and on the availability of methods to meet the varying needs of a wide spectrum of potential users. Availability of methods, in turn, depends on the quality and quantity of service providers and on available financial and technical resources.

The topics addressed in this chapter include knowledge of contraceptive methods, sources of supply, use of methods in the past and present, reasons for nonuse, desire to use in the future, and attitudes and exposure to messages about contraception. These data can serve as an information base for the Ministry of Health and Medical Industry to better define the need for contraceptives and better define the allocation of resources.

5.1 KNOWLEDGE OF CONTRACEPTIVE METHODS

Determining levels of knowledge and use of contraceptive methods was one of the major objectives of the TDHS survey. Data on contraceptive knowledge were collected by asking the respondent to name ways or methods by which a couple could delay or avoid pregnancy. If the respondent did not mention a particular method spontaneously, the interviewer would describe the unmentioned method and ask whether the respondent had heard of such a method. Thus, knowledge of a contraceptive method is defined simply as having heard of a method.

Contraceptive methods include both modern and traditional methods. Modern methods include the pill, the IUD, injectables, female and male sterilization, implants, barrier methods (diaphragm, foam, jelly, and both male and female condoms[1]), emergency contraception, and the lactational amenorrhea method (LAM).[2] Traditional methods include periodic abstinence (rhythm method) and withdrawal.

[1] Women were asked about both the male condom and the female condom. Use of the word condom in this text will refer to the male condom; the female condom will be referred to explicitly as the female condom.

[2] Emergency contraception refers to pills that a woman can take the day after having sexual intercourse to avoid becoming pregnant. The lactational amenorrhea method refers to a specifically taught method of pregnancy avoidance to delay the return of the menstrual period by feeding an infant only but breast milk for up to six months after birth.

Information on knowledge of contraception is presented in Table 5.1. Every married woman has heard of the IUD (99 percent). Five modern methods are known to more than two-thirds of married women: the IUD (99 percent), LAM (88 percent), the pill (79 percent), injectables (75 percent), and the condom (68 percent). Female sterilization is known to 42 percent of married women. The remaining modern methods are known only to a minority of married women. Knowledge of a traditional method of contraception is substantial, but not universal; 39 percent of married women have heard of periodic abstinence, and 47 percent have heard of withdrawal. The mean number of methods known, also shown in Table 5.1, is a rough indicator of the breadth of knowledge of family planning methods. Married women know an average of six methods.

Table 5.1 Knowledge of contraceptive methods

Percentage of all women, of currently married women, of sexually active unmarried women, of sexually inactive unmarried women, and of women with no sexual experience who know any specific contraceptive method, Turkmenistan 2000

Contraceptive method	All women	Currently married women	Unmarried women		Women with no sexual experience
			Sexually active	Not sexually active	
Any method	93.5	99.3	*	98.7	81.5
Any modern method	93.5	99.3	*	98.7	81.5
Pill	67.1	79.2	*	78.8	41.8
IUD	92.3	98.5	*	97.9	79.4
Injection	62.9	75.0	*	69.2	38.6
Diaphragm/cervical cap	7.7	9.3	*	16.9	2.9
Foam/jelly	13.4	16.3	*	24.8	5.9
Female condom	6.3	7.5	*	10.4	3.4
Male condom	59.6	68.4	*	69.7	41.1
Female sterilization	34.2	42.3	*	44.1	17.0
Male sterilization	8.9	10.9	*	16.1	3.7
Implants	3.2	4.0	*	3.3	1.6
Emergency contraception	7.7	9.6	*	12.9	3.1
Lactational amenorrhea (LAM)	64.6	87.5	*	80.6	17.9
Any traditional method	44.6	61.2	*	57.1	10.6
Periodic abstinence	28.9	38.6	*	40.8	8.2
Withdrawal	33.2	46.7	*	40.8	6.2
Other	4.8	6.8	*	8.8	0.3
Mean number of methods known	4.9	6.0	*	6.1	2.7
Number of women	7,919	4,892	6	460	2,561

Note: An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
Unmarried sexually active: Unmarried women who have had sexual intercourse in the 30 days preceding the survey.
Unmarried not sexually active: Unmarried women who have had sexual intercourse but have not had sexual intercourse in the 30 days preceding the survey.
Women with no sexual experience: Women who have never had sexual intercourse.
LAM: Knowledge of lactational amenorrhea method includes women who know that to use the method, a woman must be exclusively or fully breastfeeding, be less than six months postpartum, be postpartum, be postpartum amenorrheic and who know to use another contraceptive method when any of the previous criteria do not hold.

Unmarried women are classified into three categories: unmarried women who have had sexual intercourse at some time in the past but are not currently sexually active, unmarried women who are currently sexually active, and finally, those who have never had sexual intercourse. Unmarried women who have had sexual intercourse at some time but are not currently sexually active have essentially the same levels of knowledge as currently married women. This is not surprising since most of these women are formerly married, either currently widowed or divorced. Unmarried women are considered to be not sexually active if they have not had intercourse in the 30 days preceding the survey. There were only six unmarried women who have had sexual intercourse who are currently sexually active, too few to show in the table.

One method stands out as being known to women who have never had sexual intercourse; more than three-quarters of such women have heard of the IUD. All other methods are known to fewer than half the women who have never had sexual intercourse. Women who have never had sexual intercourse have heard of an average of 2.7 methods. For purposes of communicating information about methods of contraception, women of reproductive age who have not yet engaged in sexual intercourse are an audience as important as sexually active women because they are certain to engage in sexual activity in the near future.

Table 5.2 presents the percentage of currently married women who know of at least one method of contraception (modern or traditional) and the percentage who know of at least one modern method, by background characteristics. Essentially every married woman knows of at least one modern method of contraception. The only category of women for whom knowledge is less than universal is women age 15-19, among whom nine out of ten know of a method.

5.2 Ever Use of Contraception

All respondents who had heard of a method of contraception were asked whether they (or a partner with them) had ever used the method; each method was inquired about separately. An additional probe was made for women who reported no contraceptive use. The results are presented in Table 5.3 for all women and for currently married women by five-year age groups.

Overall, 89 percent of currently married women have used a method of contraception at some time in their life, 87 percent have used a modern method. Most of women who have ever used a method have used either the IUD (61 percent of married women) or LAM (63 percent of married women). Other modern methods have been used by comparatively few married women. Condoms are the next most commonly used modern method with 10 percent of currently married women having used a condom at some time. Other modern methods have been used at some time by fewer than 10 percent of married women.

Although more women have used modern methods more often than traditional methods, one-quarter of married women have in fact used a traditional method at some time. Sixteen percent of currently married women have used withdrawal, and 8 percent have used periodic abstinence.

Only 59 percent of all women age 15-49 have used a method of contraception at some time. Levels of ever use among all women are lower than among currently married women because most of women who are not married have not yet had sexual intercourse and have not yet had cause to use a method. Thirty-two percent of respondents have never had sexual intercourse. Knowledge of contraception among these women is important since most of women who have not yet had sexual intercourse will do so at some time in the future, but statistics on use do not yet apply to these women.

Table 5.2 Knowledge of contraceptive methods by background characteristics

Percentage of currently married women who know at least one contraceptive method and who know at least one modern method, by background characteristics, Turkmenistan 2000

Background characteristic	Knows any method	Knows any modern method[1]	Number of women
Age			
15-19	91.2	91.2	83
20-24	99.0	99.0	682
25-29	99.9	99.8	1,015
30-34	99.8	99.8	934
35-39	99.2	99.2	857
40-44	99.4	99.4	765
45-49	99.2	99.2	556
Residence			
Urban	99.1	99.1	2,307
Rural	99.6	99.5	2,585
Region			
Ashgabad City	98.9	98.9	639
Akhal	99.6	99.6	699
Balkan	98.1	98.1	424
Dashoguz	99.2	99.2	950
Lebap	99.3	99.2	1,030
Mary	100.0	100.0	1,150
Education			
Primary/secondary	99.1	99.1	3,347
Secondary-special	99.9	99.9	1,149
Higher	99.7	99.7	396
Ethnicity	99.4	99.4	3,776
Turkmen	98.7	98.7	554
Uzbek	99.6	99.6	563
Other			
Total	99.3	99.3	4,892

[1] Female sterilization, pill, IUD, injectables, implants, male condom, female condom, diaphragm, foam or jelly, lactational amenorrhea method (LAM), and emergency contraception.

5.3 CURRENT USE OF CONTRACEPTION

Table 5.4 presents levels of current use of contraception for all women and for currently married women by five-year age groups. Figure 5.1 shows the distribution of currently married women by method currently used.

More than half of currently married women (53 percent) are currently using a modern method of contraception, while only 9 percent are using a traditional method. As discussed in the section on ever use, most of women who are not married have not yet had sexual intercourse, so the discussion of use will focus on married women.

Table 5.3 Ever use of contraception

Percentage of all women and of currently married women who have ever used any contraceptive method, by specific method and age, Turkmenistan 2000

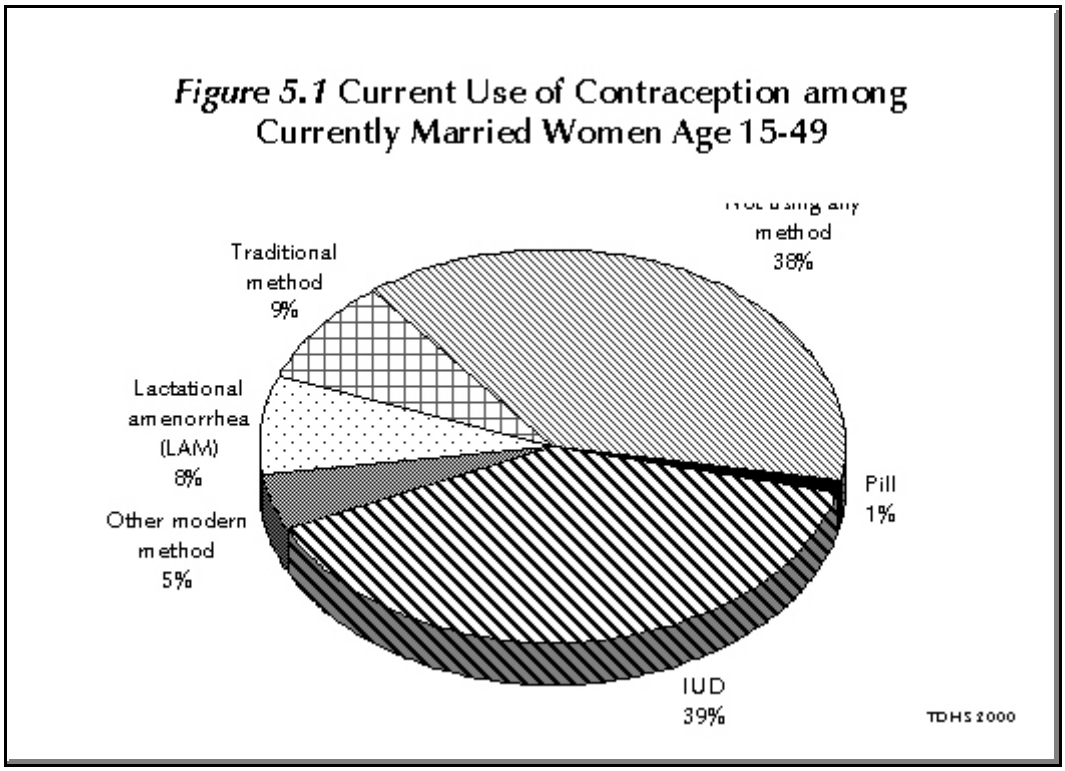
Age	Any method	Modern method: Any modern method	Pill	IUD	Injectables	Diaphragm/cervical cap	Foam/jelly	Female condom	Male condom	Female sterilization	Emergency contraception	Lactational amenorrhea (LAM)	Traditional method: Any traditional method	Periodic abstinence	Withdrawal	Other	Number of women
ALL WOMEN																	
15-19	2.2	2.1	0.0	0.6	0.0	0.0	0.0	0.0	0.2	0.0	0.0	1.7	0.4	0.0	0.3	0.1	1,574
20-24	35.4	34.4	2.1	15.5	0.9	0.1	0.6	0.0	2.6	0.1	0.1	28.5	7.4	1.9	4.4	2.3	1,541
25-29	75.7	73.2	5.6	43.6	2.7	0.0	0.3	0.0	9.1	0.6	0.7	56.5	19.6	5.3	13.5	3.8	1,256
30-34	88.5	86.2	6.3	64.2	3.6	0.0	1.1	0.2	12.7	1.1	0.4	61.6	24.4	9.1	15.5	4.1	1,060
35-39	89.5	87.4	8.1	71.2	4.0	0.1	0.4	0.0	11.8	3.1	0.0	58.9	25.5	8.3	16.1	5.1	974
40-44	92.2	90.2	8.1	74.8	3.6	0.0	0.9	0.1	9.5	3.6	0.2	61.5	26.5	11.2	16.9	3.9	845
45-49	87.3	84.5	5.8	63.8	4.2	0.6	1.3	0.0	8.9	3.2	0.3	57.5	24.0	9.9	12.4	5.0	669
Total	59.4	57.8	4.5	40.8	2.3	0.1	0.6	0.0	6.9	1.3	0.2	41.7	15.9	5.5	10.0	3.1	7,919
CURRENTLY MARRIED WOMEN																	
15-19	38.2	36.0	0.0	7.6	0.0	0.0	0.0	0.0	4.2	0.0	0.0	29.7	7.6	0.0	5.4	2.2	83
20-24	75.6	73.4	4.0	32.5	1.7	0.2	1.3	0.0	5.0	0.2	0.2	61.5	15.7	3.7	9.5	4.6	682
25-29	89.9	86.9	6.6	52.3	3.3	0.0	0.4	0.0	10.6	0.7	0.8	66.8	23.6	6.1	16.3	4.7	1,015
30-34	95.0	92.6	7.0	69.0	3.9	0.0	1.2	0.2	13.2	1.3	0.5	66.0	27.0	9.7	17.6	4.7	934
35-39	92.6	90.4	7.9	74.4	4.4	0.1	0.3	0.0	11.9	3.3	0.0	61.2	27.4	8.1	18.2	5.7	857
40-44	93.8	91.7	8.0	76.7	3.8	0.0	1.0	0.1	10.2	3.4	0.3	62.5	28.3	12.1	18.0	3.9	765
45-49	90.4	87.8	6.7	67.3	4.5	0.4	1.3	0.0	9.3	2.8	0.4	60.8	25.3	10.6	14.3	4.2	556
Total	89.1	86.7	6.6	61.4	3.5	0.1	0.9	0.1	10.2	1.8	0.4	62.9	24.5	8.2	15.8	4.6	4,892

Table 5.4 Current use of contraception

Percent distribution of all women and currently married women, by contraceptive method currently used, according to age, Turkmenistan 2000

Age	Any method	Modern method: Any modern method	Pill	IUD	Injectables	Foam/jelly	Male condom	Female sterilization	Lactational amenorrhea (LAM)	Traditional method: Any traditional method	Periodic abstinence	Withdrawal	Other	Not using a method	Total	Number of women
ALL WOMEN																
15-19	1.5	1.2	0.0	0.4	0.0	0.0	0.1	0.0	0.7	0.3	0.0	0.2	0.1	98.5	100.0	1,574
20-24	24.1	21.6	0.3	12.1	0.2	0.0	0.4	0.1	8.4	2.5	0.3	1.4	0.7	75.9	100.0	1,541
25-29	50.2	45.0	1.5	29.1	0.6	0.0	2.2	0.6	10.9	5.2	0.8	3.8	0.7	49.8	100.0	1,256
30-34	63.2	54.8	1.2	42.2	1.0	0.2	2.8	1.1	6.3	8.4	1.7	5.4	1.3	36.8	100.0	1,060
35-39	66.9	57.2	1.1	46.5	1.0	0.0	1.4	3.1	4.1	9.6	3.0	5.2	1.4	33.1	100.0	974
40-44	63.4	52.5	1.5	42.9	1.6	0.0	2.2	3.6	0.7	10.9	3.4	6.7	0.8	36.6	100.0	845
45-49	33.1	26.6	0.0	22.3	0.6	0.0	0.4	3.2	0.1	6.5	1.9	3.6	1.0	66.9	100.0	669
Total	39.2	33.8	0.8	24.9	0.6	0.0	1.3	1.3	4.9	5.4	1.3	3.3	0.8	60.8	100.0	7,919
CURRENTLY MARRIED WOMEN																
15-19	26.6	20.9	0.0	5.1	0.0	0.0	2.0	0.0	13.9	5.6	0.0	3.5	2.2	73.4	100.0	83
20-24	52.7	47.1	0.8	25.7	0.5	0.0	1.0	0.2	18.9	5.6	0.6	3.3	1.7	47.3	100.0	682
25-29	61.5	55.0	1.9	35.7	0.7	0.0	2.7	0.7	13.3	6.5	1.0	4.7	0.9	38.5	100.0	1,015
30-34	70.3	60.8	1.3	46.6	1.0	0.2	3.2	1.3	7.2	9.5	1.9	6.1	1.5	29.7	100.0	934
35-39	74.1	63.2	1.3	51.4	1.2	0.0	1.6	3.3	4.5	10.9	3.4	5.9	1.6	25.9	100.0	857
40-44	67.5	55.5	1.6	45.5	1.8	0.0	2.5	3.4	0.7	12.0	3.7	7.4	0.8	32.5	100.0	765
45-49	37.8	30.0	0.0	25.8	0.7	0.0	0.5	2.8	0.1	7.8	2.3	4.3	1.2	62.2	100.0	556
Total	61.8	53.1	1.2	39.0	1.0	0.0	2.0	1.8	7.9	8.7	2.1	5.3	1.3	38.2	100.0	4,892

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



The IUD is by far the most commonly used method—39 percent of currently married women are using the IUD. The next most commonly used method is LAM, reported by 8 percent of married women to be their current method; 15 percent of women age 15-29 are using LAM. Other modern methods of contraception account for only a small amount of use among currently married women: condoms and female sterilization (2 percent each) and pills and injectables (1 percent each). The use of contraception in Turkmenistan relies heavily on a single method, the IUD, although other methods are known (the pill, injectables and condoms are each known to more than 60 percent of married women).

One out of every two married women age 35-39 is using the IUD, the peak age of use. Use of a modern method of contraception increases steadily by age, peaking at age 35-39, and then declines. The desire to avoid pregnancy varies greatly over the course of one's reproductive life; use of contraception in relation to the fertility preferences of women is discussed in the next chapter.

Levels of contraceptive use by background characteristics of respondents are presented in Table 5.5 and Figure 5.2 for currently married women. Perhaps the most significant finding of Table 5.5 is that the level of use of the IUD observed for the population as a whole is maintained across background characteristics of respondents. Although there is some variation, level of use of the IUD is of the same magnitude across residence, region, education, and ethnicity. Since use of the IUD largely overwhelms use of any other method, use of a modern method is also largely maintained across background characteristics.

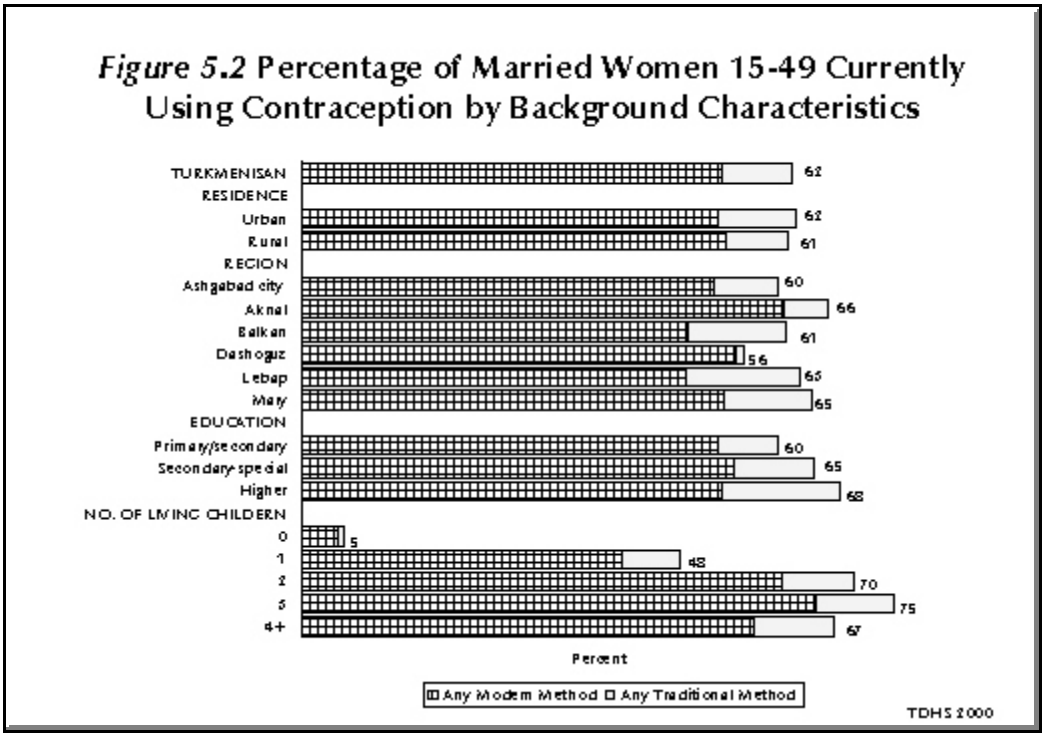
The greatest variation in use is seen by number of living children. It is rare for married women with no children to be using a method (only 5 percent are using a modern or traditional method). Nearly half the women with one child are using a method of contraception (48 percent), and by the time they have three living children, three out of four women are using either a modern or traditional method of contraception.

Table 5.5 Current use of contraception by background characteristics

Percent distribution of currently married women by contraceptive method currently used, according to background characteristics, Turkmenistan 2000

Background characteristic	Any method	Modern method: Any modern method	Pill	IUD	Injectables	Foam/jelly	Male condom	Female sterilization	Lactational amenorrhea (LAM)	Traditional method: Any traditional method	Periodic abstinence	Withdrawal	Other	Not using a method	Total	Number of women
Residence																
Urban	62.3	52.6	2.0	38.2	1.3	0.1	3.4	1.9	5.6	9.7	3.2	4.8	1.7	37.7	100.0	2,307
Rural	61.4	53.5	0.5	39.8	0.7	0.0	0.8	1.7	10.0	7.8	1.1	5.8	0.9	38.6	100.0	2,585
Region																
Ashgabad City	59.7	51.8	3.2	34.9	1.1	0.3	6.4	0.8	5.0	7.9	4.3	3.1	0.5	40.3	100.0	639
Akhal	66.3	60.9	2.2	43.5	0.8	0.0	3.4	2.6	8.4	5.4	0.9	4.4	0.2	33.7	100.0	699
Balkan	61.1	48.7	0.3	37.2	1.1	0.0	1.8	1.7	6.7	12.4	2.0	5.3	5.1	38.9	100.0	424
Dashoguz	55.8	54.8	0.5	40.5	0.5	0.0	0.5	1.1	11.8	1.0	0.3	0.7	0.0	44.2	100.0	950
Lebap	62.9	48.5	0.5	36.1	1.8	0.0	1.5	2.3	6.2	14.4	3.3	8.7	2.4	37.1	100.0	1,030
Mary	64.5	53.3	1.1	40.7	0.6	0.0	0.6	2.2	8.1	11.2	2.0	8.1	1.1	35.5	100.0	1,150
Education																
Primary/secondary	60.1	52.6	1.0	39.0	0.7	0.0	1.3	1.7	8.9	7.5	1.0	5.3	1.2	39.9	100.0	3,347
Secondary-special	64.7	54.5	1.9	39.8	2.0	0.0	2.1	2.4	6.3	10.2	4.1	4.6	1.5	35.3	100.0	1,149
Higher	68.0	53.1	1.5	37.0	0.2	0.5	8.2	1.5	4.2	14.8	5.2	8.4	1.2	32.0	100.0	396
Ethnicity																
Turkmen	61.7	53.0	0.7	39.6	0.8	0.0	1.8	1.8	8.3	8.7	1.6	5.9	1.2	38.3	100.0	3,776
Uzbek	61.4	56.1	1.2	42.3	1.0	0.0	0.6	1.2	9.7	5.3	2.1	3.2	0.0	38.6	100.0	554
Other	62.8	50.7	4.5	32.0	2.3	0.4	5.4	2.7	3.5	12.1	5.3	3.7	3.2	37.2	100.0	563
Number of living children																
0	5.3	4.7	1.1	1.5	0.2	0.0	1.6	0.3	0.0	0.6	0.0	0.6	0.0	94.7	100.0	330
1	47.7	40.4	1.8	18.5	0.7	0.2	2.8	0.8	15.7	7.4	0.8	4.6	2.0	52.3	100.0	821
2	69.6	60.5	1.6	45.2	0.7	0.0	2.3	2.2	8.5	9.1	2.6	4.9	1.6	30.4	100.0	1,264
3	74.8	64.8	0.8	49.8	1.3	0.0	2.6	1.9	8.3	10.0	3.1	5.4	1.5	25.2	100.0	927
4+	67.2	57.1	0.9	46.4	1.4	0.0	1.3	2.4	4.8	10.1	2.1	7.1	0.8	32.8	100.0	1,550
Total	61.8	53.1	1.2	39.0	1.0	0.0	2.0	1.8	7.9	8.7	2.1	5.3	1.3	38.2	100.0	4,892

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



Other findings of note that are elucidated in Table 5.5 include the higher use of condoms among women with higher education (8 percent of married women with higher education are using condoms). Women using condoms are most likely to be women of ethnicities other than Turkmen or Uzbek. Use of LAM and use of traditional methods also vary by education. Nine percent of women with primary or secondary education report themselves to be using LAM, and use declines with increasing education, down to 4 percent among women with higher education. Use of traditional methods, on the other hand, increases with increasing education. Eight percent of women with primary or secondary education report themselves to be using a traditional method of contraception, and use increases to 15 percent among women with higher education. The percentage of married women not currently using a method of contraception decreases with increasing education, from 40 percent among women with primary or secondary education to 32 percent among women with higher education.

Of course, socioeconomic characteristics are not the only factors that influence contraceptive use. A woman's ability to use contraceptive methods to control her fertility is also likely to be affected by her status and degree of empowerment. The TDHS survey collected information on indicators of women's empowerment: number of decisions in which the respondent has the final say and the number of reasons for which a woman can refuse to have sexual relations with her husband. The first of these indicators, which ranges from 0 to 5, is based on the total number of decisions from among five specified decisions (see Table 3.9 for the list of specific decisions) that the respondent participates in. This indicator is positively related to women's empowerment and reflects the degree of decisionmaking control women are able to exercise in areas that affect their own life and environment. The second measure, which ranges from 0 to 4, is the total number of circumstances from among four specified circumstances (see Table 3.11 for the list of circumstances) in which the respondent feels that a woman is justified in refusing sexual relations with her husband. This indicator reflects perceptions of sexual roles and women's rights over their body and sexuality and relates positively to women's sense of self and empowerment.

Table 5.6 shows how current use of contraception by currently married women age 15-49 varies by each of these indicators of women's empowerment. Women who are more empowered are expected to be better able to control all aspects of their lives including being better able to meet their fertility goals. Table 5.6 shows that women's contraceptive use is strongly associated with women's participation in household decisionmaking. Only 44 percent of women who do not participate in any household decisions are using a contraceptive method, compared with 63 to 64 percent of women who participate in almost all or all (three to five) of the decisions. Of particular interest is the fact that the use of the IUD, the most popular modern method, as well as the use of traditional methods, particularly withdrawal, increases sharply with women's participation in household decisionmaking. Women not participating in any decisions are only about half as likely as women participating in all decisions to use each of these methods. The use of LAM, however, which accounts for 13 percent of all contraceptive use, is inversely related to women's participation in decisionmaking. Women's contraceptive use does not, however, appear to vary consistently or strongly with the other indicator of empowerment.

5.4 Number of Children at First Use of Contraception

To make some assessment of the motivations behind contraception, women were asked how many living children they had at the time they first used a method. Women who use a method before ever having a child presumably want to delay their childbearing to some time in the future. Women who first employ a method after they have had one or two children may either want to delay the next child (child spacing) or limit their childbearing to one or two children. Women who use a method for the first time after having several children are more likely to want to stop childbearing, rather than simply space their childbearing.

5.6 Current use of contraception by women's status

Percent distribution of currently married women by contraceptive method currently used, according to indicators of women's status, Turkmenistan 2000

Indicator of women's status	Any method	Modern method: Any modern method	Pill	IUD	Injectables	Foam/jelly	Male condom	Female sterilization	Lactational amenorrhea (LAM)	Traditional method: Any traditional method	Periodic abstinence	Withdrawal	Other	Not using a method	Total	Number of women
Number of decisions with woman having final say[1]																
0	44.1	39.6	0.6	22.7	0.5	0.0	2.5	0.5	12.8	4.5	0.0	3.4	1.1	55.9	100.0	235
1-2	57.6	51.2	0.2	34.2	0.1	0.0	1.5	1.6	13.6	6.4	1.5	3.7	1.3	42.4	100.0	675
3-4	62.8	53.1	1.3	38.8	0.9	0.0	2.3	2.2	7.4	9.7	2.1	5.8	1.8	37.2	100.0	998
5	63.8	54.6	1.5	41.5	1.2	0.1	2.0	1.9	6.4	9.3	2.4	5.7	1.1	36.2	100.0	2,984
Number of reasons to refuse sexual relations																
0	61.8	58.7	1.0	43.7	0.6	0.0	1.6	2.5	9.3	3.1	0.6	2.2	0.3	38.2	100.0	288
1-2	58.1	51.4	0.4	37.8	0.5	0.0	2.2	1.3	9.2	6.7	0.8	5.1	0.9	41.9	100.0	700
3-4	62.5	53.0	1.4	38.9	1.1	0.1	2.1	1.9	7.6	9.5	2.4	5.6	1.4	37.5	100.0	3,905
Total	61.8	53.1	1.2	39.0	1.0	0.0	2.0	1.8	7.9	8.7	2.1	5.3	1.3	38.2	100.0	4,892

Note: If more than one method was used, only the most effective method is considered in this tabulation.
[1] Either by herself or jointly with others.

Table 5.7 presents the percent distribution of all ever-married women by the number of living children they had at the time they first used contraception. Use of contraception to delay the first pregnancy is uncommon in Turkmenistan (only 2 percent of women have done so). However, beginning use at low parities is fairly common and has been becoming more common over time. Forty-seven percent of women in their forties first used contraception after having one child, while as many as 60 percent of women in their twenties initiated use of contraception after having their first child. Table 5.7 also presents the median number of children at first use of contraception, but because this median is calculated only among those who have ever used a method of contraception, the reader should note that the medians among young women are biased toward low numbers since young women who have used contraception must have done so at low parities.

Table 5.7 Number of children at first use of contraception

Percent distribution of ever-married women by number of living children at the time of first use of contraception and median number of children at first use, according to current age, Turkmenistan 2000

Current age	Never used contraception	Number of living children at time of first use of contraceptive: 0	1	2	3	4+	Missing	Total	Median number of children at first use of contraception	Number of women
15-19	63.9	1.1	35.0	0.0	0.0	0.0	0.0	100.0	0.5	93
20-24	25.2	2.8	60.4	9.1	1.1	0.0	1.5	100.0	0.6	729
25-29	10.8	2.9	60.9	20.8	3.7	0.6	0.2	100.0	0.7	1,065
30-34	7.6	0.9	52.8	22.3	10.7	5.4	0.3	100.0	0.9	1,015
35-39	8.2	0.3	46.6	19.5	10.8	14.4	0.1	100.0	1.0	950
40-44	7.1	0.6	46.7	14.8	10.3	20.4	0.0	100.0	1.0	838
45-49	12.3	1.3	47.8	9.1	6.1	23.1	0.3	100.0	0.9	665
Total	12.2	1.5	52.4	16.5	7.2	9.8	0.4	100.0	0.8	5,356

Note: Median number or children at first use of contraception is calculated only among those who have ever used contraception.

5.5 KNOWLEDGE OF THE FERTILE PERIOD

Knowledge of reproductive physiology is an important prerequisite for successful practice of coitus-associated methods such as withdrawal, condoms, and vaginal methods. To successfully practice periodic abstinence, a woman must know at which point during the ovulation cycle she is most likely to become pregnant. All women were asked whether they thought there was a time during their monthly cycle that they were more likely to become pregnant, and if so, to identify when that was. Table 5.8 presents the percent distribution of both users and nonusers of periodic abstinence by their knowledge of the fertile period.

Table 5.8 Knowledge of fertile period

Percent distribution of women who use periodic abstinence, of women who do not use periodic abstinence, and of all women, by knowledge of fertile period during the ovulatory cycle, Turkmenistan 2000

Perceived fertile period	Users of periodic abstinence	Nonusers of periodic abstinence	All women
Just before period begins	0.0	0.8	0.8
During menstrual period	0.8	0.3	0.3
Right after period has ended	7.0	8.0	8.0
Halfway between periods	88.5	23.9	24.8
No special time	1.2	32.7	32.3
Other	0.0	0.0	0.0
Don't know	2.5	34.2	33.7
Missing	0.0	0.1	0.1
Total	100.0	100.0	100.0
Number of women	102	7,817	7,919

Only one-quarter of all women properly identified the middle of the cycle as the most likely time to become pregnant. Most of the remaining respondents said either that there is no time that is more likely than another (32 percent of all women) or simply did not know (34 percent of all women). On the other hand, most women who are using periodic abstinence do know of the varying likelihood to become pregnant. Eighty-nine percent of women who are using periodic abstinence could properly identify the time during which they are most fertile.

5.6 SOURCE OF CONTRACEPTIVE METHODS

All women currently using a modern method were asked where they most recently obtained their method.[3] Table 5.9 shows the percent distribution of all current users of modern contraceptives by the source from which they most recently obtained their method.

Nearly all women obtained their contraceptives through the public sector (99 percent). Forty-four percent obtained their method from a health clinic, 35 percent obtained their method from a hospital, and 16 percent obtained their method from a women's consulting center.

[3] Data collection included recording the name of the source so that team supervisors and editors could verify the sources.

Table 5.9 Source of supply

Percent distribution of current users of modern contraceptive methods by most recent source of supply, according to specific method, Turkmenistan 2000

Source	Pill	IUD	Injectables	Male condom	Female sterilization	All modern methods[1]
Public sector	(96.4)	99.2	(100.0)	84.0	100.0	98.5
Government hospital	(25.0)	34.3	(13.1)	1.1	93.4	34.8
Rural and urban health clinic	(29.2)	46.8	(69.8)	19.9	0.6	43.5
Women's consulting center	(15.4)	17.6	(15.0)	1.6	0.0	16.0
Public pharmacy	(26.8)	0.6	(0.0)	57.2	0.0	3.8
Other public	(0.0)	0.1	(2.1)	4.2	6.0	0.6
Private medical sector	(3.6)	0.6	(0.0)	9.8	0.0	1.0
Private hospital/clinic	(0.0)	0.5	(0.0)	0.0	0.0	0.5
Private pharmacy	(3.0)	0.0	(0.0)	2.4	0.0	0.2
Private doctor	(0.7)	0.1	(0.0)	0.0	0.0	0.1
Other private medical	(0.0)	0.0	(0.0)	7.4	0.0	0.3
Other	(0.0)	0.0	(0.0)	3.0	0.0	0.2
Don't know	(0.0)	0.1	(0.0)	3.3	0.0	0.3
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	60	1,971	49	100	104	2,286

Note: Parentheses indicate that a figure is based on 25-49 unweighted cases.
[1] Includes 2 users of foam/jelly.

Source of supply does vary depending on the method being used. Pill users exhibit the greatest variation in where they get their method; they report having last obtained their method from government hospitals (25 percent), health clinics (29 percent), women's consulting centers (15 percent), and public pharmacies (27 percent). The majority of condom users obtain their method from public pharmacies (57 percent). The majority of women who use injectables obtain their method from health clinics (70 percent). Most of users are using the IUD and nearly half obtain the method from health clinics; one-third of IUD users obtain their method from hospitals, and the remainder obtain their method from women's consulting centers.

5.7 INFORMED CHOICE

Ideally, women would become users of contraceptives only after having obtained all the information pertaining to method use that would lead one to make an informed choice about using a method. This would include the decision whether to use contraception, as well as which method to use. An informed choice would be one that is made with the knowledge of what methods are available to choose from, as well as all risks associated with each method.

The TDHS survey asked women who are currently using a modern method of contraception whether they were informed of the possible side effects of the method they are using, and if so, whether they were informed of what they should do if they experience any side effects. The results are presented in Table 5.10. Most of users of modern methods in Turkmenistan are using the IUD, among whom only half report that they were informed about possible side effects and what to do in the event they experience side effects. Women in Ashgabad City are the least likely of all regions (38 percent) to have been informed about side effects, while women in the Lebap Region are the most likely to have been told about side effects (65 percent). Users of the pill and injectables are much more likely to have been told about side effects and what to do if they experience them (about 80 percent were so informed), although they do constitute a minority of all users.

Women who are using female sterilization were asked whether they were informed that they would no longer be able to bear children after the operation. Eighty-eight percent of sterilized women were informed that they would not be able to bear children after the sterilization operation.

Women were also asked whether they were told about other methods of family planning they could use, other than the one they were using. Only 41 percent of women reported having been told about alternatives to their method. Of course, in Turkmenistan, this is also highly dependent on the availability of other methods.

Table 5.10 Informed choice

Percentage of current users of modern contraceptive methods who were informed that sterilization is permanent, who were informed about the side effects of the method used, who were informed what to do if side effects were experienced, and who were informed of other methods that could be used for contraception, by specific method, initial source of method, and background characteristics, Turkmenistan 2000

Method, source, background characteristic	Informed that sterilization is permanent[1]	Informed about side effects of method used[2]	Informed what to do if experience side effects[2]	Informed of other methods that could be used[3]
Method				
Pill	-	(82.8)	77.5	(77.7)
IUD	-	48.4	46.9	38.1
Injectables	-	(83.8)	(83.8)	(83.8)
Female sterilization	87.7	37.4	31.6	16.2
Other[4]	-	-	-	48.0
Initial source of method	87.7	49.7	47.9	40.5
Government hospital	87.5	45.1	43.7	36.1
Rural and urban health clinic	*	53.9	52.1	43.7
Women's consulting center	*	47.5	44.8	39.9
Public pharmacy	*	*	*	*
Other public	*	*	*	*
Residence				
Urban	83.3	46.0	43.4	39.1
Rural	(93.0)	53.1	52.1	41.8
Region				
Ashgabad City	*	37.9	32.3	35.8
Akhal	*	45.0	45.0	29.3
Balkan	*	45.9	44.9	32.0
Dashoguz	*	53.0	52.3	47.8
Lebap	*	64.5	62.2	52.8
Mary	*	45.0	43.5	37.1
Education				
Primary/secondary	92.5	46.9	45.5	36.9
Secondary-special	(82.3)	56.7	54.6	48.4
Higher	*	49.8	44.9	48.0
Ethnicity				
Turkmen	94.0	50.0	48.6	39.5
Uzbek	*	55.4	53.9	49.0
Other	*	41.2	36.6	38.1
Total	87.7	49.6	47.8	40.5
Number of women	104	2,184	2,184	2,577

Note: Parentheses indicate that a figure is based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
[1] Among users of sterilization
[2] Among users of female sterilization, pill, IUD, injectables and implants
[3] Among users of female sterilization, pill, IUD, injectables, implants, vaginal methods and LAM.
[4] Users of foam/jelly or LAM

5.8 DISCONTINUATION WITHIN 12 MONTHS OF USE

The circumstances surrounding the discontinuation of contraception is of interest because it can inform strategies to reach the target population. Table 5.11 presents first-year contraceptive discontinuation rates by reason for discontinuing a method, according to each method discontinued. This is the proportion of women who have started using a contraceptive method at some time in the 5 years prior to the survey, but then stopped using that method within 12 months of having started it. One would expect the rates to vary by method by virtue of the nature of the methods. For example, the IUD is not generally intended as a short-term method, and so a low discontinuation rate of 12 percent is to be expected. On the other hand, coitus-related methods are more easily discontinued; 59 percent of condom users discontinued within one year of use. Nearly half of those who did discontinue use of condoms switched to another method. Although one might assume that the desire to become pregnant might be one of the main reasons for discontinuing use of a method of contraception, only 3 percent of users discontinued within 12 months of initiating use for that reason.

Table 5.11 First-year contraceptive discontinuation rates

Proportion of contraceptive users who discontinue use of a method by 12 months after beginning its use in the five years preceding the survey, by reason for discontinuation, according to specific method, Turkmenistan 2000

Method discontinued	Reason for discontinuation				All reasons
	Method failure	Desire to become pregnant	Switched to another method[1]	Other	
Pill	6.6	12.3	26.6	27.3	72.8
IUD	0.8	3.0	1.9	5.9	11.7
Condom	2.3	16.9	27.9	11.3	58.5
Withdrawal	12.0	3.4	8.7	19.6	43.6
Lactational amenorrhea	0.6	0.5	22.3	61.3	84.6
Other	16.3	6.3	12.8	10.0	45.4
All methods	2.2	2.5	15.3	38.0	58.0

Note: Discontinuation rates are based on multiple decrement life table calculations.
[1] Used a different method in the month following discontinuation or said that they wanted a more effective method and started another method within two months of discontinuation.

Table 5.12 presents the distribution of all discontinuations in the five years prior to the survey by main reason for discontinuation and presents these distributions for each method. The main reasons given for discontinuing use of the IUD are wanting to become pregnant and health concerns, each reported for one-third of discontinuations. Note that there is a large quantity of reported LAM discontinuations; these may be more the result of collection teams recording uses of LAM whenever women were breastfeeding than being cases of women being taught how to meet the requirements of LAM. Ninety-two percent of LAM discontinuations had no accompanying reasons reported for discontinuation.

Table 5.12 Reasons for discontinuing contraceptive methods

Percent distribution of discontinuations of contraceptive methods in the five years preceding the survey by main reason for discontinuation, according to specific method, Turkmenistan 2000

Reason for discontinuation	Method discontinued									
	Pill	IUD	Inject-ables	Diaph. foam/ jelly	Condom	Periodic absti-nence	With drawal	Lactational amenorrhea	Other	All methods
Became pregnant while using	8.3	4.8	0.0	*	5.4	19.7	25.4	1.0	27.3	4.7
Wanted to become pregnant	13.4	33.0	10.2	*	26.6	14.9	11.7	0.5	14.2	10.3
Husband disapproved	0.9	0.6	0.0	*	19.7	2.9	5.9	0.0	1.2	1.3
Side effects	21.1	10.5	17.0	*	0.0	0.0	0.0	0.0	0.0	3.2
Health concerns	22.1	34.6	29.6	*	1.4	2.5	0.0	0.0	0.0	8.8
Access/availability	1.0	0.0	0.0	*	0.0	0.0	0.0	0.0	0.0	0.0
Wanted a more effective method	12.3	4.4	11.9	*	23.2	8.0	10.1	2.5	20.0	5.1
Inconvenient to use	6.2	0.3	0.0	*	6.6	1.4	0.3	0.0	0.0	0.5
Infrequent sex/husband away	4.2	3.6	2.9	*	3.9	3.2	0.0	0.1	0.0	1.2
Cost too much	0.0	0.0	0.0	*	0.9	0.0	0.0	0.0	0.0	0.0
Difficult to get pregnant/menopausal	0.0	3.9	0.0	*	0.6	0.0	0.4	0.0	0.0	0.9
Marital dissolution/separation	1.3	0.1	0.0	*	3.0	2.2	0.8	0.0	0.0	0.2
Other	0.0	1.5	2.6	*	0.0	0.0	0.4	3.9	20.0	3.2
Don't know	0.0	0.0	0.0	*	0.0	0.0	0.2	0.0	0.0	0.0
Missing	9.1	2.8	25.8	*	8.8	45.2	44.8	91.9	17.2	60.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of discontinuations	140	1,090	76	13	158	85	308	2,949	121	4,940

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

5.9 INTENTION TO USE CONTRACEPTION AMONG NONUSERS

Intentions of women to use a method of contraception in the future provide a basis for forecasting potential need for contraceptives. The TDHS survey asked currently married nonusers of contraception whether they intend to use a method of contraception at some time in the future. Table 5.13 presents the results according to the number of living children the nonusers have.

Table 5.13 Future use of contraception

Percent distribution of currently married women who are not using a contraceptive method by intention to use in the future, according to number of living children, Turkmenistan 2000

Intention	Number of living children[1]					Total
	0	1	2	3	4+	
Intends to use later	47.4	61.2	60.1	46.1	24.1	46.6
Unsure as to intention	18.9	14.8	14.3	12.0	10.4	13.5
Does not intend to use	32.6	22.5	24.1	40.5	65.1	38.9
Missing	1.0	1.5	1.4	1.5	0.3	1.1
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	197	432	424	278	537	1,868

[1] Includes current pregnancy

Overall, 47 percent of currently married nonusers do intend to use a method of contraception at some time in the future, 39 percent state that they do not intend to use a method, and 14 percent say that they are not sure about future use. Women with one or two children are more likely to intend to use a method at some time in the future than are women with three or more children. In fact, most women with one or two children intend to use a method at some time in the future (60 percent). Most (89 percent) of women who intend to use a method at some time in the future report that they intend to use the IUD (Table 5.14).

Table 5.14 Preferred method of contraception for future use

Percent distribution of currently married women who are not using a contraceptive method but who intend to use in the future by preferred method, Turkmenistan 2000

Preferred Method	All women
Pill	2.6
IUD	89.0
Injectables	1.8
Condom	2.0
Periodic abstinence	0.7
Withdrawal	0.3
Lactational amenorrhea	0.6
Foam and jelly	0.4
Other	0.1
Missing	2.5
Total	100.0
Number of women	870

5.10 Reasons for Nonuse of Contraception

As was seen in Table 5.13, the percentage of married women who do not intend to use a method of family planning increases as the number of children increases, from 23 percent among women with one child up to 65 percent among women with four or more children. Since motivations to use family planning change over one's reproductive lifespan, Table 5.15 presents reasons nonusers state for having no intention to use family planning for women below and above age 30. The most common reason stated for not intending to use a method among younger nonusers is wanting more children (41 percent). Women over the age of 30 are as likely to report being opposed to the use of contraception as being menopausal for their reason for nonuse (each about 30 percent). Few women over the age of 30 report wanting children as the reason for not using contraception.

Table 5.15 Reasons for not intending to use contraception

Percent distribution of currently married women who are not using a contraceptive method and who do not intend to use in the future, by main reason for not intending to use, Turkmenistan 2000

Reason	Age < 30	Age 30+	All ages
Wants children	41.2	6.6	10.1
Side effects	0.0	0.7	0.6
Health concerns	6.9	4.7	4.9
Access/availability	0.0	0.1	0.1
Religion	1.4	0.5	0.6
Opposed to family planning	21.2	28.6	27.8
Partner opposed	1.4	0.5	0.6
Infrequent sex/no sex	4.5	12.1	11.3
Difficult to get pregnant	18.9	13.2	13.8
Menopausal/hysterectomy	0.4	30.6	27.5
Other	2.0	1.9	1.9
Don't know/missing	2.2	0.5	0.6
Total	100.0	100.0	100.0
Number of women	73	653	726

5.11 Exposure to Family Planning Messages in the Media

Mass media provide an opportunity to communicate information to a broad spectrum of the population. All TDHS respondents were asked whether they had heard a message about the benefits of spacing their children and using contraception on the radio or television in the few months prior to the survey. They were also asked whether they had seen a message in a newspaper or magazine. The results for the electronic media are presented in Table 5.16 and for the print media in Table 5.17.

Table 5.16 Exposure to messages about contraception on radio and television

Percent distribution of women by whether or not they have heard a radio or television message about contraception in the last few months prior to the interview, according to background characteristics, Turkmenistan 2000

Background characteristic	Heard message about contraception on radio or television					Total	Number of women
	Both	Radio only	Tele-vision only	Neither	Missing		
Age							
15-19	7.5	0.4	17.8	73.9	0.3	100.0	1,574
20-24	12.0	0.6	24.1	62.8	0.4	100.0	1,541
25-29	16.6	0.5	27.0	56.0	0.0	100.0	1,256
30-34	16.7	0.4	29.1	53.3	0.5	100.0	1,060
35-39	17.4	0.3	24.2	57.9	0.3	100.0	974
40-44	17.6	0.5	27.5	54.3	0.0	100.0	845
45-49	15.8	0.7	26.3	57.1	0.2	100.0	669
Residence							
Urban	15.8	0.4	27.2	56.4	0.2	100.0	3,691
Rural	12.5	0.5	22.2	64.4	0.3	100.0	4,228
Region							
Ashgabad City	19.7	0.4	35.5	44.1	0.3	100.0	1,038
Akhal	1.0	0.5	23.1	75.3	0.1	100.0	1,145
Balkan	3.0	0.1	20.9	76.1	0.0	100.0	709
Dashoguz	29.0	1.2	11.2	58.6	0.0	100.0	1,628
Lebap	11.6	0.2	18.4	69.6	0.2	100.0	1,607
Mary	12.1	0.3	38.2	48.8	0.7	100.0	1,791
Education							
Primary/secondary	12.0	0.5	22.2	64.9	0.3	100.0	5,800
Secondary-special	18.7	0.6	29.1	51.7	0.0	100.0	1,556
Higher	22.2	0.0	35.9	41.7	0.2	100.0	563
Ethnicity							
Turkmen	12.4	0.5	23.7	63.1	0.3	100.0	6,191
Uzbek	22.4	0.5	15.5	61.6	0.0	100.0	857
Other	17.3	0.5	39.6	42.3	0.3	100.0	871
Total	14.0	0.5	24.5	60.7	0.3	100.0	7,919

Television is the most common of the three sources of messages about the benefits of spacing children and using contraception (television, radio, or print media). Nine out of ten women in Turkmenistan report watching television weekly; one out of three women report listening to the radio weekly (data presented in Chapter 2). Overall, 39 percent of respondents have seen a television message in the few months prior to the survey. Fifteen percent of respondents had heard a message on the radio. Exposure to television messages varies by residence. Twice as many respondents in Ashgabad City and Mary Region (50-55 percent) had seen a television message as had respondents in the Akhal and Balkan regions (24 percent). Although television messages are independent of the educational level of the audience, the likelihood that a respondent has seen a message increases with increasing education. Thirty-four percent of respondents with primary or secondary education, respectively, have recently seen a family message, while 48 and 58 percent of women with secondary-special and higher education, respectively, have seen such a message.

Table 5.17 Exposure to messages about the use of contraception in print media

Percent distribution of women who saw a message about contraception in the print media (newspaper or magazines) in the last few months prior to the interview, according to background characteristics, Turkmenistan 2000

Background characteristic	Saw a contraceptive message in print media			Total	Number of women
	Yes	No	Missing		
Age					
15-19	17.4	82.4	0.2	100.0	1,574
20-24	23.9	75.6	0.5	100.0	1,541
25-29	30.9	69.1	0.0	100.0	1,256
30-34	28.1	71.4	0.5	100.0	1,060
35-39	29.5	70.1	0.3	100.0	974
40-44	29.4	70.5	0.1	100.0	845
45-49	25.9	74.1	0.0	100.0	669
Residence					
Urban	31.3	68.5	0.2	100.0	3,691
Rural	20.8	78.9	0.3	100.0	4,228
Region					
Ashgabad City	37.7	62.0	0.3	100.0	1,038
Akhal	2.8	97.0	0.2	100.0	1,145
Balkan	21.1	78.9	0.0	100.0	709
Dashoguz	37.2	62.8	0.0	100.0	1,628
Lebap	27.4	72.5	0.1	100.0	1,607
Mary	23.3	75.9	0.8	100.0	1,791
Education					
Primary/secondary	19.9	79.8	0.3	100.0	5,800
Secondary-special	38.7	61.2	0.1	100.0	1,556
Higher	49.8	50.0	0.2	100.0	563
Ethnicity					
Turkmen	22.7	77.0	0.3	100.0	6,191
Uzbek	31.2	68.8	0.0	100.0	857
Other	41.6	58.0	0.4	100.0	871
Total	25.7	74.0	0.3	100.0	7,919

Overall, 30 percent of women report reading a newspaper or magazine on a weekly basis (data presented in Chapter 2). Twenty-six percent of respondents report having recently seen a message concerning the spacing of children or use of contraception message in a newspaper or magazine. Women in Ashgabad City and the Dashoguz Region are the most likely to have read such a message (38 percent), while women in the Akhal Region are very unlikely to have seen such a message (3 percent). Women of other ethnicities are more likely than Turkmen or Uzbek women to have recently seen a message in print, they are also more likely to have seen a television message. Not surprisingly, the likelihood of having seen a message in the print media climbs with increasing education, from 20 to 50 percent.

5.12 Contact of Nonusers with a Service Provider

Successful adoption of a contraception method first necessitates information about what is available. Messages in the electronic and print media may be able to inform a wide audience, but personal contact with individuals is also necessary. Whenever a woman of reproductive age walks

into a health facility, health care professionals could see this as an opportunity to discuss the contraceptive needs of that individual. To assess whether women are discussing family planning with health care professionals, the THDS survey asked women whether they had visited a health care facility within the previous 12 months (either for themselves or their child) and if so, had they spoken with any staff member at the facility about contraception. Women were also asked whether they had been visited by a fieldworker in the previous 12 months who had discussed contraception with them. The results are presented in Table 5.18 for those women who are not using a method.

Most of nonusers have not discussed the use of contraception in the previous year with a health care provider or fieldworker (83 percent). This may either be because they had no need to visit a health facility or because they did visit a health facility but did not discuss the use of contraception with anyone, and they were not visited by a fieldworker. It is important to note that half of the nonusers are women under age 25 (56 percent) and are surely going to be in need of contraception in the near future. Perhaps the easiest and most cost-efficient population to reach is that which presents itself to a health facility. One in five nonusers attended a health facility at some time in the previous year but did not speak to anyone there about the use of contraception. These represent missed opportunities. In Ashgabad City, 30 percent of nonusers had visited a health facility but had spoken with no one about the use of contraception.

Table 5.18 Contact of nonusers with providers

Percent distribution of women who are not using contraception by whether or not they were visited by a health worker or spoke with a health facility staff member about contraceptive methods during the 12 months prior to the interview, according to background characteristics, Turkmenistan 2000

	Visited by a health worker										
	Yes			No							
	Attended health facility, discussed use of contraception[1]			Attended health facility, discussed use of contraception[1]							
Characteristic	Yes	No	Did not attend health facility	Yes	No	Did not attend health facility	Missing	Visited by a health worker	Neither visited by health worker nor discussed contraception at health facility[2]	Total	Number of women
Age											
15-19	1.5	0.4	5.0	0.4	13.5	79.0	0.1	0.0	92.5	100.0	1,550
20-24	3.9	1.3	6.5	2.2	22.7	63.4	0.0	0.0	86.1	100.0	1,170
25-29	10.0	2.8	7.6	6.3	27.6	45.7	0.0	0.0	73.3	100.0	625
30-34	10.4	3.1	8.8	4.8	25.1	47.4	0.0	0.4	72.4	100.0	390
35-39	12.4	2.3	8.2	6.2	23.3	46.9	0.0	0.6	70.2	100.0	323
40-44	4.5	2.2	12.7	2.5	24.3	53.5	0.0	0.2	77.8	100.0	309
45-49	4.8	1.4	10.1	2.1	29.2	52.4	0.0	0.0	81.6	100.0	447
Residence											
Urban	5.5	1.4	5.4	3.3	25.4	58.7	0.0	0.2	84.1	100.0	2,182
Rural	4.9	1.5	8.7	2.1	17.8	64.9	0.1	0.0	82.7	100.0	2,632
Region											
Ashgabad City	3.3	0.6	2.2	3.8	30.2	59.3	0.0	0.6	89.5	100.0	633
Akhal	1.6	0.5	1.9	1.2	24.5	70.4	0.0	0.0	94.8	100.0	679
Balkan	0.7	0.4	2.2	4.3	15.7	76.5	0.2	0.0	92.2	100.0	440
Dashoguz	6.9	1.7	12.3	2.6	10.3	66.2	0.0	0.1	76.4	100.0	1,086
Lebap	8.7	2.2	13.0	3.0	25.2	47.9	0.0	0.0	73.1	100.0	942
Mary	5.5	2.3	5.2	1.9	24.1	60.9	0.2	0.0	85.0	100.0	1,034
Education											
Primary/secondary	3.9	1.2	7.1	2.3	20.0	65.4	0.1	0.1	85.4	100.0	3,745
Secondary-special	9.3	2.7	8.0	4.1	25.6	50.2	0.0	0.0	75.9	100.0	782
Higher	10.3	1.7	6.3	3.4	25.9	51.5	0.0	0.8	77.4	100.0	288
Ethnicity											
Turkmen	5.0	1.5	7.0	2.4	21.2	62.8	0.1	0.0	84.0	100.0	3,809
Uzbek	7.8	1.9	10.2	3.1	13.9	63.0	0.0	0.1	76.9	100.0	508
Other	3.7	1.0	5.7	4.3	29.3	55.7	0.0	0.4	85.0	100.0	497
Total	5.2	1.5	7.2	2.7	21.3	62.1	0.0	0.1	83.4	100.0	4,815

[1] Spoke with a health facility staff member about contraceptive methods.
[2] Was not visited by a health worker and either did not attend a health facility in preceding 12 months or attended facility but did not speak with a staff member about use of contraception.

5.13 SPOUSAL COMMUNICATION ON THE USE OF CONTRACEPTION

Although husband and wife discussion of an agreement to use contraception is not a necessary precondition for employing certain methods, its occurrence may increase the likelihood of use. Table 5.19 presents the percent distribution of currently married women by the number of times they have discussed the use of contraception with their husband in the previous year. One-third of wives have not discussed the use of contraception with their husband in the previous year. Twenty-five to 30 percent of women in their peak childbearing years (women in their twenties) have not discussed method use with their husband in the previous year.

Table 5.19 Discussions about contraception with husband

Percent distribution of currently married women who know a contraceptive method by the number of times contraception was discussed with their husband in the past year, according to current age, Turkmenistan 2000

	Number of times contraception was discussed with husband				
Age	Never	Once or twice	Three or more times	Total	Number of women
15-19	56.5	35.7	7.9	100.0	75
20-24	29.2	56.0	14.7	100.0	675
25-29	24.7	58.7	16.6	100.0	1,014
30-34	25.7	56.4	17.8	100.0	932
35-39	32.2	52.0	15.9	100.0	851
40-44	34.6	51.2	14.2	100.0	761
45-49	52.4	39.0	8.6	100.0	552
Total	32.0	52.9	15.0	100.0	4,860

A woman may not be willing to discuss method use with her spouse if she believes him to hold a negative attitude toward the use of contraception. Married women were asked whether they themselves approve or disapprove of a couple using family planning and also whether they perceive their husband to approve or disapprove of family planning. Percent distribution of married women and their perceptions are presented in Table 5.20. The lowest approval rating among married women is among those age 15-19, among whom only three-quarters report that they approve of the use of contraception. Eighteen percent of married 15- to 19-year-old women report that they are unsure whether they approve of method use. They are also the most likely not to know the attitude of their husband toward method use (29 percent). Women embarking on their reproductive careers are a target audience for counseling on the use of contraception. Women in the Akhal Region are the most likely not to know the attitudes of their husband toward method use (13 percent), while the women in Ashgabad City are the most likely to report that their husband does not approve of method use (8 percent). The overwhelming majority of women (nine out of ten) in Turkmenistan approve of method use, and about eight out of ten report that their husband also approves of method use.

Table 5.20 Attitudes of couples toward family planning

Percent distribution of currently married women who know of a method of contraception, by approval of the use of contraception and their perception of their husband's attitude toward the use of contraception, according to background characteristics, Turkmenistan 2000

Background characteristic	Wife approves of contraception			Wife disapproves of contraception			Wife unsure	Total	Total approval		Number of women
	Husband approves	Husband disapproves	Husband's attitude unknown	Husband approves	Husband disapproves	Husband's attitude unknown			Wife approves	Husbands approves[1]	
Age											
15-19	40.5	5.6	28.3	1.6	5.0	0.8	18.1	100.0	74.4	47.7	75
20-24	73.6	3.2	12.1	0.6	0.9	1.9	7.8	100.0	88.9	76.4	675
25-29	81.7	2.8	8.3	0.7	1.7	0.3	4.5	100.0	92.9	84.2	1,014
30-34	85.3	2.5	5.2	1.4	1.9	0.6	3.3	100.0	92.9	88.0	932
35-39	83.4	1.8	5.3	0.8	1.6	1.1	6.0	100.0	90.5	86.3	851
40-44	83.4	1.5	6.0	1.8	1.0	1.4	4.9	100.0	91.0	87.2	761
45-49	74.8	3.0	7.6	2.5	3.5	2.7	5.8	100.0	85.4	79.2	552
Residence											
Urban	81.3	2.8	6.9	1.6	1.9	0.9	4.6	100.0	91.0	84.7	2,286
Rural	79.6	2.2	8.2	0.9	1.6	1.4	6.1	100.0	90.0	82.5	2,574
Region											
Ashgabad City	78.3	3.5	6.4	1.4	4.1	1.4	4.9	100.0	88.1	81.6	632
Akhal	79.0	1.8	12.4	0.2	1.2	0.9	4.6	100.0	93.2	79.9	696
Balkan	81.6	1.7	6.6	1.5	1.0	2.0	5.7	100.0	89.9	84.6	416
Dashoguz	80.0	3.3	6.6	0.8	2.2	1.6	5.5	100.0	89.9	82.8	943
Lebap	83.3	1.8	4.5	1.9	1.0	0.8	6.7	100.0	89.6	88.1	1,023
Mary	79.8	2.6	9.2	1.4	1.4	0.8	4.8	100.0	91.7	83.0	1,150
Education											
Primary/secondary	77.3	2.5	9.0	1.3	1.9	1.4	6.5	100.0	88.8	80.9	3,317
Secondary-special	85.9	2.9	4.5	1.0	1.5	0.7	3.5	100.0	93.3	88.1	1,147
Higher	90.3	1.3	4.7	0.8	0.9	0.5	1.6	100.0	96.3	92.4	395
Ethnicity											
Turkmen	79.6	2.2	8.0	1.3	1.8	1.2	5.9	100.0	89.9	83.0	3,753
Uzbek	83.8	2.3	5.7	1.4	1.8	1.2	3.8	100.0	91.8	86.9	546
Other	82.2	4.3	6.5	0.7	1.7	1.2	3.4	100.0	93.0	83.9	561
Total	80.4	2.5	7.6	1.2	1.7	1.2	5.4	100.0	90.5	83.5	4,860

[1] Includes women who are unsure about their own attitude but who know their husband's attitude.

INDUCED ABORTION 6

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Induced abortion as a means of fertility control has a long history in Turkmenistan, as it does in other republics of the former Soviet Union. Induced abortion was legal when the Turkmen S.S.R. formally became one of the USSR's constituent republics; it had been declared legal in the Soviet Union in 1920. In 1936, the Soviet Union adapted pronatalist policies and declared induced abortion illegal. The decision was reversed in 1955 when abortion for nonmedical reasons was again legalized throughout the former Soviet Union.

Information about induced abortion was collected in the reproductive section of the questionnaire (see Appendix E). The section began with a series of questions to determine the total number of live births, induced abortions, miscarriages, and stillbirths that a respondent has had. When reporting the number of abortions, respondents were told to include pregnancies terminated by vacuum aspiration (i.e., miniabortions).[1] Next, an event-by-event pregnancy history was collected. For each pregnancy, the type of outcome and year and month of termination were recorded.

The pregnancy history was structured to ensure as complete reporting of abortions as possible, especially for the period just prior to the survey. Data were collected in reverse chronological order (i.e., information was first collected about the most recent pregnancy and then about the next to last and so on). This procedure was designed to result in more complete reporting of events for the years immediately prior to the survey than collecting information in chronological order would. At the end of the pregnancy history, interviewers were required to check the consistency between the aggregate data collected at the outset of the reproductive section and the number of events reported in the pregnancy history. Finally, interviewers were required to probe pregnancy intervals of four years or more to detect omitted events.

6.1 PREGNANCY OUTCOMES

Table 6.1 shows the percent distribution of outcomes for pregnancies terminating during the three-year period preceding the survey (mid-1997 to mid-2000). In Turkmenistan, 72 percent of pregnancies end in a live birth and 28 percent end in fetal loss (i.e., one in four pregnancies ends in an induced abortion, miscarriage, or stillbirth). Induced abortion is the most common type of pregnancy loss, accounting for 65 percent of all pregnancy losses, 18 percent of all pregnancy outcomes.

Table 6.1 also shows the percent distributions of pregnancy outcomes by background characteristics. Women of all characteristics shown have used induced abortion as a means of fertility control, but the extent to which they do so varies substantially. For example, urban women abort 25 percent of their pregnancies, while rural women abort 13 percent.

[1] The term *abortion* as used in the remainder of this report includes miniabortions unless otherwise indicated.

Table 6.1 Pregnancy outcomes by background characteristics

Percent distribution of pregnancies ending during the three years preceding the survey, by type of outcome, according to background characteristics, Turkmenistan 2000

Background characteristic	Pregnancy outcome				Total	Number of pregnancies
	Live birth	Induced abortion	Mis-carriage	Still-birth		
Residence						
Urban	63.3	25.1	10.8	0.7	100.0	1,309
Rural	78.1	13.1	8.0	0.9	100.0	1,643
Region						
Ashgabad City	60.4	29.3	10.3	0.0	100.0	352
Akhal	79.3	10.7	9.5	0.5	100.0	385
Balkan	74.1	20.4	5.5	0.0	100.0	219
Dashoguz	78.4	12.8	7.3	1.5	100.0	599
Lebap	67.1	22.0	10.5	0.4	100.0	654
Mary	70.5	18.0	10.1	1.4	100.0	743
Education						
Primary/secondary	75.3	14.0	9.8	0.8	100.0	2,015
Secondary-special	63.5	27.1	8.5	1.0	100.0	697
Higher	63.1	29.9	7.0	0.0	100.0	240
Ethnicity						
Turkmen	73.4	16.1	9.8	0.7	100.0	2,357
Uzbek	74.4	16.7	8.1	0.8	100.0	335
Other	50.7	41.4	6.1	1.8	100.0	259
Total	71.6	18.4	9.2	0.8	100.0	2,952

Recourse to induced abortion also varies substantially by region, education, and ethnicity. The proportion of pregnancies ending in abortion is highest in Ashgabad City (29 percent) and lowest in the Akhal Region (11 percent) and the Dashoguz Region (13 percent); the three regions of Mary, Balkan, and Lebap fall in the midrange, aborting 18 to 22 percent of pregnancies. The proportion of pregnancies ending in abortion is also higher among women with higher education (30 percent) than it is among women with primary or secondary education (14 percent). Substantially more pregnancies end in abortion among women of other ethnicities (41 percent) than among women of Turkmen (16 percent) or Uzbek (17 percent) ethnicity.

Table 6.2 shows the percent distribution of pregnancy outcomes by selected indicators of women's status. These indicators are intended to reflect women's sense of empowerment. Women who are more empowered are expected to be better able to maintain control over their own lives, including being better able to meet their fertility goals. The two indicators reported in Table 6.2 are the following: the number of decisions in which the respondent participates in the final say of the household and the number of reasons for which a woman can refuse to have sexual relations with her husband. The first indicator is intended to reflect the degree of decisionmaking control women are able to exercise in areas that affect their own life and environment. The second indicator is intended to reflect perceptions of sexual roles and women's rights over their body and sexuality. See Chapter 3 for more details about the components of the indicators.

Table 6.2 Pregnancy outcomes by women's status

Percent distribution of pregnancies ending during the three years preceding the survey, by type of outcome, according to selected indicators of women's status, Turkmenistan 2000

Indicator of women's status	Pregnancy outcome				Total	Number of pregnancies
	Live birth	Induced abortion	Mis-carriage	Still-birth		
Number of decisions with woman having final say						
0	82.4	6.8	10.6	0.3	100.0	217
1-2	79.7	9.3	10.0	1.0	100.0	546
3-4	70.1	19.3	9.2	1.3	100.0	646
5	67.8	22.9	8.8	0.6	100.0	1,543
Number of reasons to refuse sexual relations						
0	75.7	16.7	7.2	0.4	100.0	153
1-2	73.3	15.8	10.7	0.3	100.0	466
3-4	70.9	19.0	9.1	0.9	100.0	2,333
Total	71.6	18.4	9.2	0.8	100.0	2,952

The first indicator is positively associated with the percentage of pregnancies that end in abortion; that is to say, the percentage of abortions increases as the number of decisions in which the respondent participates increases. The increase is fairly steady. The second indicator shows no clear pattern in relation to pregnancy outcomes. Interpretation of these results should be done carefully since the realm of fertility control and decisionmaking is more complex than can be summarized here.

6.2 Lifetime Experience with Induced Abortion

Table 6.3 shows the lifetime experience of women with abortion. It should be noted that the statistics on the proportion of women who have ever had an abortion are based on all women 15-49 irrespective of their exposure to the risk of pregnancy.

Overall, 18 percent of women of reproductive age in Turkmenistan have had at least one abortion. Of course, the percentage who have had an abortion increases with age, a significant proportion of the youngest women have not yet had intercourse (for example, 94 percent of those under the age of 20 have never had intercourse). One-third of women age 35 and over have had an abortion. There are significant differentials across background characteristics in the percentage of women who have had at least one abortion. Urban women are much more likely than rural women to have had an abortion: one in four versus one in ten. Regional variation ranges from 11 percent of women in the Akhal and Dashoguz regions having had an abortion to 29 percent in Ashgabad City. Women with secondary-special or higher education are twice as likely to have had an abortion as women with primary or secondary education are (30 percent and 13 percent, respectively). Forty-three percent of women of other ethnicities have had an abortion, whereas 14 percent of Turkmen women have done so.

Table 6.3 Lifetime experience with induced abortion

Percentage of women who have had at least one induced abortion and, among these women, the percent distribution by the number of induced abortions and the mean number of induced abortions, according to selected background characteristics, Turkmenistan 2000

Background characteristic	Percentage of women who had an induced abortion	Number of women	Among women who have had an abortion, percent distribution of women by number of abortions					Mean number of abortions	Number of women who had an abortion
			1	2-3	4-5	6+	Total		
Age									
<20	0.1	1,574	*	*	*	*	*	*	1
20-24	5.0	1,799	75.0	22.5	2.4	0.0	100.0	1.3	90
25-34	21.6	2,058	61.2	33.9	4.4	0.5	100.0	1.6	444
35+	34.6	2,488	44.7	43.0	8.2	4.1	100.0	2.1	861
No. of living children									
0	0.6	2,942	*	*	*	*	*	*	18
1	18.7	946	56.1	32.3	11.0	0.6	100.0	1.9	176
2-3	30.7	2,381	50.2	38.5	8.1	3.2	100.0	2.0	731
4-5	30.3	1,199	54.7	40.4	2.9	2.1	100.0	1.7	363
6+	24.1	451	49.2	43.0	3.2	4.6	100.0	2.1	109
Residence									
Urban	25.3	3,691	45.0	42.5	8.7	3.8	100.0	2.1	934
Rural	10.9	4,228	66.2	31.1	2.4	0.3	100.0	1.5	461
Region									
Ashgabad City	28.9	1,038	37.7	45.4	12.1	4.8	100.0	2.4	300
Akhal	10.7	1,145	49.7	45.1	3.6	1.6	100.0	1.8	123
Balkan	16.4	709	57.0	35.7	3.7	3.6	100.0	1.8	115
Dashoguz	10.7	1,628	62.1	32.6	3.8	1.5	100.0	1.7	174
Lebap	21.1	1,607	51.0	39.9	5.7	3.4	100.0	1.9	339
Mary	19.2	1,791	59.4	33.6	6.3	0.7	100.0	1.7	344
Education									
Primary/secondary	12.9	5,800	59.5	35.0	4.1	1.4	100.0	1.7	748
Secondary-special	30.8	1,556	43.5	42.8	9.4	4.4	100.0	2.2	479
Higher	29.6	563	42.7	44.1	10.0	3.2	100.0	2.2	167
Ethnicity									
Turkmen	14.0	6,191	59.6	35.1	3.6	1.7	100.0	1.7	867
Uzbek	18.2	857	55.8	38.7	3.9	1.6	100.0	1.7	156
Other	42.7	871	32.5	47.2	14.9	5.4	100.0	2.5	372
Marital status									
Never married	0.0	2,563	*	*	*	*	*	*	0
Married	25.6	4,892	52.2	39.1	6.2	2.4	1.9	100.0	1,252
Ever-married	31.4	463	49.7	35.2	10.1	4.9	100.0	2.3	145
Total	17.6	7,919	52.0	38.7	6.6	2.7	100.0	1.9	1,396

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

Table 6.3 also presents information on repeat use of induced abortion. Among women who have ever had an abortion, half (48 percent) have had more than one. Patterns of repeat abortion are similar to patterns of exposure to abortion. Wherever percentages of women who have had an abortion are higher, percentages with more than one abortion are likely to be higher. For example, urban women are more likely to have had an abortion (25 versus 11 percent), and among those who have had an abortion, they are also more likely to have had more than one abortion (55 versus 34 percent) than rural women are. The same is true for education and ethnicity.

6.3 RATES OF INDUCED ABORTION

Rates of abortion for the three-year period prior to the survey (i.e., from mid-1997 to mid-2000) are shown in this section. Age-specific rates represent the probability that a woman of a particular age will have an abortion in a period of one calendar year. These rates are shown per 1,000 women.

Table 6.4 shows age-specific rates of abortion for all of Turkmenistan, by urban-rural residence and by ethnicity. The age pattern of the rates is similar in each population subgroup. Rates are nearly nonexistent among the youngest women, increase during the primary years of childbearing, peak at just after the primary years of childbearing, and then decline. This pattern prevails among each ethnic group and residence group. For example, urban women attain their peak childbearing years at age 20-24 (165 births per 1,000 women) and their peak abortion rates at age 25-29 (63 abortions per 1,000 women). Rural women attain their peak childbearing years at age 25-29 (244 births per 1,000 women) and their peak abortion rates at age 30-34 (43 abortions per 1,000 women). Turkmen women attain their peak childbearing years at age 25-29 (213 births per 1,000 women) and their peak abortion rates at age 30-34 (44 abortions per 1,000 women). The same pattern is true for Uzbek women and women of other ethnicities. At the national level, childbearing peaks at age 25-29 (195 births per 1,000 women), and the induced abortion rate peaks at age 30-34 (49 abortions per 1,000 women); national rates are shown in Figure 6.1.

Table 6.4 Induced abortion rates

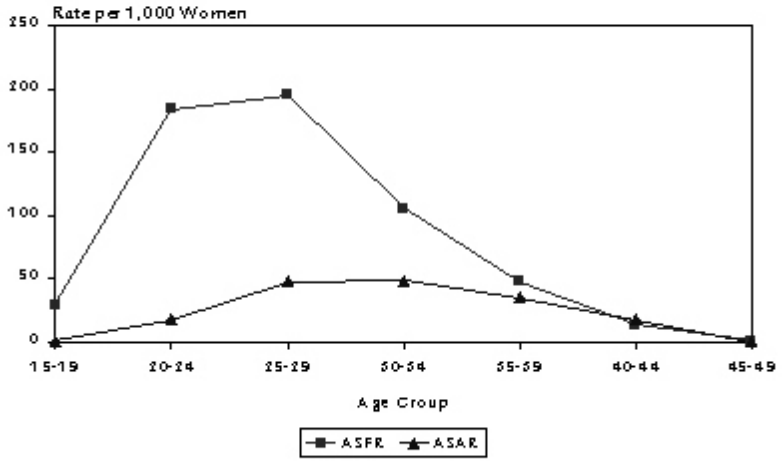
Age-specific induced abortion rates, total abortion rates, and general abortion rates for the three-year period before the survey, by residence and ethnicity, Turkmenistan 2000

	Residence		Ethnicity			
Age group	Urban	Rural	Turkmen	Uzbek	Other	Total
15-19	1	1	1	2	1	1
20-24	27	11	15	15	48	18
25-29	63	33	42	50	96	48
30-34	55	43	44	51	83	49
35-39	38	33	36	32	37	35
40-44	20	16	14	12	41	18
45-49	0	0	0	(0)	(0)	0
Rates						
Total abortion rate 15-49	1.02	0.69	0.75	0.81	1.53	0.85
Total abortion rate 15-44	1.02	0.69	0.75	0.81	1.53	0.85
General abortion rate	34	20	23	24	50	26

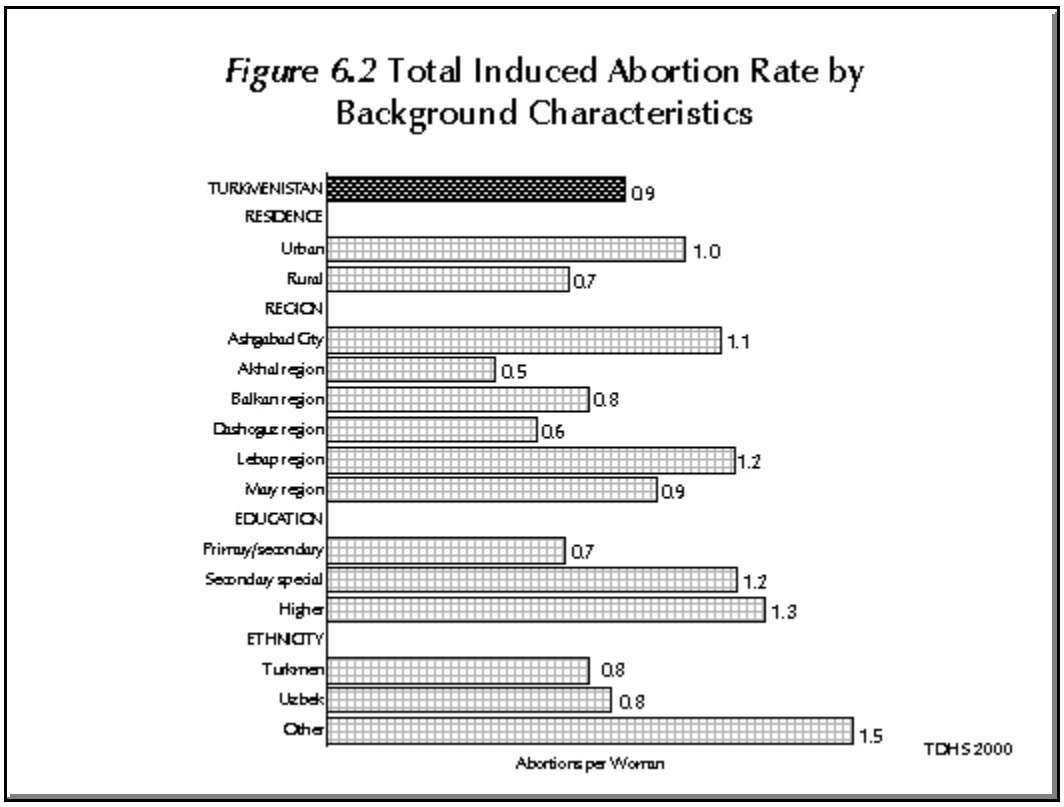
Note: Rates in parentheses indicate that they are based on fewer than 250 unweighted woman-years of exposure. Total abortion rate is induced abortions expressed per woman; general abortion rate is induced abortions divided by the number of women 15-44 expressed per 1,000 women.

Age-specific abortion rates can be expressed in a summary index called the total abortion rate (TAR). This rate is interpreted as the number of abortions a woman would have during her lifetime if she moved through her reproductive years experiencing the current age-specific rates. For Turkmenistan, the total abortion rate for the period from mid-1997 to mid-2000 is 0.85 abortions per woman. This level falls between rates estimated in nationally representative surveys conducted in Kazakhstan (mid-1996 to mid-1999) of 1.44 abortions per woman (APM and MI, 1999) and Uzbekistan (mid-1993 to mid-1996) of 0.67 abortions per woman (IOG and MI, 1997).

Figure 6.1 Age-specific Fertility Rates (ASFR) and Age-specific Abortion Rates (ASAR)



Total abortion rates by background characteristics of respondents are shown in Table 6.5 and Figure 6.2. There are greater differentials in rates of abortion by region, education, and ethnicity than by urban-rural residence; TARs differ by approximately a factor of two by the former characteristics. The lowest TAR of only 0.48 is seen in the Akhal Region and the highest is double that in the Lebap Region at 1.16 abortions per woman. Women with higher education (1.25 abortions per woman) have a TAR nearly double that of women with primary or secondary education (0.68 abortions per woman). Finally, women of other ethnicities (who make up 11 percent of the sample) have a TAR of 1.53 abortions per woman, which is double that of Turkmen women (0.75 abortions per woman).



6.4 TRENDS IN INDUCED ABORTION

Trends in induced abortion can be observed by comparing the total abortion rate with the mean number of abortions reported by women who are nearing the end of their fertile years (i.e., women age 40-49). Table 6.5 indicates that at the national level, the TAR (0.85 abortions per woman) is about the same as the mean number of abortions reported by women age 40-49 (0.82 abortions per woman).

Table 6.5 implies that resorting to inducing abortions has actually increased among some population subgroups, while it has decreased among others. The TARs are greater than the mean number of abortions reported by older women among women in rural areas (0.7 versus 0.4), all regions other than Ashgabad City, women with higher education (1.3 versus 1.0), and among Turkmen women (0.8 versus 0.5). The TARs are less than the mean number of abortions reported by older women, implying some movement away from induced abortion, among women in urban areas (1.0 versus 1.2), women in Ashgabad City (1.2 versus 1.6), women with secondary-special education (1.2 versus 1.5), and women of other ethnicities (1.5 versus 2.0).

The TDHS data allow for a more direct assessment of time trends in abortion. Table 6.6 shows age-specific rates of induced abortion for consecutive five-year periods prior to the survey. The age-specific rates show an increase in abortion rates among women age 25 and older. The age-specific rates can be summarized in terms of the TAR restricted to women age 15-44. The TAR increased by 14 percent between the periods 5 to 9 and 0 to 4 years before the survey, from 0.7 to 0.8 abortions per woman.

Table 6.5 Induced abortion by background characteristics

Total induced abortion rates for the three-year period preceding the survey, and mean number of induced abortions had by women age 40-49, by background characteristics, Turkmenistan 2000

Background characteristic	Total induced abortion rate[1]	Mean number of abortions to women age 40-49
Residence		
Urban	1.02	1.21
Rural	0.69	0.38
Region		
Ashgabad City	1.12	1.58
Akhal	0.48	0.40
Balkan	0.75	0.62
Dashoguz	0.60	0.47
Lebap	1.16	1.00
Mary	0.94	0.77
Education		
Primary/secondary	0.68	0.59
Secondary-special	1.17	1.51
Higher	1.25	0.99
Ethnicity		
Turkmen	0.75	0.53
Uzbek	0.81	0.83
Other	1.53	2.02
Total	0.85	0.82

[1] Women age 15-49

6.5 USE OF CONTRACEPTION BEFORE ABORTION

For each pregnancy terminated by abortion in the three years preceding the survey, respondents were asked whether they were using a method of contraception at the time they became pregnant, and if so, what method. Table 6.7 shows the relevant statistics. Nearly one-third of abortions (32 percent) are reported to be preceded by a contraceptive failure. Although this is much higher than the level reported in Uzbekistan (12 percent of abortions were reported to be preceded by a contraceptive failure), most of the difference is that in Turkmenistan, a substantial proportion of women reported contraceptive failures after the use of withdrawal and the lactational amenorrhea method.[2] Women reported 9 percent of abortions to be preceded by use of withdrawal and 7 percent of abortions to have been preceded by use of the lactational amenorrhea method. Reports of induced abortions preceded by use of the IUD (10 percent) are not that dissimilar from the level reported in Uzbekistan (7 percent) (IOG and MI, 1997).

[2] As was discussed in the contraception chapter, levels of use of the lactational amenorrhea method may be more the result of labeling breastfeeding than of the use of the lactational amenorrhea method as a method of contraception.

Table 6.6 Trends in age-specific induced abortion

Age-specific induced abortion rates, for five-year periods preceding the survey, Turkmenistan 2000

	Number of years preceding the survey			
Age group	0-4	5-9	10-14	15-19
15-19	1	4	5	1
20-24	21	21	20	25
25-29	40	38	41	48
30-34	44	40	45	[56]
35-39	32	23	[40]	-
40-44	18	[9]	-	-
45-49	[0]	-	-	-
TAR 15-49	0.78	-	-	-
TAR 15-44	0.78	0.68		

Note: Age-specific induced abortion rates are per 1,000 women.
Estimates in brackets are truncated.
TAR: Total abortion rate expressed per woman.

Table 6.7 Use of contraception prior to pregnancy

Percent distribution of pregnancy outcomes during the three years preceding the survey, by contraceptive method used (if any) at the time of conception, Turkmenistan 2000

	Result of the pregnancy				
Contraceptive method	Live birth	Induced abortion	Mis-carriage	Still-birth	All preg-nancies
No contraception	89.8	67.9	82.0	(93.4)	85.1
Any method	10.2	32.1	18.0	(6.6)	14.9
Any modern method	2.4	13.3	8.0	(1.2)	4.9
Pill	0.2	1.3	1.3	(0.0)	0.5
IUD	1.8	9.8	6.0	(1.2)	3.7
Injection	0.1	0.0	0.0	(0.0)	0.0
Condom	0.2	2.2	0.7	(0.0)	0.6
Foam/jelly	0.1	0.0	0.0	(0.0)	0.1
Any traditional method	7.8	18.9	10.0	(5.4)	10.0
Lactational amenorrhea	4.1	6.7	4.1	(0.0)	4.6
Periodic abstinence	0.4	1.9	0.9	(0.0)	0.7
Withdrawal	2.4	9.0	4.9	(5.4)	3.9
Other	0.9	1.3	0.0	(0.0)	0.9
Total	100.0	100.0	100.0	100.0	100.0
Number of pregnancies	2,093	541	275	23	2,933

Note: Parentheses indicate that a figure is based on 25-49 unweighted cases.

6.6 SERVICE PROVIDERS AND MEDICAL PROCEDURES

All women who had an abortion in the three years preceding the survey were asked where the abortion was performed and what method was used. Table 6.8 indicates that 87 percent of abortions were performed in a hospital and 6 percent were performed in a women's consulting center. Most abortions are performed using vacuum aspiration (72 percent), while 28 percent are done after dilation and curretage.

Table 6.8 Source of services and procedures used for induced abortion

Percent distribution of induced abortions during the three years preceding the survey by source of services and type of procedure, Turkmenistan 2000

Characteristic	Percent
Source of services	
Delivery hospital	24.3
Government hospital	39.9
Fee for service department of hospital	22.5
Women's consulting center	6.2
Family group practice	0.6
Missing	6.5
Abortion procedure	
Dilation and curettage	28.1
Vacuum aspiration	71.9
Total	100.0
Number of induced abortions	541

All women who reported an abortion in the three years preceding the survey were also asked how far into the pregnancy the procedure was performed. Table 6.9 indicates that about two-thirds of abortions are performed at two months of pregnancy. The greatest variation in timing is seen across regions. The percentage of abortions done at three or more months is highest in the Akhal Region (although the figure is based on a small number of cases) and lowest in the Lebap Region. Women in the Lebap Region exhibited the highest total abortion rate, and they are also the most likely to abort at two months duration (82 percent).

6.7 ATTITUDES TOWARD ABORTION

In an attempt to assess women's satisfaction with undergoing an induced abortion in order to control fertility, the TDHS survey asked all respondents three questions about their stance on abortion. The first question was of a general nature, "Do you approve or disapprove of a woman having an abortion?" The second question was more pointed, asking the respondent, "Would you have an abortion if you unintentionally become pregnant sometime in the future?" The third question was asked to assess satisfaction with abortion as a means of fertility control, asking, "Would you prefer to use a method in the future or rely on abortion or do neither?" Table 6.10 indicates that most women, in general, actually disapprove of abortion (61 percent). Nearly one-quarter (23 percent) of women say that they would have an abortion if they were to become pregnant unintentionally; an additional one-quarter of women report not knowing what they would do if they became unintentionally pregnant. Almost no one reports a preference to rely on abortion as a method of fertility control; two-thirds of women report they would prefer to use a contraceptive method.

Table 6.9 Timing of induced abortion

Percent distribution of induced abortions during the three years preceding the survey, by duration of pregnancy in months, according to background characteristics, Turkmenistan 2000

Background characteristic	Number of months pregnant				Number of abortions
	1	2	3+	Total	
Residence					
Urban	1.2	64.7	34.1	100.0	327
Rural	2.7	60.3	36.9	100.0	215
Region					
Ashgabad City	0.0	75.7	24.3	100.0	103
Akhal	(0. 0)	(15.2)	(84.8)	100.0	41
Balkan	0.0	78.1	21.9	100.0	45
Dashoguz	1.0	65.9	33.1	100.0	77
Lebap	1.5	82.3	16.2	100.0	144
Mary	5.1	40.0	54.9	100.0	132
Education					
Primary/secondary	1.5	60.1	38.3	100.0	281
Secondary-special	2.5	63.8	33.7	100.0	189
Higher	1.0	71.7	27.2	100.0	72
Ethnicity					
Turkmen	1.4	63.2	35.4	100.0	378
Uzbek	1.3	67.0	31.7	100.0	56
Other	3.4	60.1	36.5	100.0	107
Total	1.8	63.0	35.2	100.0	541

Parentheses indicate that a figure is based on 25-49 unweighted cases.

Table 6.10 Women's attitude toward induced abortion

Percent distribution of women by attitude toward induced abortion, according to background characteristics, Turkmenistan 2000

Background characteristic	Whether approves of abortion					Whether would have an abortion if became unintentionally pregnant				Whether prefers abortion or a method of contraception					Number of women
	Approve	Disapprove	Depends	Don't know	Missing or sterilized	No	Yes	Don't know	Missing/ sterilized	Prefers to use a method	Rely on abortion	Prefers to do neither	Don't know	Missing/ sterilized	
Residence															
Urban	8.5	60.0	20.7	9.1	1.7	48.2	29.3	20.6	1.9	70.1	1.3	11.1	15.1	2.3	3,691
Rural	6.7	62.0	14.8	15.3	1.2	55.5	17.8	25.4	1.3	64.7	0.5	9.3	23.3	2.2	4,228
Region															
Ashgabad City	7.9	54.9	29.3	6.6	1.3	41.6	38.3	18.3	1.8	72.6	1.4	10.7	13.1	2.2	1,038
Akhal	8.0	55.1	14.9	20.3	1.7	52.7	16.9	28.5	2.0	64.9	0.3	5.9	26.3	2.6	1,145
Balkan	3.2	61.3	24.0	10.2	1.3	60.2	14.8	23.6	1.4	68.4	1.2	12.7	16.2	1.5	709
Dashoguz	2.7	60.4	22.9	13.2	0.8	61.0	14.9	23.2	0.9	73.2	0.7	6.1	18.9	1.1	1,628
Lebap	17.1	65.6	3.3	12.1	1.9	48.6	30.8	18.7	1.9	68.3	1.8	11.6	16.1	2.2	1,607
Mary	4.7	64.7	17.9	11.2	1.6	49.4	22.4	26.5	1.7	58.7	0.2	13.9	23.8	3.4	1,791
Education															
Primary/secondary	6.7	60.6	16.2	15.3	1.2	52.4	19.5	26.7	1.4	63.2	0.8	10.6	23.3	2.0	5,800
Secondary special	10.0	62.8	19.8	5.1	2.4	51.9	32.3	13.3	2.5	77.2	1.2	8.9	9.3	3.3	1,556
Higher	10.3	60.5	25.3	2.5	1.4	48.7	35.8	14.1	1.4	81.1	0.7	8.3	8.4	1.5	563
Ethnicity															
Turkmen	7.4	61.4	16.1	13.9	1.2	53.3	20.4	24.9	1.4	65.9	0.7	10.2	21.3	1.9	6,191
Uzbek	5.5	64.8	18.4	10.2	1.1	59.5	22.2	17.1	1.2	74.3	2.2	7.1	15.0	1.4	857
Other	11.1	54.6	27.3	4.0	3.1	35.8	44.0	17.0	3.1	69.8	0.8	12.9	11.2	5.3	871
Total	7.6	61.0	17.6	12.4	1.4	52.1	23.2	23.2	1.6	67.2	0.9	10.1	19.5	2.2	7,919

OTHER PROXIMATE DETERMINANTS OF FERTILITY 7

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This chapter addresses the principal factors, other than contraception and abortion, that affect a woman's risk of becoming pregnant. These include nuptiality, sexual activity, postpartum amenorrhea, and abstinence from sexual relations. Marriage is an overall indicator of exposure to the risk of pregnancy. More direct measures of exposure relate directly to sexual activity: age at first sexual intercourse and the frequency of intercourse. Postpartum amenorrhea and abstinence affect the interval between births. These factors determine the length and pace of reproductive activity and are therefore important in understanding fertility.

7.1 MARITAL STATUS

Table 7.1 and Figure 7.1 show the distribution of all women by marital status at the time of the survey. The term "married" refers to legal or formal marriage (civil or religious), while "living together" refers to informal unions. In subsequent tables, these two categories are combined and referred to collectively as "currently married" or "currently in union." Women who are widowed, divorced, or not living together (separated) make up the remainder of the "ever-married" or "ever in union" category.

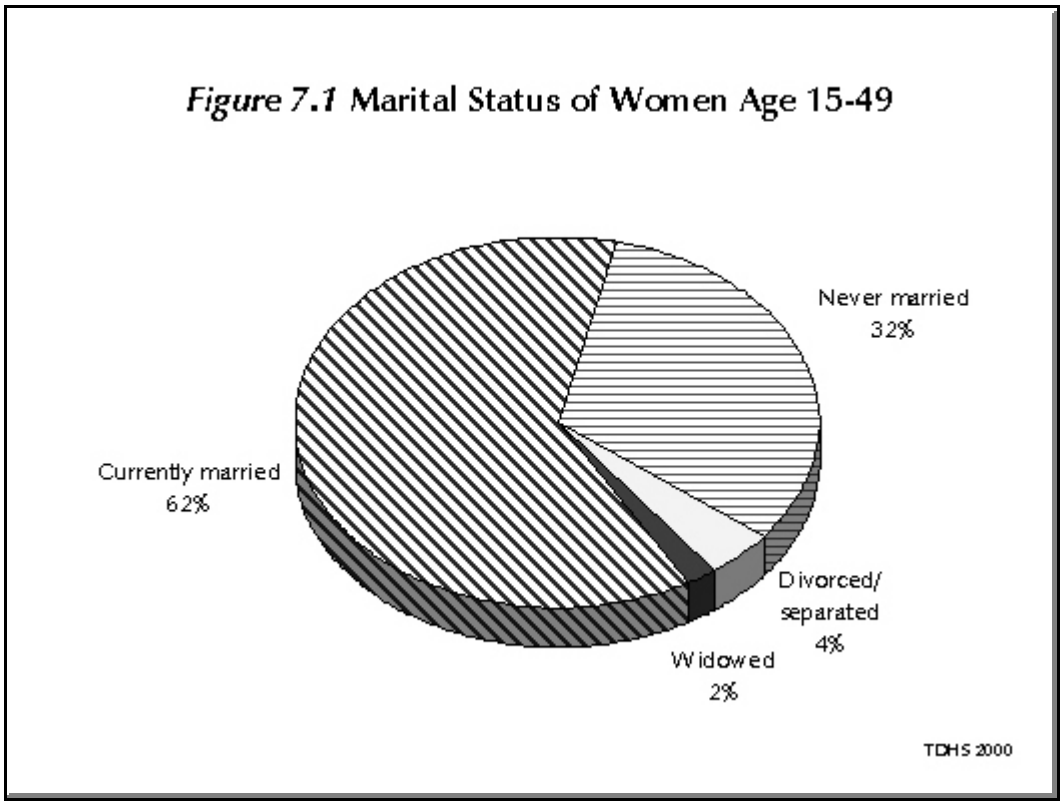
Table 7.1 Current marital status

Percent distribution of women by current marital status, according to age, Turkmenistan 2000

	Marital status							
Age	Never married	Married	Living together	Widowed	Divorced	Separated	Total	Number
15-19	94.1	5.3	0.0	0.0	0.4	0.2	100.0	1,574
20-24	52.7	43.3	1.0	0.3	2.3	0.5	100.0	1,541
25-29	15.2	77.3	3.5	0.6	2.5	0.9	100.0	1,256
30-34	4.2	85.6	2.5	1.7	4.7	1.3	100.0	1,060
35-39	2.5	85.4	2.6	4.0	4.6	0.9	100.0	974
40-44	0.8	87.5	3.1	4.5	3.7	0.5	100.0	845
45-49	0.5	79.6	3.6	10.1	4.9	1.4	100.0	669
Total	32.4	59.7	2.0	2.2	2.9	0.7	100.0	7,919

Note: Figures may not add to 100.0 due to rounding.

Marriage is nearly universal in Turkmenistan. Although it is rare for a woman age 15-19 to be married, nearly half the women age 20-24 are currently married. Nine out of ten women age 30-44 are currently married. By age 45-49 the percentage of women married begins to decline as the number of widows begins to increase. Only 4 percent of women are divorced or separated. Overall, 60 percent of women of reproductive age are currently married; most of the unmarried women are age 15-24 and have not yet married.



7.2 AGE AT FIRST MARRIAGE

Marriage generally marks the point in a woman's life when childbearing first becomes welcome; it is therefore an important demographic and social indicator. Information on age at first marriage was obtained by asking all ever-married respondents the month and year they started living with their first spouse.

Table 7.2 presents the cumulative distributions of women married by specific ages for successive age groups.[1] These data allow an examination of cohort trends in age at marriage. Half the women now age 45-49 had married by the time they were age 20, whereas only one-quarter of women now in their twenties had married by age 20. Three-quarters of the women now age 45-49 had married by the time they were age 22, whereas only half of the women now age 25-39 had married by age 22. Figure 7.2 graphically portrays the cumulative distributions for successive age groups.

These findings are also reflected in the increasing median age at marriage, also shown in Table 7.2. The median age has increased from 20 among women age 45-49 to 20.8 among women age 40-44 to around 22 for women age 25-39. About half the women in Turkmenistan wait until after the age of 22 to marry. Table 7.3 presents the median age at marriage for women age 25-49 by selected background characteristics.

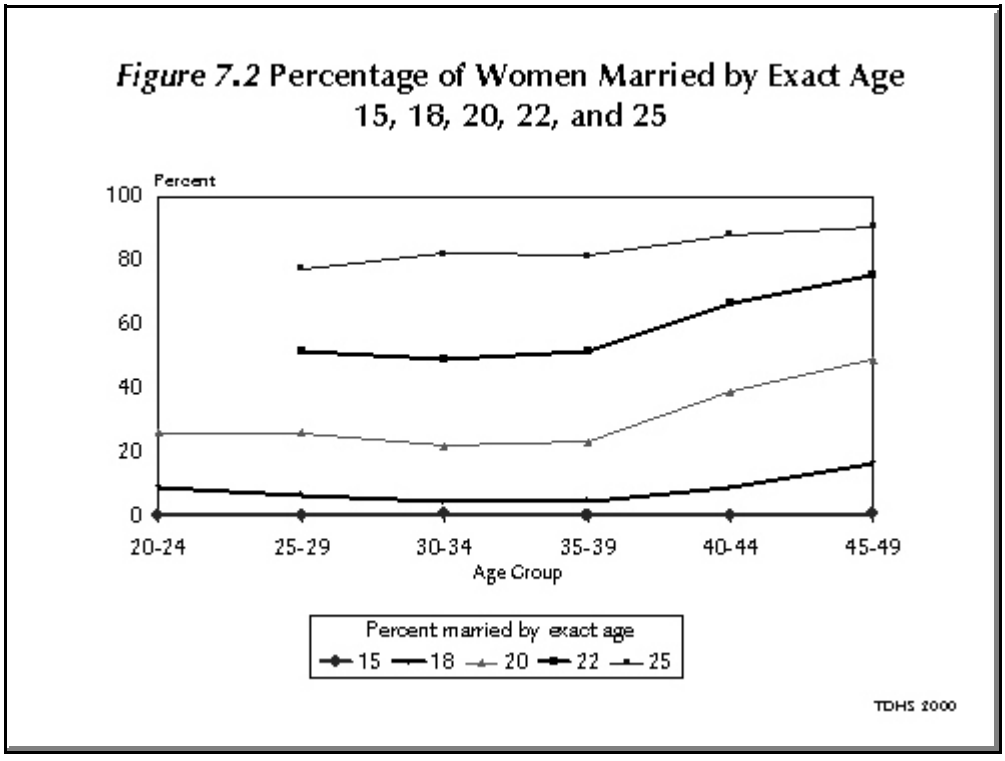
[1] For each cohort, the accumulated percentages stop at the lower age boundary of the cohort to avoid censoring problems. For instance, accumulation for the cohort currently age 20-24 stops with the percentage married by exact age 20.

Table 7.2 Age at first marriage

Percentage of women who were first married by specific exact ages and median age at first marriage, according to current age, Turkmenistan 2000

Current age	Percentage who were first married by exact age: 15	18	20	22	25	Percentage who had never married	Number of women	Median age at first marriage
15-19	0.1	na	na	na	na	94.1	1,574	a
20-24	0.0	9.1	26.2	na	na	52.7	1,541	a
25-29	0.2	6.5	26.4	51.5	77.4	15.2	1,256	21.9
30-34	0.7	4.4	22.3	48.9	82.2	4.2	1,060	22.1
35-39	0.1	4.8	23.5	51.5	81.5	2.5	974	21.9
40-44	0.3	9.0	38.8	66.7	88.4	0.8	845	20.8
45-49	0.6	16.8	49.1	75.6	90.8	0.5	669	20.1
20-49	0.3	7.9	29.2	na	na	17.0	6,345	a
25-49	0.4	7.5	30.2	57.0	83.1	5.6	4,804	21.5

na = Not applicable
[a] Omitted because less than 50 percent in the age group *x* to *x*+*n* had married by age *x*.



Perhaps the most notable finding in Table 7.3 is the fact that the increasing median age at marriage is due to the behavior of Turkmen women, whose median age at marriage has increased from 20 to 21 to 22 years of age over recent decades. Median ages at marriage among Uzbek women and women of other ethnicities show no clear pattern of change over time, hovering at 21 and 20 years of age. Women currently age 25-29 exhibit an urban-rural differential that did not exist among the older cohorts; urban women are marrying on average one year earlier than rural women. Another differential in Table 7.3 is one that is observed in many societies—age at marriage increases with increasing education. Among women over the age of 40, the median age at marriage increases by nearly four years with increasing education, from age 20 to age 24. The differential in median age at marriage is more dichotomous among younger women; for example, women age 25-29 with primary, secondary, or secondary-special education exhibit a median age of nearly 22, while women with higher education exhibit a median age of marriage of 24 years.

Table 7.3 Median age at first marriage

Median age at first marriage among women age 25-49 years, by current age and background characteristics, Turkmenistan 2000

Background characteristic	Current age					Women age 25-49
	25-29	30-34	35-39	40-44	45-49	
Residence						
Urban	21.4	21.7	21.9	20.8	20.1	21.2
Rural	22.3	22.4	21.9	20.7	20.0	21.6
Region						
Ashgabad City	21.5	21.4	22.3	20.6	20.4	21.2
Akhal	22.3	21.8	21.5	20.5	19.7	21.3
Balkan	22.4	23.0	22.4	21.0	19.6	21.9
Dashoguz	22.4	22.9	22.2	20.7	20.3	21.8
Lebap	21.1	21.5	21.4	21.5	19.8	21.2
Mary	21.9	22.2	21.6	20.5	20.2	21.5
Education						
Primary/secondary	21.7	21.9	21.5	20.3	19.8	21.1
Secondary special	21.7	21.9	22.1	21.5	20.1	21.6
Higher	23.9	23.2	23.7	23.6	22.5	23.4
Ethnicity						
Turkmen	22.4	22.4	22.1	20.9	20.0	21.8
Uzbek	20.5	20.8	20.6	20.2	20.1	20.5
Other	19.9	20.4	21.0	20.3	20.2	20.4
Total	21.9	22.1	21.9	20.8	20.1	21.5

Note: Medians for women age 15-19 and 20-24 could not be determined because less than 50 percent of those women were married by age 15 and 20, the lower boundary of the age groups, respectively.

7.3 EXPOSURE TO INTERCOURSE BEFORE AND AFTER MARRIAGE

Before settling on marriage as a proxy for exposure to intercourse, it is best to verify that the two events coincide, i.e., to verify whether or not some women engage in sexual relations prior to marriage. If women do engage in sexual relations prior to marriage, then the proportion of married women would underestimate the percentage of women who are sexually active. The TDHS survey asked women to state the age at which they first had sexual intercourse. The results, presented in Tables 7.4 and 7.5, mirror almost exactly the figures relating to age at marriage, indicating that in Turkmenistan, first exposure to sexual intercourse coincides with marriage.

Table 7.4 Age at first sexual intercourse

Percentage of women who had first sexual intercourse by exact age 15, 18, 20, 22, and 25, and median age at first intercourse, according to current age, Turkmenistan 2000

Current age	Percentage who had first intercourse by exact age: 15	18	20	22	25	Percentage who never had intercourse	Number of women	Median age at first intercourse
15-19	0.1	na	na	na	na	94.1	1,574	a
20-24	0.0	9.0	25.9	na	na	52.6	1,541	a
25-29	0.2	6.7	25.7	49.7	74.9	15.2	1,256	22.0
30-34	0.6	4.4	21.4	47.0	79.9	4.2	1,060	22.2
35-39	0.0	4.8	22.8	49.3	78.5	2.5	974	22.1
40-44	0.3	9.0	38.5	65.5	86.5	0.8	845	20.8
45-49	0.6	16.1	46.6	72.6	86.7	0.5	669	20.2
20-49	0.3	7.9	28.5	51.4	72.3	17.0	6,345	a
25-49	0.3	7.5	29.3	55.0	80.4	5.6	4,804	21.6

na = Not applicable
[a] Omitted because less than 50 percent in the age group *x* to *x*+*n* had intercourse by age *x*.

Table 7.6 also confirms that women who have not yet married are not yet engaging in sexual relations. All single women reported that they have not yet had sexual intercourse. But marriage can also be an insufficient proxy for exposure to intercourse by not including women who engage in sexual relations after marriage, i.e., not including widowed and divorced women, although in Turkmenistan only 6 percent of women of reproductive age are widowed or divorced. The TDHS survey asked all women whether they are engaging in sexual relations, regardless of marital status. Table 7.6 presents the percent distribution of all nonmarried women by sexual relationship. Most (85 percent) of the nonmarried population in Turkmenistan are the women who have not yet married and not yet engaged in a sexual relationship. The majority of the widowed and divorced population also report themselves to have no sexual partner. Overall, only 3 percent of nonmarried women of reproductive age report themselves to have a regular sexual partner.

Table 7.5 Median age at first intercourse

Median age at first sexual intercourse among women age 25-49 years, by current age and background characteristics, Turkmenistan 2000

Background characteristic	Current age					Women age 25-49
	25-29	30-34	35-39	40-44	45-49	
Residence						
Urban	21.6	21.8	22.1	20.8	20.3	21.4
Rural	22.4	22.6	22.0	20.7	20.1	21.8
Region						
Ashgabad City	21.9	21.4	22.4	20.6	20.4	21.3
Akhal	22.4	21.9	21.6	20.5	19.7	21.4
Balkan	23.0	23.1	22.6	21.0	19.9	22.1
Dashoguz	22.6	23.1	22.4	20.8	20.5	22.0
Lebap	21.3	21.9	21.6	21.6	20.0	21.4
Mary	21.9	22.3	21.9	20.5	20.4	21.5
Education						
Primary/secondary	21.9	22.1	21.7	20.4	19.9	21.2
Secondary special	21.9	22.0	22.2	21.5	20.3	21.8
Higher	24.0	23.2	23.7	23.8	22.7	23.5
Ethnicity						
Turkmen	22.4	22.5	22.3	21.0	20.2	21.9
Uzbek	20.8	21.0	20.7	20.4	20.5	20.7
Other	19.8	20.4	21.5	20.3	20.2	20.4
Total	22.0	22.2	22.1	20.8	20.2	21.6

Note: Medians for women age 15-19 and 20-24 could not be determined because less than 50 percent of the women had had intercourse for the first time by age 15 and 20, respectively.

7.4 Recent Sexual Activity

In the absence of contraceptive use, frequency of sexual intercourse is a direct determinant of pregnancy; therefore, knowledge of frequency is a useful indicator of exposure to pregnancy. Table 7.7 shows the percent distribution of women by sexual activity in the four weeks prior to the survey and the duration of abstinence by whether or not the women have recently had a birth (i.e., whether they are postpartum). Women are considered to be sexually active if they have had sexual intercourse at least once in the four weeks prior to the survey.

Overall, 56 percent of all women interviewed were sexually active in the four weeks preceding the survey. Fewer than 2 percent of women are postpartum abstaining, 10 percent of women are not sexually active for reasons unrelated to childbirth, and 32 percent of women have never had sexual intercourse. Most of the women who are not sexually active are women in their teens and twenties who have never had intercourse.

Not surprisingly, women who are using a method of family planning are more likely to be sexually active than women who are not using a method. The IUD is by far the most commonly used method, and 92 percent of women with an IUD report themselves to be sexually active. One-third of women who are not using any method are sexually active.

7.6 Sexual relationships of nonmarried women

Percent distribution of women who are not currently married or living with a man by type of current sexual relationship, according to background characteristics, Turkmenistan 2000

Background characteristic	Never married women	Formerly married women					
	No sexual partner	Regular sexual partner	Occasional sexual partner	No sexual partner	Missing	Total	Number of women
Age							
15-19	99.3	0.4	0.0	0.3	0.0	100.0	1,491
20-24	94.5	1.7	0.2	3.6	0.0	100.0	859
25-29	79.2	7.4	0.0	13.4	0.0	100.0	241
30-34	35.4	11.9	1.1	51.5	0.0	100.0	126
35-39	20.7	9.8	0.0	69.6	0.0	100.0	117
40-44	8.3	8.6	0.0	80.9	2.2	100.0	80
45-49	2.8	7.7	0.0	89.5	0.0	100.0	113
Residence							
Urban	76.4	4.4	0.2	18.8	0.1	100.0	1,383
Rural	91.6	1.1	0.0	7.2	0.0	100.0	1,643
Region							
Ashgabad City	70.9	5.0	0.4	23.3	0.4	100.0	399
Akhal	89.2	1.0	0.0	9.8	0.0	100.0	447
Balkan	82.9	3.5	0.0	13.6	0.0	100.0	285
Dashoguz	89.3	1.7	0.2	8.8	0.0	100.0	678
Lebap	83.3	4.1	0.0	12.7	0.0	100.0	577
Mary	87.3	1.6	0.0	11.1	0.0	100.0	641
Education							
Primary/secondary	89.3	1.8	0.1	8.8	0.1	100.0	2,453
Secondary-special	62.1	7.7	0.4	29.9	0.0	100.0	407
Higher	71.7	3.3	0.0	25.0	0.0	100.0	166
Ethnicity							
Turkmen	87.6	2.4	0.1	9.9	0.0	100.0	2,145
Uzbek	81.7	4.3	0.5	13.6	0.0	100.0	303
Other	64.7	2.9	0.0	31.9	0.6	100.0	308
Total	84.7	2.6	0.1	12.5	0.1	100.0	3,027

Note: Formerly married refers to widowed or divorced women and women not currently living together with a man.

7.5 POSTPARTUM AMENORRHEA, ABSTINENCE, AND INSUSCEPTIBILITY

Postpartum amenorrhea refers to the interval between childbirth and the return of menstruation. During this period, the risk of pregnancy is reduced. The duration of reduced risk of conception largely depends on two factors: the length and intensity of breastfeeding, which tends to suppress the resumption of ovulation, and the length of time before the resumption of sexual intercourse. Women who are either amenorrheic or abstaining (or both) are considered insusceptible to the risk of pregnancy.

The percentage of births during the last three years whose mothers are presently postpartum amenorrheic, abstaining, or insusceptible is shown in Table 7.8 by the number of months since birth. These distributions are based on current status data, i.e., on the proportion of births occurring *x* months before the survey for which mother is still amenorrheic, abstaining, or insusceptible. The estimates of the median and mean durations shown in Tables 7.8 and 7.9 are calculated from the current status proportions at each time period. The data are grouped in two-month intervals to minimize fluctuations in the estimates.

Table 7.7 Recent sexual activity

Percent distribution of women by sexual activity in the four weeks preceding the survey, and among those not sexually active, the duration of abstinence and whether postpartum or not postpartum abstaining, according to background characteristics and contraceptive method currently used, Turkmenistan 2000

Background characteristic/ contraceptive method	Active in last 4 weeks	Not sexually active in last 4 weeks: Abstaining (postpartum) 0-1 years	Abstaining (postpartum) 2+ years	Abstaining (not postpartum) 0-1 years	Abstaining (not postpartum) 2+ years	Never had sex	Missing	Total	Number of women
Age									
15-19	3.9	0.4	0.0	1.4	0.0	94.1	0.1	100.0	1,574
20-24	37.8	3.0	0.2	5.1	1.1	52.6	0.3	100.0	1,541
25-29	74.1	2.5	0.2	5.6	1.5	15.2	0.8	100.0	1,256
30-34	82.4	0.8	0.3	6.5	4.9	4.2	0.8	100.0	1,060
35-39	83.3	0.6	0.1	6.2	6.4	2.5	0.9	100.0	974
40-44	81.6	0.4	0.1	10.3	6.4	0.8	0.4	100.0	845
45-49	71.0	0.0	0.4	13.7	12.9	0.5	1.5	100.0	669
Duration of union (years)									
Never married	0.0	0.0	0.0	0.0	0.1	99.9	0.0	100.0	2,563
0-4	80.5	6.5	0.4	10.7	0.9	0.1	0.9	100.0	1,132
5-9	86.9	1.3	0.4	7.0	3.5	0.0	0.8	100.0	1,188
10-14	86.8	0.8	0.2	5.7	5.4	0.0	1.0	100.0	976
15-19	84.5	0.5	0.1	7.3	6.7	0.0	0.9	100.0	791
20-24	81.9	0.0	0.1	9.5	8.2	0.0	0.3	100.0	633
25+	70.2	0.2	0.1	15.8	12.2	0.0	1.5	100.0	635
Residence									
Urban	56.1	1.2	0.2	7.9	5.3	28.6	0.8	100.0	3,691
Rural	55.7	1.4	0.1	4.4	2.3	35.6	0.5	100.0	4,228
Region									
Ashgabad City	54.4	1.0	0.4	9.3	6.5	27.1	1.3	100.0	1,038
Akhal	56.2	1.1	0.1	4.4	3.1	34.8	0.3	100.0	1,145
Balkan	54.7	0.8	0.5	6.0	4.4	33.2	0.4	100.0	709
Dashoguz	53.0	1.3	0.1	4.7	3.0	37.2	0.7	100.0	1,628
Lebap	58.4	1.6	0.1	6.4	3.4	29.9	0.3	100.0	1,607
Mary	57.3	1.5	0.1	6.2	2.9	31.2	0.7	100.0	1,791
Education									
Primary/secondary	52.0	1.2	0.1	5.5	2.9	37.7	0.5	100.0	5,800
Secondary-special	67.6	1.8	0.3	7.5	6.1	16.2	0.6	100.0	1,556
Higher	63.9	0.8	0.6	7.2	4.6	21.2	1.5	100.0	563
Ethnicity									
Turkmen	55.4	1.2	0.1	5.6	3.0	34.2	0.5	100.0	6,191
Uzbek	58.4	2.4	0.1	5.2	3.9	28.9	1.1	100.0	857
Other	57.1	1.1	0.5	9.8	7.9	22.7	0.8	100.0	871
Contraceptive method									
No method	33.6	1.0	0.3	6.1	5.1	53.2	0.7	100.0	4,815
Pill	(96.7)	(0.0)	(0.0)	(3.3)	(0.0)	(0.0)	(0.0)	100.0	60
IUD	91.8	0.0	0.0	6.1	1.7	0.0	0.4	100.0	1,971
Sterilization	71.8	2.9	0.0	15.0	10.2	0.0	0.0	100.0	104
Periodic abstinence	95.7	0.0	0.0	4.3	0.0	0.0	0.0	100.0	102
Other	88.7	6.1	0.0	4.8	0.0	0.0	0.4	100.0	867
Total	55.9	1.3	0.2	6.1	3.7	32.3	0.6	100.0	7,919

Note: Figures in parentheses are based on 25-49 unweighted women.

Table 7.8 Postpartum amenorrhea, abstinence, and insusceptibility

Percentage of births in the three years preceding the survey for which mothers are postpartum amenorrheic, abstaining, and insusceptible, by number of months since birth, and median and mean durations, Turkmenistan 2000

Months since birth	Amenor-rheic	Abstaining	Insus-ceptible	Number of births
<2	89.1	76.3	92.5	97
2-3	72.3	16.7	75.8	136
4-5	59.9	6.0	62.9	126
6-7	44.9	2.3	45.9	118
8-9	31.9	1.1	31.9	112
10-11	31.4	3.7	34.2	130
12-13	17.6	0.9	18.5	141
14-15	21.7	2.0	22.4	98
16-17	10.5	0.3	10.8	117
18-19	8.2	0.0	8.2	113
20-21	5.0	0.0	5.0	107
22-23	3.4	1.2	4.0	114
24-25	4.2	3.2	7.4	136
26-27	4.6	0.6	5.2	119
28-29	0.8	0.0	0.8	113
30-31	0.7	0.8	1.5	92
32-33	0.6	0.0	0.6	117
34-35	0.0	0.0	0.0	107
Total	22.9	5.9	24.1	2,093
Median	5.9	1.7	6.2	-
Mean	8.4	2.7	8.8	-

Although both postpartum amenorrhea and postpartum abstinence are fairly short in duration, the former is longer than the latter and is therefore the principal determinant of the length of postpartum insusceptibility. Nearly all women (93 percent) are insusceptible to pregnancy in the first two months after a birth but become susceptible to the risk of pregnancy steadily thereafter. Few women abstain for more than two or three months after a birth. The median duration of abstinence is only 1.7 months. By 4 to 5 months after a birth, one-third of women are already susceptible to the risk of pregnancy, and by 10 to 11 months, two-thirds of women are once again susceptible to the risk of pregnancy. The median duration of insusceptibility is 6.2 months; half of women are once again susceptible to pregnancy just 6 months after giving birth.

Table 7.9 presents the median durations of postpartum amenorrhea, abstinence, and insusceptibility by background characteristics. Median durations of postpartum abstinence are generally short, varying from one to three months. Median durations of amenorrhea do vary by residence, region, education, and ethnicity. Rural women exhibit a median duration of amenorrhea that is nearly two months longer than urban women (1.8), and women in the Dashoguz Region exhibit a median that is three months longer than the median among women in Ashgabad City. Median durations of amenorrhea decrease with increasing education, from 6.5 months among women with primary or secondary education to 3.6 months among women with higher education. With a median duration of four months of amenorrhea, women of other ethnicities have shorter durations of amenorrhea than Turkmen or Uzbek women do.

Table 7.9 Median duration of postpartum amenorrhea, abstinence, and insusceptibility by background characteristics

Median number of months of postpartum amenorrhea, postpartum abstinence, and postpartum insusceptibility, by background characteristics, Turkmenistan 2000

Background characteristic	Postpartum amenorrhea	Postpartum abstinence	Postpartum insuscep-tibility	Number of births
Age				
<30	5.8	1.8	6.1	1,452
30+	6.2	1.3	6.2	641
Residence				
Urban	4.9	1.7	5.2	823
Rural	6.7	1.8	6.9	1,270
Region				
Ashgabad City	4.2	1.4	4.2	213
Akhal	6.0	1.8	6.2	302
Balkan	6.4	1.6	6.4	161
Dashoguz	7.3	1.7	7.4	466
Lebap	5.6	1.5	5.7	436
Mary	4.7	2.2	5.8	515
Education				
Primary/secondary	6.5	1.7	6.7	1,502
Secondary-special	4.8	2.1	5.3	440
Higher	3.6	0.6	3.6	151
Ethnicity				
Turkmen	6.2	1.6	6.4	1,717
Uzbek	6.2	2.0	6.5	246
Other	4.0	2.7	4.4	131
Total	5.9	1.7	6.2	2,093

Note: Medians are based on current status.

7.6 MENOPAUSE

After age 30, the risk of pregnancy declines with age as increasing proportions of women become menopausal. Although the onset of menopause is difficult to determine for an individual woman, there are ways of estimating it for a population as a whole. Table 7.10 presents data on the percentage of women age 30 and over who are menopausal, that is, who have not menstruated for six months or longer in the period preceding the survey or who reported being menopausal. Few women are menopausal before reaching their forties, after which time the proportion of menopausal women increases with age, from 8 percent among women age 42-43 to 54 percent among women age 48-49.

Table 7.10 Menopause

Prevalence of menopause among women age 30-49, by age, Turkmenistan 2000

Age	Percent	Number
30-34	1.1	913
35-39	2.7	907
40-41	5.5	323
42-43	8.0	324
44-45	13.1	325
46-47	34.8	288
48-49	54.1	233
Total	10.5	3,313

Note: Percentage of nonpregnant, nonamenorrheic, currently married women whose last menstrual period occurred six or more months preceding the survey or who report that they are menopausal.

FERTILITY PREFERENCES 8

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Understanding the fertility desires in a population is important for estimating the need for contraceptive services and for predicting the general course of future fertility. This chapter presents data on the fertility preferences of women and their need for contraceptive services. Data are also presented on the ideal family size reported by respondents. The data on ideal family size, in conjunction with the number of children that respondents currently have, allow the estimation of unwanted fertility in the population.

8.1 FERTILITY PREFERENCES

Respondents to the TDHS were asked whether they wanted to have another child, and if so, how soon. Table 8.1 and Figure 8.1 show the percent distribution of currently married women by their fertility preferences. The salient finding is that 60 percent of currently married women either want no more children (53 percent), are infecund (5 percent), or are sterilized (2 percent). Another 32 percent of women want another child either soon (13 percent) or after two years (17 percent) or are unsure about the desired timing of another child (2 percent). A final 8 percent of women are undecided about having another child. It is clear that the majority of fecund currently married women, 70 percent, want to either limit or space their childbearing and are potentially in need of contraceptive services.

Table 8.1 Fertility preferences by number of living children

Percent distribution of currently married women by desire for children, according to number of living children, Turkmenistan 2000

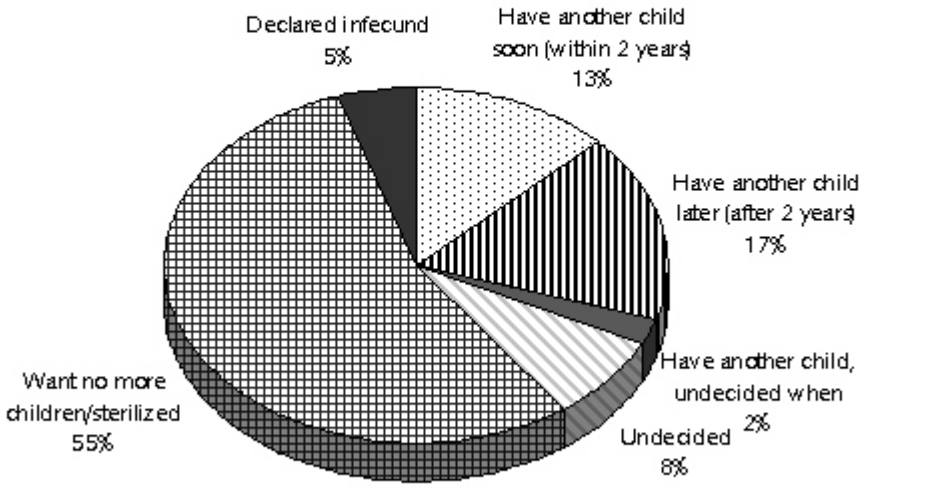
Desire for children	Number of living children[1]							Total
	0	1	2	3	4	5	6+	
Have another soon[2]	53.1	29.9	13.3	6.8	2.9	1.2	0.6	12.8
Have another later[3]	2.4	40.3	25.9	13.2	4.2	1.4	0.0	17.1
Have another, undecided when	4.2	5.1	2.6	1.8	0.5	0.3	0.2	2.2
Undecided	3.5	7.8	11.8	10.3	4.6	1.8	3.4	7.8
Wants no more	2.7	10.3	40.9	62.7	83.6	89.1	89.6	53.2
Sterilized	0.5	0.8	2.2	1.8	2.4	2.4	2.1	1.8
Declared infecund	32.6	5.9	3.4	3.3	1.8	3.9	4.0	5.0
Missing	1.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	215	824.0	1,304	971	686	468	424	4,892

[1] Includes current pregnancy

[2] Wants next birth within 2 years

[3] Wants to delay next birth for 2 or more years

Figure 8.1 Fertility Preferences of Currently Married Women Age 15-49



TDHS 2000

Table 8.1 also shows that the desire for having a child or having another child is strongly related to the number of living children the woman has. Fifty-three percent of woman who have no living children want to have a child within two years. This figure declines to 30 and 13 percent, respectively, for women with one and two living children.

Table 8.2 shows the fertility preferences of currently married women by age. As expected, older women are much more likely to want no more children than younger women. The proportion of married women who want no more children is only 6 percent among women 15-19, increases to 15 percent among those 20-24, and reaches 87 percent among women 40-44.

Although younger women generally desire to have additional children, they nevertheless have a need for contraception. Among women in the age groups 15-19, 20-24 and 25-29, more than 30 percent report wanting another child but only after waiting at least two years. Thus, a substantial proportion of women under age 30 have a potential need for contraceptive services to space their children.

Table 8.3 indicates the percentage of currently married women who want no more children by number of living children and background characteristics (residence, region, education, and ethnicity). The results indicate that urban women express a desire to limit family size at lower parities than rural women. For example, 52 percent of urban women with two children want to stop childbearing, compared with 32 percent of rural women with two children. The urban-rural differential in the desire for children narrows among women with four or more children.

Table 8.2 Fertility preferences by age

Percent distribution of currently married women by desire for children, according to age, Turkmenistan 2000

Desire for children	Age							Total
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Have another soon[1]	30.8	23.5	19.8	15.7	8.2	2.6	0.9	12.8
Have another later[2]	39.5	45.7	31.8	14.7	3.4	0.5	0.3	17.1
Have another, undecided when	9.8	3.2	2.7	4.0	1.0	0.1	0.5	2.2
Undecided	8.2	8.3	13.4	10.9	5.6	2.4	2.0	7.8
Wants no more	5.5	15.3	27.4	49.4	73.8	86.9	82.1	53.2
Sterilized	0.0	0.2	0.7	1.3	3.3	3.4	2.8	1.8
Declared infecund	6.1	3.8	4.0	4.1	4.5	4.1	11.3	5.0
Missing	0.0	0.0	0.1	0.0	0.2	0.1	0.0	0.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	83	682	1,015	934	857	765	556	4,892

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

Table 8.3 Desire to limit childbearing by background characteristics

Percentage of currently married women who want no more children, by number of living children and background characteristics, Turkmenistan 2000

Background characteristic	Number of living children[1]							Total
	0	1	2	3	4	5	6+	
Residence								
Urban	3.8	16.8	52.0	68.5	85.4	89.6	88.9	55.5
Rural	2.6	4.9	32.3	60.6	86.3	92.5	93.0	54.6
Region								
Ashgabad City	*	25.7	59.2	66.6	(84.6)	*	*	53.7
Akhal	(0.0)	6.7	39.2	63.2	86.7	84.2	97.1	55.1
Balkan	*	7.8	38.2	54.2	78.4	(82.8)	82.7	47.1
Dashoguz	*	5.1	39.7	58.1	80.0	86.7	88.2	54.2
Lebap	(1.9)	5.1	44.0	69.0	86.4	97.2	94.7	58.4
Mary	*	12.0	37.4	68.4	93.1	98.5	94.0	56.4
Education								
No/primary/secondary	2.9	7.6	39.1	64.4	85.9	92.5	92.8	55.8
Secondary-special	(5.3)	16.6	49.5	61.1	85.0	82.9	87.6	52.3
Higher	*	20.6	49.1	76.7	(89.2)	*	*	57.0
Ethnicity								
Turkmen	3.9	6.7	36.9	62.6	86.9	92.1	91.6	54.3
Uzbek	(1.2)	3.5	36.9	59.7	78.5	88.1	91.3	51.5
Other	(1.6)	32.6	77.4	82.4	(85.6)	*	*	63.7
Total	3.2	11.1	43.0	64.5	85.9	91.5	91.7	55.0

Note: Women who have been sterilized are considered to want no more children. 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]Includes current pregnancy

Differentials in the desire to limit childbearing are also strongly associated with place of residence, with women residing in the capital city having distinctly lower fertility desires. In Ashgabad City, among currently married women with two living children, 59 percent want no more children. In all other regions, among women with two living children, the percentage wanting no more children is between 37 and 44 percent.

In terms of education, among women with one, two, or three living children, greater percentages with a higher or secondary special education report wanting no more children than women with a primary/secondary education.

8.2 Need for Contraceptive Services

Currently married, fecund women who either want no more children or want to wait at least two years before having another child, but who are not using contraception, are considered to have an *unmet need* for contraception.[1] Current users of family planning methods are said to have a *met need* for contraception. The *total demand* for contraception is the sum of met and unmet need for contraception.

Table 8.4 shows estimates of unmet need, met need, and total demand for contraception among currently married women. Among all currently married women, 10 percent have an unmet need for contraceptive services; half of this need represents desire to space the next birth, and half represents a desire to limit childbearing. On the other hand, 62 percent of women are in the category of having met their need for contraception. One-third of these women want to space their next birth, and two-thirds want to limit their childbearing.

Overall, the total demand for contraception comprises 72 percent of married women in Turkmenistan. A high proportion of the total demand for contraception is being met. Eighty-six percent of currently married women with a need for contraception are current users.

There is relatively little variation in the statistics on unmet and met need by urban-rural residence, region, education, or ethnicity. However, as expected, there are differences across age groups. Both unmet need and met need for spacing decline with increasing age. Alternatively, both unmet need and met need for limiting increase with increasing age.

8.3 Ideal Family Size

The discussion so far in this chapter focused on the respondent's future fertility preferences within the framework of the number of living children that she already has. The topic of this section, ideal family size, is meant to measure fertility desires independent of the number of children that a respondent already has. To collect the relevant data, a somewhat different question was asked for respondents with no living children and for those with living children. The former group was asked directly how many children they would like to have if they could choose the number. Respondents who already had living children were asked how many children they would like to have if they could go back to the time when they had no children and could choose the number to have.[2]

[1] For a more complete definition of unmet need and the procedure for its calculation, see footnote 1, Table 8.4.

[2] The degree to which the question asked of a respondent who already had children succeeded in its purpose of eliciting responses that are independent of the respondent's current family size is unclear. Many previous surveys have found a correlation between the actual number of children that respondents have and their reported ideal family size. This correlation may be because women who want larger families tend to have more children or because respondents adjust their ideal family size to match their actual family size or because of some combination of these factors.

Table 8.4 Need for contraception among currently married women

Percentage of currently married women with an unmet need for contraception, and with met need for contraception, and the total demand for contraception, by background characteristics, Turkmenistan 2000

Background characteristic	Unmet need for contraception[1]			Met need for contraception (currently using)[2]			Total demand for contraception[3]			Percentage of demand satisfied	Number of women
	For spacing	For limiting	Total	For spacing	For limiting	Total	For spacing	For limiting	Total		
Age											
15-19	13.1	1.2	14.3	23.2	3.4	26.6	36.3	4.6	40.9	65.0	83
20-24	12.8	1.0	13.8	41.5	11.1	52.7	55.2	12.1	67.3	79.5	682
25-29	8.5	1.9	10.4	39.6	21.8	61.5	48.7	23.7	72.4	85.6	1,015
30-34	5.3	5.3	10.6	29.2	41.1	70.3	34.7	46.4	81.0	86.9	934
35-39											
40-44	2.0	6.2	8.2	8.9	65.2	74.1	10.8	71.5	82.4	90.1	857
45-49	0.4	8.9	9.3	2.0	65.5	67.5	2.5	74.4	76.8	87.9	765
	0.1	7.7	7.8	1.2	36.7	37.8	1.3	44.3	45.6	82.9	556
Residence											
Urban	4.2	5.1	9.3	22.5	39.8	62.3	27.1	44.9	72.1	87.0	2,307
Rural	6.1	4.7	10.8	21.5	39.9	61.4	27.7	44.6	72.3	85.0	2,585
Region											
Ashgabad City	4.4	4.6	9.0	20.7	39.0	59.7	25.6	43.6	69.3	87.0	639
Akhal	3.9	3.3	7.2	22.6	43.6	66.3	26.5	47.0	73.5	90.2	699
Balkan	3.9	4.8	8.7	29.8	31.3	61.1	34.5	36.2	70.7	87.7	424
Dashoguz	6.9	6.1	12.9	18.9	36.9	55.8	25.9	43.0	68.9	81.2	950
Lebap	6.2	4.4	10.6	22.0	40.9	62.9	28.7	45.3	74.0	85.6	1,030
Mary	4.7	5.6	10.3	22.0	42.5	64.5	26.7	48.1	74.8	86.2	1,150
Education											
No/primary/secondary	5.3	5.0	10.3	20.7	39.3	60.1	26.3	44.4	70.7	85.4	3,347
Secondary-special	4.6	5.4	10.0	25.0	39.7	64.7	29.9	45.1	75.1	86.6	1,149
Higher	6.2	2.5	8.7	23.8	44.2	68.0	30.0	46.7	76.7	88.6	396
Ethnicity											
Turkmen	5.4	4.9	10.3	22.3	39.5	61.7	27.9	44.4	72.3	85.8	3,776
Uzbek	6.6	4.1	10.6	24.9	36.5	61.4	31.5	40.6	72.1	85.2	554
Other	3.0	5.6	8.5	17.3	45.5	62.8	20.7	51.1	71.8	88.1	563
Total	5.2	4.9	10.1	22.0	39.8	61.8	27.5	44.7	72.2	86.0	4,892

[1] *Unmet need for spacing* includes pregnant women whose pregnancy was mistimed, amenorrheic women who are not using family planning and whose last birth was mistimed, and fecund women who are neither pregnant nor amenorrheic and who are not using any method of family planning and say they want to wait two or more years for their next birth. Also included in unmet need for spacing are fecund women who are not using any method of family planning and say they are unsure whether they want another child or who want another child but are unsure when to have the birth unless they say it would not be a problem if they discovered they were pregnant in the next few weeks. *Unmet need for limiting* refers to pregnant women whose pregnancy was unwanted, amenorrheic women whose last child was unwanted, and to fecund women who are neither pregnant nor amenorrheic and who are not using any method of family planning and who want no more children. Excluded from the unmet need category are pregnant and amenorrheic women who became pregnant wile using a method (these women are in need of better contraception).

[2] *Using for spacing* is defined as women who are using some method of family planning and say they want to have another child or are undecided whether to have another. *Using for limiting* is defined as women who are using and who want no more children. Note that the specific methods used are not taken into account here.

[3] Nonusers who are pregnant or amenorrheic and whose pregnancy was the result of a contraceptive failure are not included in the category of unmet need, but are included in the total demand for contraception (since they would have been using had their method not failed).

Table 8.5 shows statistics on ideal family size for all women and for currently married women. For all women, the mean ideal number of children is 3.3, while for currently married women, the figure is 3.7—higher by almost half a child.

Table 8.5 also shows the ideal family size by the number of children that the respondent already has. Among all women, the mean ideal number of children increases steadily from 2.7 for childless women to 6.0 for women with 6 or more children.

Table 8.5 Ideal number of children

Percent distribution of all women by ideal number of children and mean ideal number of children for all women and for currently married women, according to number of living children, Turkmenistan 2000

Ideal number of children	Number of living children[1]							Total
	0	1	2	3	4	5	6+	
0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1
1	2.6	5.1	1.3	0.8	0.3	0.3	0.0	1.9
2	53.3	47.5	36.9	13.7	6.4	4.5	3.8	34.3
3	11.6	14.3	16.3	19.7	2.2	2.9	1.3	11.8
4	21.8	26.9	39.8	51.4	68.3	31.8	19.1	34.3
5	1.3	2.1	2.0	7.0	7.8	29.9	5.8	4.9
6+	0.9	2.1	1.5	3.5	10.1	23.2	53.8	6.8
Nonnumeric response	8.3	2.2	2.0	3.8	4.9	7.5	16.2	5.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	2,826	949	1,427	1,038	734	491	454	7,919
Mean ideal number for[2]:								
All women	2.7	2.8	3.1	3.6	4.2	4.8	6.0	3.3
Number of women	2,950	929	1,399	999	698	454	380	7,449
Currently married women	3.2	2.9	3.1	3.6	4.2	4.8	6.0	3.7
Number of women	200	805	1,280	937	657	435	357	4,670

[1] Includes current pregnancy

[2] The means exclude women who gave nonnumeric responses.

The mean ideal family size for all women by five-year age group and background characteristics is shown in Table 8.6. The ideal number of children increases with increasing age of respondents. Women age 15-19 report an ideal of 2.6 children; that number increases to 4.6 for women age 45-49. The differentials by background characteristics are all in the expected direction. Rural women and less-educated women report higher ideal numbers of children than urban women and more-educated women. The greatest differentials are by region: the mean ideal number of children for women in Ashgabad City (2.9) is lower than those for women in all other regions (between 3.3 and 3.5).

Table 8.6 Mean ideal number of children by background characteristics

Mean ideal number of children for all women by age and background characteristics, Turkmenistan 2000

Background characteristic	Age							Total
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Residence								
Urban	2.5	2.7	3.0	3.2	3.4	3.9	4.0	3.1
Rural	2.7	2.9	3.3	3.7	4.1	4.7	5.5	3.5
Region								
Ashgabad City	2.4	2.6	2.9	3.1	3.1	3.4	3.0	2.9
Akhal	2.6	3.0	3.3	3.6	4.2	4.9	5.1	3.5
Balkan	2.8	2.7	3.1	3.3	4.0	4.5	5.1	3.4
Dashoguz	2.7	2.8	3.2	3.6	4.0	4.7	5.5	3.5
Lebap	2.6	2.8	3.1	3.5	3.7	4.1	4.8	3.3
Mary	2.6	2.9	3.2	3.6	3.7	4.2	4.6	3.4
Education								
No/Primary/secondary	2.6	2.9	3.3	3.6	4.0	4.7	5.1	3.4
Secondary-special	2.6	2.7	2.9	3.4	3.5	3.4	3.6	3.2
Higher	*	2.8	3.1	3.1	3.1	3.6	3.5	3.1
Ethnicity								
Turkmen	2.6	2.9	3.2	3.6	4.0	4.5	5.1	3.4
Uzbek	2.7	3.0	3.3	3.4	4.0	4.7	5.1	3.5
Other	2.2	2.4	2.3	2.7	2.5	3.1	2.8	2.6
Total	2.6	2.8	3.1	3.5	3.8	4.3	4.6	3.3

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

8.4 UNPLANNED AND UNWANTED FERTILITY

Several indicators of the level of unwanted fertility can be derived from the TDHS data. Respondents were asked a series of questions about each child who was born in the five years preceding the survey—and, if pregnant, their current pregnancy—to determine whether the pregnancy was wanted *then* (planned), wanted *later* (mistimed), or *not* wanted (unplanned). It is worth noting that the data collected may underestimate unplanned childbearing since women may rationalize unplanned births and report them as planned.

Table 8.7 shows the percent distribution of births in the five years before the survey by whether the birth was wanted then, wanted later, or not wanted. More than 96 percent of births in the last five years were wanted, i.e., either wanted then (94 percent) or wanted later (2 percent). As expected, the percentage of unwanted births (slightly more than 1 percent) increases with the birth order and the age of the respondent.

Table 8.8 presents *wanted fertility rates* and total fertility rates for the three-year period before the survey for various population subgroups. Wanted fertility rates indicate the level of fertility that would result if all unwanted births were prevented. Unwanted births are those that exceed the ideal family size that was reported by a respondent. The comparison of wanted fertility rates with observed total fertility rates indicates the extent to which women successfully control their fertility.

Table 8.7 Fertility planning status

Percent distribution of births (including current pregnancy) in the five years preceding the survey by fertility planning status, according to birth order and mother's age at birth, Turkmenistan 2000

Birth order and mother's age at birth	Planning status of birth			Missing	Total	Number of births
	Wanted then	Wanted later	Wanted no more			
Birth order						
1	97.1	0.8	0.2	2.0	100.0	1,282
2	92.6	4.1	0.9	2.4	100.0	1,137
3	93.8	3.0	1.2	2.0	100.0	709
4+	92.7	1.3	3.3	2.6	100.0	805
Age at birth						
<19	97.1	1.2	0.1	1.6	100.0	247
20-24	94.3	2.7	0.6	2.4	100.0	1,481
25-29	94.6	2.6	0.7	2.2	100.0	1,291
30-34	94.4	1.7	1.5	2.4	100.0	597
35-39	94.0	0.5	3.4	2.1	100.0	244
40-44	82.6	0.0	16.0	1.4	100.0	68
45-49	*	*	*	*	100.0	3
Total	94.3	2.2	1.2	2.2	100.0	3,933

Note: An asterisk indicates that a figure is based on fewer than 25 births (and current pregnancies) and has been suppressed.

In Turkmenistan, wanted fertility rates are somewhat less than observed total fertility rates at the national level (2.7 verses 2.9 children per woman) as well as for population subgroups. It appears that, on average, women are only marginally exceeding their reported ideal family size.

Table 8.8 Wanted fertility rates

Total wanted fertility rates and total fertility rates for the three years preceding the survey, by background characteristics, Turkmenistan 2000

Background characteristic	Total wanted fertility rate	Total fertility rate
Residence		
Urban	2.29	2.46
Rural	3.00	3.30
Region		
Ashbagad City	1.96	2.10
Akhal	2.75	2.91
Balkan	2.53	2.68
Dashoguz	2.88	3.14
Lebap	2.66	2.97
Mary	2.81	3.09
Education		
No/primary/secondary	2.80	3.03
Secondary-special	2.37	2.59
Higher	2.29	2.59
Ethnicity		
Turkmen	2.78	3.02
Uzbek	2.71	2.90
Other	1.56	1.78
Total	2.66	2.89

Note: Rates are based on births to women 15-49 in the period 1-36 months preceding the survey. The total fertility rates are the same as those presented in Table 4.2.

INFANT AND CHILD MORTALITY 9

V.R. Charyeva, E.Y. Samarkina, and J.M. Sullivan

This chapter presents mortality rates for infancy and early childhood based on data from the Ministry of Health and Medical Industry and from the TDHS 2000. For Turkmenistan as a whole, mortality rates are shown for the period from 1985 to 2000. To identify population subgroups exposed to particularly high mortality, mortality estimates are presented by the background characteristics of mothers and by demographic characteristics. Perinatal mortality rates are also shown in this chapter.

9.1 MORTALITY RATES BASED ON MOHMI DATA

Turkmenistan has a long history of demographic and health data collection—primarily through the use of national registration systems. For births and infant deaths, MOHMI collects the data from local health officials who primarily document events occurring in health facilities. The reports are forwarded up the reporting hierarchy to the regional level and to MOHMI. Official government statistics on infant mortality are published in annual statistical reports.

Mortality rates for the main subintervals of infancy based on MOHMI data are shown in Table 9.1. The estimates are expressed per 1,000 live births. Estimates are shown for single calendar years and for five-year calendar periods. The following rates are shown:

- Neonatal mortality (NN): the probability of dying under 28 days after birth.
- Postneonatal mortality (PNN): the difference between infant and neonatal mortality.
- Infant mortality ($_1q_0$): the probability of dying between birth and exact age one.

There is a clear declining trend in all of the mortality rates. Similarly, a decline is indicated by the infant mortality rates for five-year periods. Overall, between the period 1986-90 and the period 1996-00, infant mortality declined from 53 to 32 per 1,000, a decline of approximately 40 percent.

It is important to note that MOHMI data on births and infant deaths are recorded according to protocols that were established during the time of the former Soviet Union. The definitions of live birth and infant death in those protocols differ from the definitions currently advocated by the World Health Organization. The most important difference is for pregnancies ending at a gestational age of less than 28 weeks. The Soviet protocols classify such pregnancies as miscarriages (even if signs of life are present at the time of delivery) unless the child survives for seven days.[1] On the other hand, the World Health Organization defines a birth showing any sign of life (i.e., breathing, beating of the heart, or movement of voluntary muscles) as a live birth, irrespective of the gestational age at termination of the pregnancy (WHO, 1993).

[1] In cases in which the gestational age is unknown, fetuses that weigh less than 1,000 grams or measure less than 35 centimeters in length are considered premature and are classified as miscarriages.

Table 9.1 Infant mortality rates, government of Turkmenistan

Neonatal, postneonatal, and infant mortality rates, 1985-2000

Calendar year	Neonatal mortality (NN)	Postneonatal mortality (PNN)	Infant mortality ($_1q_0$)
2000	6.5	14.8	21.3
1999	8.1	17.3	25.4
1998	8.0	24.8	32.8
1997	9.5	28.4	37.9
1996	11.0	31.0	42.0
1995	8.4	34.4	42.8
1994	11.9	31.0	42.9
1993	14.0	30.2	44.2
1992	12.8	30.4	43.2
1991	15.3	31.6	46.9
1990	na	na	45.2
1989	na	na	54.8
1988	na	na	54.1
1987	na	na	55.7
1986	na	na	57.3
1985	na	na	51.5
Mean 1996-00	8.6	23.3	31.9
Mean 1991-95	12.5	31.5	44.0
Mean 1986-90	na	na	53.4

Sources: 1985-1998. World Health Organization, Database; 1999-2000 Clinical Research Center for Maternal and Child Health, Ashgabad, Turkmenistan
na = Not applicable

A second difference between the Soviet protocols and WHO's definitions concerns pregnancies ending at 28 or more weeks of gestation. According to the definitions of the Soviet protocols, these events are classified as live births if the child breathes and as stillbirths if breathing is not evident at delivery. The World Health Organization defines these events as live births if any sign of life is present at delivery (i.e., breathing, beating of the heart, or movement of voluntary muscles) and otherwise as stillbirths.

Official government infant mortality rates in other republics of the former Soviet Union, based on registration systems similar to that which exists in Turkmenistan, have been found to be lower than estimates from population-based household surveys. For example, the survey infant mortality rate (IMR) estimate from the Kazakhstan DHS of 62 per 1,000 (1992-1997) was more than double the rate based on government statistics, 26 per 1,000 (APM and MI, 2000). Similarly, the survey estimate from the Kyrgyz Republic DHS of 61 per 1,000 was about double the rate based on government statistics, 29 per 1,000 (RIOP and MI, 1998).

9.2 MORTALITY RATES BASED ON TDHS DATA

In the TDHS, survey respondents were asked to report all of their pregnancies and the outcome of each pregnancy in terms of the international definitions advocated by the World Health Organization. *Live birth* was defined as any birth irrespective of the duration of pregnancy that, after separation from the mother, showed any sign of life such as breathing, beating of the heart, or movement of voluntary muscles. For each live birth, questions were asked about the date of birth (month and year), sex, survivorship status, and current age (for surviving children) or age at death (for deceased children). *Infant death* was defined as the death of a child under one year of age (WHO, 1993).

Mortality rates from the TDHS are shown in Table 9.2. In addition to estimates of neonatal, postneonatal, and infant mortality, mortality rates for the early childhood years are shown:

- Child mortality ($_4q_1$): the probability of dying between exact ages one and five.
- Under-five mortality ($_5q_0$): the probability of dying between birth and exact age five.

All the rates in Table 9.2 are expressed as deaths per 1,000 live births, except child mortality ($_4q_1$), which is expressed as deaths per 1,000 children surviving to age one.

The accuracy of mortality estimates from the TDHS depends on 1) the completeness and accuracy with which births and deaths are reported (i.e., nonsampling error) and 2) the sampling variability of the estimated rates. An assessment of nonsampling error is considered next. Sampling variability is discussed later in this section.

In a retrospective survey such as the TDHS, respondents are required to report events that occurred in the past. It is well established that the most likely source of error is the underreporting of deceased children. Based on the plausible assumption that survey respondents do not overreport deceased children, this review of data quality focuses on event underreporting.

When deceased children are underreported, it is typically most substantial for deaths that occur in early infancy (i.e., in the neonatal period) or long before the survey. The underreporting of neonatal deaths can result in an abnormally low ratio of neonatal mortality to infant mortality (United Nations, 1982). To detect underreporting of deceased children in the TDHS, the survey values of the neonatal/infant mortality ratio were compared with values for national populations known to have relatively complete reporting of infant deaths.[2]

Neonatal and infant mortality rates from the TDHS are shown in Table 9.2. The value of the neonatal/infant mortality ratio for the periods 1985-1990, 1990-1995, and 1995-2000 are 0.32, 0.46, and 0.46, respectively. In countries with relatively complete mortality data at a level of infant mortality between 70 and 80 per 1,000 (about the level of infant mortality estimated by the TDHS), the value of this ratio is typically greater than 0.45.[3] The ratio for the Turkmenistan survey for 1985-1990 (0.32) is less than this value, which suggests underreporting of neonatal deaths for that

[2] An examination of the ratio of the neonatal to the infant mortality rate can be used to detect gross underreporting of deaths in the first month of life. However, this data quality test is not sufficiently sensitive to detect underreporting that is not substantial. Thus, the absence of a finding of underreporting of neonatal deaths when applying this test does not imply that neonatal deaths are completely and accurately reported.

[3] For example, see the neonatal and infant mortality rates for Hungary (1953), Singapore (1952), and Sri Lanka (1952) in the *U.N. Demographic Yearbook, 1961* (Table 13).

Table 9.2 Infant and child mortality

Infant and child mortality rates by five-year periods preceding the survey, Turkmenistan 2000

Years preceding survey	Calendar period[a]	Neonatal mortality (NN)	Postneonatal mortality (PNN)	Infant mortality ($_1q_0$)	Child mortality ($_4q_1$)	Under-five mortality ($_5q_0$)
0-4	1995-2000	33.8	40.1	73.9	22.0	94.3
5-9	1990-1995	32.1	37.4	69.5	14.2	82.7
10-14	1985-1990	26.9	56.8	83.7	17.6	99.8

[a] Periods are from midyear to midyear. Fieldwork for the survey was conducted in the summer of 2000, so the period 1995-2000 refers to the period from midyear 1995 to midyear 2000.

period. For the periods 1990-1995 and 1995-2000, periods that are closer to the survey date and for which respondents may be less susceptible to recall error, the ratios are slightly greater than 0.45. Accordingly, this inspection of the data does not suggest substantial underreporting of neonatal deaths for the periods 1990-1995 and 1995-2000.

At the national level, the estimate of infant mortality for the period 1995-00 was 74 per 1,000 live births. The estimates of neonatal and postneonatal mortality were 34 and 40 per 1,000 births, respectively. The estimate of child mortality (age one to exact age five) was much lower: 22 per 1,000. The overall under-five mortality rate for the period was 94 per 1,000.

The survey estimates of mortality are subject to sampling variability. Sampling variability arises because a different sample of women, with different experience of child mortality, would have produced different mortality estimates. Sampling error is concerned with how different such an estimate might be. The survey estimate of infant mortality for 1995-2000 (74 per 1,000) has a standard error of 5.4 and a 95 percent confidence interval of 63.2 to 84.7 per 1,000.[4] Thus, the point estimate of 74 per 1,000 cannot be considered exact, and due to sampling variability, the true estimate could be higher or lower.

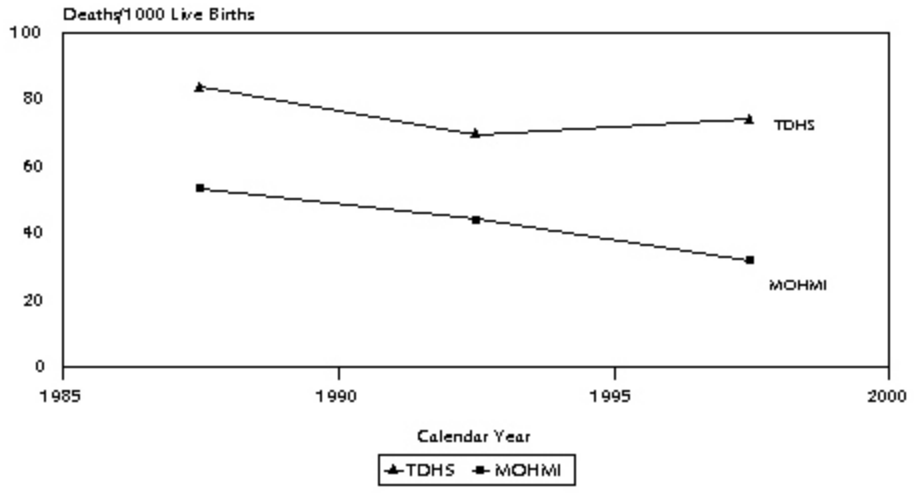
Over the 15 years prior to the survey, the TDHS estimates indicate a decline in infant mortality: from 84 per 1,000 (1985-1990) to 74 per 1,000 (1995-2000). This represents a 12 percent decline. The overall under-five mortality rate declined during the period from 100 per 1,000 to 94 per 1,000. The estimated rates suggest improving mortality conditions from the late 1980s to the late 1990s.

9.3 Comparison of Mortality Rates

Mortality rates over the past 15 years based on MOHMI data and the TDHS data are shown in Figure 9.1. Two points should be noted. First, MOHMI rates are between 35 and 50 percent lower than the survey estimates. The estimates based on MOHMI data lie outside of the 95 percent confidence interval for the survey estimates, which indicates that sampling variability of the survey estimates cannot fully account for the differences in the estimated rates. The second point to note is that the time trends of the two sets of rates are similar. Both sets of rates show a declining trend in infant mortality over the last 15 years. Thus, both time trends indicate improvements in the survivorship of infants.

[4] Standard errors and 95 percent confidence intervals of mortality rates are shown in Appendix B.

Figure 9.1 Trends in Infant Mortality



TDHS 2000

With the available data, it is not possible to conclusively determine the reasons for the differences between MOHMI rates and those of the TDHS. The best way to resolve the issue of the differences is to conduct a longitudinal survey in which a sample of households are visited periodically (say, every three months) for a period of 18 to 24 months. Pregnant women would be identified in each round of the survey, and in subsequent rounds, the outcome of those pregnancies and the survivorship of live births would be determined. One of the main recommendations of this report is that a longitudinal survey be conducted as soon as practicable.

9.4 Socioeconomic Differentials in Childhood Mortality

Table 9.3 shows infant and child mortality rates by selected socioeconomic variables (urban-rural residence, region, education, and ethnicity). The estimated rates are for the ten-year period preceding the survey. A ten-year period is used to calculate the rates for population subgroups to reduce the sampling variability.

The rates for residence show a pattern that is similar to that found in most countries of the world. The mortality estimates for rural areas exceed the estimates for urban areas at all ages. The estimate of infant mortality for rural areas (80 per 1,000) exceeds the estimate for urban areas (60 per 1,000).

There is substantial variation in the mortality estimates by region. Infant mortality estimates are highest for the Mary and Dashoguz regions (99 and 80 per 1,000, respectively) and lowest for Ashgabad City and Lebap (48 and 49 per 1,000, respectively). It is surprising that the infant mortality estimates for Ashgabad City and Lebap are so similar.

Mortality estimates by mother's education display the expected differentials. The rates of infant mortality for women with a primary/secondary education (77 per 1,000) exceed the rates for women with a secondary-special education (59 per 1,000) or higher education (61 per 1,000).

Table 9.3 Infant and child mortality by background characteristics

Infant and child mortality rates for the ten-year period preceding the survey, by background, Turkmenistan 2000

Background characteristic	Neonatal mortality (NN)	Postneonatal mortality (PNN)	Infant mortality ($_1q_0$)	Child mortality ($_4q_1$)	Under-five mortality ($_5q_0$)
Residence					
Urban	32.2	27.9	60.1	13.4	72.7
Rural	33.4	46.5	79.9	21.6	99.8
Region					
Ashgabad City	(33.4)	(14.3)	(47.7)	(11.7)	(58.8)
Akhal	29.9	44.5	74.4	9.7	83.4
Balkan	30.0	20.9	50.9	12.2	62.5
Dashoguz	29.5	50.9	80.4	18.8	97.7
Lebap	20.9	27.7	48.6	18.9	66.6
Mary	48.9	49.7	98.6	26.8	122.7
Education					
No education	*	*	*	*	*
Primary/secondary	32.8	43.7	76.5	22.1	96.9
Secondary-special	28.4	30.2	58.6	9.7	67.7
Higher	(45.9)	(15.2)	(61.2)	(6.7)	(67.5)
Ethnicity					
Turkmen	33.8	39.7	73.5	19.5	91.5
Uzbek	22.4	38.1	60.5	10.2	70.0
Other	38.9	29.0	68.0	13.9	80.9
Total	32.9	38.7	71.6	18.0	88.3

Note: An asterisk indicates that the rate is based on fewer than 250 unweighted births and has been suppressed. Figures in parentheses are based on 250 to 499 unweighted births.

9.5 Demographic Differentials in Childhood Mortality

The relationship between early childhood mortality and selected demographic variables is shown in Table 9.4. As was the case with the socioeconomic differentials, the rates are shown for the ten-year period preceding the survey.

In Turkmenistan, as in almost all populations, the infant mortality rate for male children (83 per 1,000) exceeds the rate for female children (60 per 1,000).

The relationship between mortality and mother's age at birth indicates a clear relationship, with births to women under age 20 having higher mortality than births to older women. On the other hand, the data show only a weak association between a child's birth order and the risk of mortality.

Among the demographic variables in Table 9.4, the strongest association with mortality is shown by the length of the preceding birth interval. For births occurring less than two years after a previous birth, the risk of death before reaching age five (119 per 1,000) is 50 percent greater than for births following a two- to three-year interval and 100 percent greater than for births following a four-year birth interval. This relationship suggests that some reduction in mortality would result if the proportion of births occurring after a birth interval of less than two years were reduced.

Table 9.4 Infant and child mortality by demographic characteristics

Infant and child mortality rates for the ten-year period preceding the survey, by demographic characteristics, Turkmenistan 2000

Demographic characteristic	Neonatal mortality (NN)	Postneonatal mortality (PNN)	Infant mortality ($_1q_0$)	Child mortality ($_4q_1$)	Under-five mortality ($_5q_0$)
Sex of child					
Male	36.6	46.4	83.0	19.0	100.5
Female	29.0	30.7	59.7	17.0	75.6
Age of mother at birth					
<20	(51.1)	(35.4)	(86.5)	(24.1)	(108.6)
20-29	29.6	40.1	69.7	19.1	87.5
30-39	38.2	36.4	74.5	14.6	88.0
40-49	*	*	*	*	*
Birth order					
1	31.9	35.1	67.0	15.2	81.2
2-3	31.9	40.6	72.5	21.2	92.2
4-6	34.5	41.3	75.7	17.5	91.9
7+	(41.2)	(32.8)	(74.0)	(11.8)	(84.9)
Previous birth interval					
<2 yrs	39.3	54.9	94.2	27.7	119.3
2-3 yrs	26.8	37.1	63.9	15.6	78.6
4+ yrs	33.2	15.8	49.0	8.8	57.4
Total	32.9	38.7	71.6	18.0	88.3

Note: An asterisk indicates that the rate is based on fewer than 250 unweighted and has been suppressed. Figures in parentheses are based on 200 to 499 unweighted births.

9.6 MORTALITY DIFFERENTIALS BY WOMEN'S STATUS

Several questions were included in the Turkmenistan DHS survey in order to develop indicators of women's status and empowerment. A woman's status is an important determinant of her ability to access information, make decisions, and act effectively in her own interest and in the interest of those who depend on her. It follows that if women, the primary caretakers of children, enjoy high status the health and survival of their infants should be enhanced.

A series of questions were asked about the respondent's participation in household decisionmaking. An indicator was developed that scales a woman's participation in decisionmaking. The higher the score on this indicator, the higher a woman's status and the more empowered she is to care for her children. Table 9.5 shows mortality rates for values of this indicator. The table indicates that as the number of decisions for which a mother has the final say increases, infant and child mortality declines.

Table 9.5 Infant and child mortality by women's status

Infant and child mortality rates for the ten-year period preceding the survey, by women's status, Turkmenistan 2000

Women's status indicator	Neonatal mortality (NN)	Postneonatal mortality (PNN)	Infant mortality ($_1q_0$)	Child mortality ($_4q_1$)	Under-five mortality ($_5q_0$)
Number of decisions with woman having final say					
0	(52.4)	(50.6)	(103.1)	*	*
1-2	36.6	51.7	88.2	27.4	113.2
3-4	37.1	38.2	75.3	14.9	89.1
5	29.2	35.1	64.3	16.7	79.9
Total	32.9	38.7	71.6	18.0	88.3

Note: An asterisk indicates that the rate is based on fewer than 250 cases and has been suppressed. Figures in parentheses are based on 250 to 499 births.

9.7 PERINATAL MORTALITY

Perinatal mortality rates indicate the level of mortality from the time of prenatal viability (i.e., the late fetal period beginning at 28 weeks of gestation) through labor, delivery, and the early neonatal period of life (i.e., the first week of life). Pregnancies that terminate without signs of life after the 28th week of gestation are referred to as stillbirths. Stillbirths and early neonatal deaths share many of the same underlying causes leading to mortality (e.g., congenital malformations), and for this reason, these events are aggregated into the perinatal mortality rate.

Perinatal mortality rates are reported for the five-year period preceding the survey (i.e.,mid-1995 to mid-2000). It should be noted that data quality is always an issue when considering perinatal mortality rates, because both stillbirths and early neonatal deaths are susceptible to underreporting.

Table 9.6 shows perinatal mortality rates per 1,000 pregnancies for all Turkmenistan as well as by background characteristics. The overall perinatal mortality rate is 35 per 1,000. In general, perinatal mortality rates display the same pattern as neonatal mortality rates (Tables 9.3 and 9.4).

Table 9.6 Perinatal mortality

Number of stillbirths and early infant deaths, and the perinatal mortality rate for the five-year period preceding the survey, by background characteristics, Turkmenistan 2000

Background characteristic	Number of stillbirths	Number of early neonatal deaths	Perinatal mortality rate	Number of pregnancies of 7+ months duration
Residence				
Urban	22.8	32.6	38.6	1,435
Rural	23.1	48.8	32.8	2,194
Region				
Ashgabad City	3.2	6.9	*	359
Akhal	5.3	11.5	(32.8)	513
Balkan	1.8	8.4	(36.5)	279
Dashoguz	14.6	10.2	30.5	815
Lebap	6.3	9.4	21.3	735
Mary	14.7	35.0	53.6	928
Education				
No education	0.0	0.0	*	33
Primary/secondary	33.1	60.2	37.0	2,523
Secondary-special	12.8	12.4	31.3	806
Higher	0.0	8.8	*	267
Age of mother at birth				
<20	3.2	9.2	*	227
20-29	27.0	50.0	30.1	2,560
30-39	13.4	20.0	43.0	776
40-49	2.2	2.2	67.6	66
Previous pregnancy interval				
1st pregnancy	18.6	17.3	33.3	1,077
<15 months	6.0	21.3	57.3	476
15-26 months	4.9	20.4	25.8	980
27-38 months	7.2	11.0	33.2	546
39+ months	9.4	11.4	37.7	550
Total	45.9	81.4	35.1	3,629

Note: An asterisk indicates that the rate is based on fewer than 250 unweighted pregnancies and has been suppressed. Figures in parentheses based on 250 to 499 unweighted pregnancies.

9.8 HIGH-RISK FERTILITY BEHAVIOR

Previous research has shown a strong relationship between the fertility patterns of women and the mortality risks of their children (United Nations, 1994). Typically, mortality risks are greater for children who are born to mothers who are too young or too old, who are born after a short birth interval, or who have a high birth order. In this analysis, a mother is classified as *too young* if she is less than 18 years of age and *too old* if she is older than 34 years of age. A *short birth interval* is defined as a birth occurring within 24 months of the previous birth, and a child is of *high birth order* if the mother had already given birth to three or more children.

Table 9.7 shows the distribution of children born in the five years before the survey by risk category. Although first births to women age 18-34 are considered an unavoidable risk, they are included in the analysis and are shown as a separate risk category.

Column 1 of Table 9.7 shows that in the five-year period before the survey, 32 percent of births were in a single high-risk category and 11 percent were in a multiple high-risk category.

Column 2 of the table shows risk ratios for births in various high-risk categories relative to births not having any high-risk characteristics. Overall, the risk ratio for births in a single high-risk category is 1.4 (40 percent elevated risk over births in the no high-risk category). For births with multiple high-risk characteristics, the risk ratio is 1.1 (10 percent elevated risk). Surprisingly, this represents less of an elevated risk than is the case for births characterized by a single risk category.

Column 3 of Table 9.7 looks to the future and addresses the question, How many currently married women have the potential for having a high-risk birth? The results were obtained by simulating the risk category into which a birth to a currently married woman would fall if she were to become pregnant at the time of the survey. For example, a woman who was 37 years old at the

Table 9.7 High-risk fertility behavior

Percent distribution of children born in the five years preceding the survey by category of elevated risk of dying and the percent distribution of currently married women at risk of conceiving a child with an elevated risk of dying, by category of increased risk, Turkmenistan 2000

Risk category	Births in five years preceding the survey		Percentage of currently married women[a]
	Percentage of births	Risk ratio	
Not in any high-risk category	26.0	1.0	21.5[b]
Unavoidable risk category			
First birth between ages 18 and 34	31.8	1.0	5.2
Single high-risk category			
Mother's age <18	0.7	2.7	0.1
Mother's age >34	1.5	1.1	7.2
Birth interval <24 months	19.3	1.5	11.2
Birth order >3	10.0	1.2	11.4
Subtotal	31.5	1.4	29.8
Multiple high-risk category			
Age >34 & birth interval <24 mo.	0.1	4.0	0.3
Age >34 & birth order >3	5.7	0.8	36.5
Age >34 & birth interval <24 & birth order >3	0.6	1.4	1.9
Birth interval <24 & birth order >3	4.2	1.4	4.8
Subtotal	10.7	1.1	43.5
Any avoidable high-risk category	42.2	1.3	73.3
Total	100.0	na	100.0
Number of births	3,583	na	4,892

Note: Risk ratio is the ratio of the proportion dead of births in a specific high-risk category to the proportion dead of births not in any high-risk category.
na = Not applicable
[a] Women were assigned to risk categories according to the status they would have at the birth of a child, if the child were conceived at the time of the survey: age less than 17 years and 3 months, age older than 34 years and 2 months, latest birth less than 15 months ago, and latest birth of order 3 or higher.
[b] Includes sterilized women

time of the survey and had three previous births, the last of which occurred three years earlier, would be classified in the multiple high-risk category for being too old (35 or older) and at risk of having a high order birth (greater than 3).

Overall, 73 percent of currently married women have the potential to give birth to a child with an elevated risk of dying. Seventeen percent of women have the potential to give birth to a child with multiple high-risk factors.

MATERNAL AND CHILD HEALTH 10

S.M. Turayeva, A.B. Dzhunelov, and N.S. Gandimova

This chapter presents findings on maternal and child health in Turkmenistan. Information is presented on maternal care (antenatal, delivery, and postnatal care), birth weight, vaccinations of children, and child illnesses (respiratory infection, fever, and diarrhea) in the two weeks preceding the survey.

10.1 Antenatal Care

The health care that a woman receives during pregnancy is important to her well-being and that of her child. In this chapter, antenatal care is described in terms of whether or not care was received, the type of health care provider, the stage of pregnancy at the time of the first visit to a health provider, and the medical procedures performed during antenatal care visits. Respondents were asked to report the information about antenatal care for the last live births that occurred in the five-year period preceding the survey.

Table 10.1 provides information on whether antenatal care was received and, if so, the type of health care provider who gave the care. Respondents were asked to report all people seen for antenatal care. However, in Table 10.1, receipt of antenatal care is tabulated according to the provider with the highest level of training. Virtually all women who delivered in the last five years (98 percent), received antenatal care from a health care professional, i.e., either a doctor (81 percent) or a trained nurse or midwife (17 percent).

Table 10.1 also indicates that receipt of antenatal care was 97 percent or higher for all population subgroups. However, differentials were found in the type of health professional providing the care. In urban areas, doctors provided 93 percent of antenatal care, while nurses and midwives provided 5 percent. In rural areas, doctors provided 73 percent of antenatal care, while nurses and midwives provided 25 percent of care. Regional differentials were also found. The percentage of mothers who received antenatal care from a doctor was greater in Ashgabad City (96 percent) than in any other region (from 71 to 89 percent).

Differences in the source of antenatal care are also evident by birth order. Mothers having a first birth are more likely to receive care from a doctor (83 percent) than are mothers having a sixth or higher order birth (75 percent).

Mother's education is also associated with source of antenatal care. Women with a higher education are more likely to receive antenatal care from a doctor than are less-educated women.

Table 10.1 Antenatal care

Percent distribution of women who had a live birth in the five years preceding the survey by antenatal care provider during pregnancy, according to background characteristics, Turkmenistan 2000

Background characteristic	Antenatal care provider: Doctor	Trained nurse/ midwife	No one	Other/ missing[1]	Total	Number
Mother's age at birth						
<20	78.5	19.5	1.0	1.1	100.0	126
20-34	81.4	16.7	1.4	0.5	100.0	2,087
35+	81.7	16.4	1.5	0.4	100.0	257
Birth order						
1	83.4	15.0	1.4	0.2	100.0	614
2-3	81.7	16.3	1.4	0.6	100.0	1,252
4-5	79.8	18.2	1.6	0.4	100.0	430
6+	74.8	23.0	1.3	0.9	100.0	174
Residence						
Urban	92.7	5.2	1.6	0.6	100.0	1,052
Rural	72.9	25.4	1.2	0.5	100.0	1,417
Region						
Ashgabad City	96.4	2.1	0.8	0.7	100.0	266
Akhal	83.9	12.8	2.1	1.2	100.0	352
Balkan	89.4	7.6	2.7	0.3	100.0	215
Dashoguz	81.0	18.2	0.3	0.5	100.0	520
Lebap	80.5	19.3	0.2	0.0	100.0	513
Mary	71.2	25.5	2.7	0.6	100.0	603
Education						
Primary/secondary	78.6	19.1	1.8	0.5	100.0	1,715
Secondary-special	86.7	12.6	0.4	0.3	100.0	560
Higher	89.8	8.7	0.5	0.9	100.0	194
Ethnicity						
Turkmen	80.2	17.8	1.4	0.5	100.0	1,992
Uzbek	86.6	12.2	0.4	0.8	100.0	295
Other	84.3	13.1	2.6	0.0	100.0	182
Total	81.3	16.8	1.4	0.5	100.0	2,470

Note: For women with two or more live births in the five-year period, data refer to the last live birth. If more than one source of antenatal care was mentioned, only the provider with the highest qualifications is considered in this tabulation.
[1]Includes traditional birth attendant.

10.2 TIMING OF ANTENATAL CARE

Antenatal care is most beneficial when it is sought early in pregnancy and is continued throughout pregnancy. The initial visit to a women's consulting center should occur before the fourth month of pregnancy so that timely assessment of each woman's health can be made and appropriate procedures can be followed in the management of the pregnancy.

Table 10.2 shows data on the timing and number of visits to health care providers during pregnancy. In Turkmenistan, the majority of women (72 percent) make their initial antenatal visit before the fourth month of pregnancy. The median duration of pregnancy at the initial antenatal visit is 3.4 months.

Table 10.2 also indicates that 83 percent of women make four or more antenatal care visits. The median number of antenatal care visits is ten. Overall, in Turkmenistan, antenatal care is initiated early in pregnancy and is continued throughout pregnancy.

Table 10.2 Number of antenatal care visits and stage of pregnancy

Percent distribution of women who had a live birth in the five years preceding the survey by number of antenatal care visits, and by the timing of the first visit, Turkmenistan 2000

Number and timing of ANC visits	Total
Number of ANC visits	
None	1.4
1 visit	0.8
2-3 visits	3.4
4+ visits	82.8
Don't know/missing	11.7
Total	100.0
Median number of visits (for those with ANC)	9.9
Number of months pregnant at the time of the first ANC visit	
No antenatal care	1.4
<4 months	72.4
4-5 months	20.6
6-7 months	4.4
8+ months	0.5
Don't know/missing	0.7
Total	100.0
Median months pregnant at first visit (for those with ANC)	3.4
Number	2,470

Note: For women with two or more live births in the five-year period, data refer to the last live birth.

10.3 Content of Antenatal Care

Pregnancy complications are an important source of maternal and child mortality and morbidity and can be detected if expectant mothers are aware of the signs of pregnancy complications. Pregnancy complications can also be detected through procedures that are typically administered during antenatal visits, such as blood pressure measurement, blood and urine testing, and weighing and measuring the height of mothers.

In the TDHS women were asked whether they had been told about the signs of pregnancy complications during their antenatal visits. They were also asked whether each of a series of standard procedures was done at least once during their most recent pregnancy in the five years before the survey.

Table 10.3 shows the percentage of mothers who were informed about the signs of pregnancy complications and who received routine antenatal care procedures. Overall, 90 percent of the respondents reported that they were informed about the signs of pregnancy complications. Additionally, virtually all mothers (99 percent) reported that blood pressure measurement and urine and blood sampling was performed during their antenatal visits. Height and weight measurement was reported by 95 percent of women.

It is noteworthy that the proportion of women reporting that they received the various antenatal services is high in all components of the population. The greatest difference in the provision of antenatal care was in terms of the percentage of respondents informed about signs of pregnancy complications. The Balkan Region is distinctive in terms of the relatively low percentage of mothers informed about signs of pregnancy complications (58 percent).

Provision of iron tables is not a routine practice in Turkmenistan. Thirty-three percent of women received iron tables during pregnancy.

Table 10.3 Antenatal care content

Percentage of women with a live birth in the five years preceding the survey who received antenatal care, by content of antenatal care and background characteristics, Turkmenistan 2000

Background characteristic	Informed of signs of pregnancy complications	Blood pressure measured	Urine sample given	Blood sample given	Weight measured	Height measured	Received iron tablets	Number
Mother's age at birth								
<20	84.0	97.9	98.6	98.6	95.1	95.5	33.4	123
20-34	89.9	99.4	98.6	99.2	94.5	93.8	32.6	2,049
35+	90.8	99.6	98.4	99.0	95.8	92.3	34.1	252
Birth order								
1	87.9	98.8	98.9	99.2	95.1	94.6	32.8	604
2-3	90.7	99.6	98.7	99.2	94.8	94.1	32.1	1,228
4-5	89.2	99.7	98.3	99.5	94.8	92.9	32.7	421
6+	89.8	98.8	97.4	98.3	92.2	90.4	37.8	171
Residence								
Urban	86.5	99.9	99.8	99.8	98.6	97.7	32.2	1,029
Rural	92.0	99.0	97.7	98.7	91.8	90.8	33.2	1,395
Region								
Ashgabad City	84.5	100.0	100.0	100.0	99.3	98.6	36.8	262
Akhal	94.4	98.5	98.2	98.2	97.8	88.4	10.6	342
Balkan	57.8	99.2	96.6	96.6	94.4	94.1	17.6	209
Dashoguz	96.5	99.7	99.7	99.7	95.8	95.7	69.4	516
Lebap	96.9	100.0	100.0	100.0	100.0	100.0	29.8	512
Mary	88.2	98.9	96.8	99.2	85.2	87.3	19.6	583
Mother's education								
Primary/secondary	88.9	99.1	98.2	98.9	93.6	92.2	31.8	1,677
Secondary-special	90.5	100.0	99.4	99.7	97.4	97.5	34.6	556
Higher	93.9	100.0	100.0	100.0	96.8	96.5	35.6	191
Ethnicity								
Turkmen	89.9	99.2	98.4	99.0	94.6	93.5	29.8	1,955
Uzbek	95.0	100.0	99.8	99.8	95.2	95.2	53.2	291
Other	78.5	100.0	99.1	100.0	94.7	94.1	32.3	178
Total	89.7	99.4	98.6	99.2	94.7	93.7	32.8	2,425

Note: For women with two or more live births in the five-year period, data refer to the last live birth.

10.4 PLACE AND ASSISTANCE DURING DELIVERY

The risk of adverse outcomes to both a woman and her child are reduced when childbirth occurs where there is immediate access to emergency medical procedures and trained medical professionals assist with the delivery. In the TDHS, data were collected on the place of delivery and whether trained medical personnel assisted with the delivery. These data were collected for all births occurring in the five years preceding the survey.

Table 10.4 indicates that 95 percent of births are delivered at public health facilities; most at public hospitals (89 percent) and a relatively small number at public health clinics (6 percent).

Table 10.4 Place of delivery

Percent distribution of live births in the five years preceding the survey by place of delivery, according to background characteristics, Turkmenistan 2000

Background characteristic	Place of delivery						Total	Number
	Home	Public hospital	Public health clinic	Other public	Private facility/ other	Don't know/ missing		
Mother's age at birth								
<20	4.6	90.7	3.8	0.5	0.0	0.3	100.0	224
20-34	3.9	89.3	5.6	0.5	0.1	0.7	100.0	3,075
35+	7.3	83.3	7.8	0.6	0.0	0.9	100.0	284
Birth order								
1	2.4	91.9	4.2	0.5	0.2	0.7	100.0	1,176
2-3	3.9	89.2	5.6	0.5	0.0	0.7	100.0	1,672
4-5	6.9	83.8	8.5	0.5	0.0	0.3	100.0	523
6+	9.3	81.8	7.0	0.0	0.5	1.3	100.0	212
Residence								
Urban	1.4	95.5	1.7	0.1	0.2	1.1	100.0	1,413
Rural	6.0	84.6	8.2	0.7	0.0	0.5	100.0	2,171
Region								
Ashgabad City	0.5	95.9	2.1	0.0	0.5	1.0	100.0	356
Akhal	7.4	84.3	6.8	0.0	0.2	1.2	100.0	507
Balkan	5.1	89.2	4.5	0.0	0.0	1.2	100.0	277
Dashoguz	10.2	75.9	13.7	0.2	0.0	0.1	100.0	801
Lebap	0.5	96.1	2.8	0.3	0.0	0.4	100.0	729
Mary	1.2	94.3	2.0	1.5	0.0	0.9	100.0	914
Mother's education								
Primary/secondary	5.4	87.1	6.2	0.7	0.0	0.6	100.0	2,523
Secondary-special	1.4	92.5	4.8	0.1	0.2	1.0	100.0	793
Higher	1.3	95.4	2.7	0.0	0.0	0.7	100.0	267
Ethnicity								
Turkmen	3.9	89.8	5.2	0.3	0.0	0.7	100.0	2,939
Uzbek	6.0	83.9	9.4	0.6	0.0	0.1	100.0	423
Other	5.3	86.7	4.0	2.1	0.8	1.2	100.0	221
Number of antenatal care visits								
None	(22.2)	(77.8)	(0.0)	(0.0)	(0.0)	(0.0)	100.0	34
1-3 visits	13.5	75.2	8.7	4.6	0.0	0.0	100.0	104
4+ visits	3.5	89.8	5.9	0.3	0.1	0.5	100.0	2,044
Don't know/missing	2.4	92.7	3.4	0.0	0.0	2.1	100.0	288
Total	4.2	88.9	5.6	0.5	0.1	0.7	100.0	3,583

Note: Figures are for births in the period 0-59 months preceding the survey except in the case of number of antenatal care visits. Figures for antenatal care visits are based on last live births in the past five years, i.e., 2,470.
Figures in parentheses are based on 25-49 unweighted cases.

Only 4 percent of births were reported to occur outside a health facility (primarily at the respondent's home). However, it should be noted that the frequency of home delivery is decidedly higher among older women (7 percent), high order births (9 percent), and women residing in the Akhal (7 percent) and Dashoguz (10 percent) regions. Reliance on home delivery is greatest among women who had no antenatal care (22 percent) or between one and three antenatal visits (14 percent). These women are a small proportion of women giving birth in the last five years, but they represent a group that is disadvantaged both in terms of antenatal care and place of delivery.

Table 10.5 presents information on the person assisting at delivery for all births during the five years before the survey. Almost all births (97 percent) are delivered under the supervision of a medically trained person: 82 percent by a doctor and 15 percent by a nurse or midwife.

Table 10.5 Assistance during delivery

Percent distribution of live births in the five years preceding the survey by type of assistance during delivery, according to background characteristics, Turkmenistan 2000

Background characteristic	Attendant assisting during delivery[1]						Total	Number
	Doctor	Trained nurse/ midwife	Traditional birth attendant	Relative/ other	No one	Don't know/ missing		
Mother's age at birth								
<20	82.0	14.9	1.0	1.5	0.0	0.6	100.0	224
20-34	81.9	15.4	0.9	0.6	0.1	1.1	100.0	3,075
35+	80.5	16.5	1.2	1.5	0.0	0.4	100.0	284
Birth order								
1	85.3	13.0	0.5	0.4	0.1	0.8	100.0	1,176
2-3	82.0	14.9	1.0	0.5	0.1	1.4	100.0	1,672
4-5	76.0	20.6	1.7	1.1	0.0	0.7	100.0	523
6+	74.9	20.5	1.0	3.4	0.0	0.3	100.0	212
Residence								
Urban	88.1	10.1	0.2	0.4	0.1	1.1	100.0	1,413
Rural	77.7	18.9	1.4	1.0	0.1	1.0	100.0	2,171
Region								
Ashgabad City	94.5	4.9	0.0	0.0	0.0	0.6	100.0	356
Akhal	81.8	10.9	4.2	1.2	0.0	1.9	100.0	507
Balkan	77.2	19.0	1.1	1.6	0.0	1.2	100.0	277
Dashoguz	82.9	14.2	1.1	1.4	0.0	0.4	100.0	801
Lebap	73.4	26.4	0.0	0.2	0.0	0.0	100.0	729
Mary	83.9	13.2	0.0	0.3	0.4	2.1	100.0	914
Mother's education								
Primary/secondary	80.9	15.5	1.3	1.0	0.1	1.1	100.0	2,523
Secondary-special	82.1	17.0	0.2	0.1	0.0	0.7	100.0	793
Higher	88.8	9.8	0.0	0.0	0.0	1.4	100.0	267
Ethnicity								
Turkmen	81.7	15.3	1.0	0.8	0.1	1.2	100.0	2,939
Uzbek	78.4	19.6	1.2	0.1	0.0	0.8	100.0	423
Other	89.3	8.6	0.0	1.4	0.7	0.0	100.0	221
No. of antenatal care visits								
None	(65.5)	(15.3)	(9.2)	(0.0)	(10.0)	(0.0)	100.0	3.4
1-3 visits	72.8	19.6	2.7	2.3	0.0	2.6	100.0	104
4+ visits	83.7	14.5	0.6	0.7	0.0	0.4	100.0	2,044
Don't know/missing	79.0	17.0	0.9	0.0	0.0	3.0	100.0	288
Total	81.8	15.4	0.9	0.7	0.1	1.0	100.0	3,583

Note: Figures are for births in the period 0-59 months preceding the survey, except in the case of antenatal care visits. Figures for antenatal care visits are based on last live births in the last five years, i.e., 2,740. Figures in parentheses are based on 25-49 unweighted cases.

[1]If the respondent mentioned more than one attendant, only the most qualified attendant is considered.

Although trained medical staff attend the delivery of most births, differentials by urban-rural residence and by region exist in the percentage of deliveries attended by a doctor or, alternatively, by a nurse or midwife. As might be expected, doctors attend more deliveries in urban areas (88 percent) than in rural areas (78 percent). Similarly, doctors attend more deliveries in Ashgabad City (95 percent) than in the other regions (between 73 and 84 percent). As observed with antenatal care, the likelihood of delivery occurring under a doctor's supervision increases with a women's education.

10.5 Delivery Characteristics

The TDHS obtained information on a number of other indices of maternal and child health, including whether delivery was by caesarean section and the child's birth weight. Respondents were asked whether their children were weighed at the time of birth, and if so, how much each baby weighed. They were also asked for their subjective assessment of their baby's size at birth (very large, larger than average, average size, smaller than average, or very small).

Delivery by caesarean section is generally performed when a woman has medical problems or experiences complications at the time of delivery. Table 10.6 shows that 3 percent of births in the five-year period before the survey were delivered by caesarean section. Delivery by caesarean section was more common among births to women age 35 and older, women residing in urban areas, women with a higher education, and women of other ethnicity. The rate of caesarean section among births in Ashgabad City (8 percent) is significantly higher than among births in the other regions (from 2 to 4 percent).

Birth weight is a major determinant of infant and child mortality. In the TDHS, for all births during the five-year period preceding the survey, mothers were first asked to subjectively assess the size of their baby and then asked to report the actual weight if the baby had been weighed after delivery. Table 10.6 shows that the majority of babies were weighed at birth (97 percent). The incidence of low birth weight (i.e., less than 2.5 kilograms), which is considered to elevate the risk of early infant death, was 6 percent.

10.6 Postnatal Care

Because rates of maternal and infant mortality are particularly high in the first few days after delivery, safe motherhood programs stress the importance of postnatal care within two days of delivery. In the TDHS, all women whose last live birth in the five years preceding the survey occurred outside a health facility were asked whether they received postnatal care.

Deliveries outside a health facility constitute a small percentage of all deliveries in Turkmenistan, on the order of 5 percent. Table 10.7 indicates that the majority of the women delivering outside a health facility (72 percent) had a postnatal health check by either a doctor (30 percent) or a nurse or midwife (42 percent). Additionally, the majority of these women (61 percent) received postnatal care within two days of delivery.

Table 10.6 Delivery characteristics:

Percent distribution of live births in the five years preceding the survey by whether the delivery was by caesarean section, by birth weight, and by mother's estimate of baby's size at birth, according to background characteristics, Turkmenistan 2000

Background characteristic	Had caesarean section	Birth weight				Size at birth				Total
		Not weighted	<2.5 kg	2.5+ kg	Does not know/ missing	Very small	Smaller than average	Average or larger	Does not know/ missing	
Mother's age at birth										
<20	1.0	3.1	8.9	85.9	2.1	3.1	11.4	82.4	3.2	224
20-34	3.0	2.4	5.6	89.7	2.4	1.8	11.0	84.7	2.5	3,075
35+	5.8	3.3	4.6	89.1	2.9	1.8	7.4	86.8	4.0	284
Birth order										
1	3.5	1.7	7.7	88.6	1.9	1.9	15.1	81.0	2.0	1,176
2-3	2.8	2.4	5.0	90.8	1.8	2.1	9.0	86.5	2.4	1,672
4-5	2.6	2.8	4.4	89.3	3.5	1.8	7.6	88.0	2.6	523
6+	4.5	6.8	3.7	82.5	6.9	0.0	8.1	83.7	8.1	212
Residence										
Urban	4.2	0.9	4.7	92.6	1.8	1.8	9.6	86.8	1.9	1,413
Rural	2.4	3.5	6.4	87.3	2.8	1.9	11.5	83.4	3.1	2,171
Region										
Ashgabad City	8.1	0.9	2.9	95.6	0.6	1.0	6.9	91.1	1.1	356
Akhal	2.7	5.3	3.2	89.6	1.8	2.1	10.4	82.4	5.2	507
Balkan	3.8	0.6	7.9	86.8	4.6	2.0	16.9	77.3	3.7	277
Dashoguz	2.5	5.6	6.2	83.3	5.0	2.1	12.8	81.1	4.0	801
Lebap	3.3	0.3	6.3	92.6	0.7	1.1	6.6	92.1	0.2	729
Mary	1.6	1.1	6.7	90.4	1.9	2.5	12.0	83.2	2.3	914
Mother's education										
Primary/secondary	2.2	3.2	6.4	87.6	2.8	1.8	12.2	82.7	3.2	2,523
Secondary-special	5.1	0.8	4.3	93.4	1.5	1.9	8.0	88.9	1.1	793
Higher	5.5	1.1	3.4	94.4	1.1	2.7	4.4	91.5	1.3	267
Ethnicity										
Turkmen	2.7	2.3	5.5	89.5	2.7	1.9	10.8	84.4	2.8	2,939
Uzbek	2.7	3.0	7.5	88.9	0.6	1.8	10.6	85.8	1.8	423
Other	9.3	4.4	5.0	88.8	1.8	1.4	9.5	87.5	1.6	221
Total	3.1	2.5	5.7	89.4	2.4	1.9	10.7	84.8	2.6	3,583

10.7 VACCINATIONS

The Ministry of Health and Medical Industry has adopted the child immunization guidelines developed by the World Health Organization. The guidelines indicate that before 12 months of age, a child should receive a BCG vaccination to protect against tuberculosis; three doses of DPT/DT to protect against diphtheria, pertussis, and tetanus; three doses of the polio vaccine; and a measles vaccination.

Table 10.7 Timing of postnatal care and care providers

Percent distribution of women who had a live birth outside of a health facility in the five years preceding the survey by timing and type of postnatal care provider, Turkmenistan 2000

Background characteristic	Percent
Timing of first postnatal checkup	
Within 2 days of birth	61.3
3-7 days of birth	10.8
4+ weeks after birth	0.7
Don't know/missing	1.3
Did not receive postnatal care	25.9
Provider of postnatal care[1]	
Doctor	29.6
Trained nurse/midwife	42.1
Traditional birth attendant	0.6
Don't know/missing	1.9
No postnatal care	25.9
Total	100.0
Number	115

Note: For women with two or more live births in the five-year period, data refer to the last live birth.
[1]If the respondent mentioned more than one provider, only the most qualified is considered in this tabulation.

In Turkmenistan, as in many countries of the former Soviet Union, child vaccination data are recorded on health cards maintained at health facilities. The supervisors of the TDHS interviewing teams were responsible for collecting these data. With the help of health facility personnel, usually a nurse or archive clerk, the team supervisors obtained the health cards of the surviving children of survey respondents who were born within the last five years. The team supervisors recorded the vaccination data for each child on forms designed for that purpose.

Table 10.8 shows rates of vaccination coverage for children 12-23 months of age, (i.e., children who should be fully vaccinated). The rates are based on the information from the health cards found for 94 percent of all children 12-23 months of age. The rates indicate that the childhood immunization program in Turkmenistan has achieved a high level of coverage. BCG vaccination and an initial dose of polio (polio 0), both of which are given in delivery hospitals, were found to be nearly universal (99 percent). Almost all children (99 percent) had received the first doses of polio and DPT/DT. Coverage for the second and third doses of polio and DPT/DT was also very high (98 and 97 percent). Ninety-seven percent of children had received a measles vaccination. Because of the high levels of coverage for BCG, measles, and individual doses of polio and DPT/DT vaccines, the percentage of children age 12-23 months who had received all WHO-recommended vaccinations was high (90 percent).

Table 10.8 Vaccinations by background characteristics

Among children age 12-23 months with a vaccination card, the percentage who had received specific vaccines by the time of the survey by background characteristics, Turkmenistan 2000

Background characteristic	Percentage of children who had received:										Number of children
	BCG	DPT 1	DPT 2	DPT 3	Polio 0[1]	Polio 1	Polio 2	Polio 3	Measles	All[2]	
Sex of child											
Male	99.1	99.5	98.2	98.2	98.0	100.0	100.0	98.5	92.7	90.4	287
Female	99.0	98.9	97.9	97.6	99.0	98.3	97.0	95.9	93.2	89.8	322
Birth order											
1	98.3	100.0	99.1	99.1	96.7	99.9	99.3	98.4	89.6	86.2	208
2-3	99.2	98.6	96.8	96.8	99.2	98.2	97.4	96.5	94.4	92.0	287
4-5	00.0	99.2	99.2	99.2	100.0	100.0	100.0	96.1	95.6	92.4	86
6+	(100.0)	(100.0)	(100.0)	(96.3)	(100.0)	(100.0)	(97.0)	(97.0)	(94.1)	(91.1)	28
Residence											
Urban	99.8	99.2	97.0	97.0	98.5	99.0	98.1	96.6	91.7	89.8	250
Rural	98.6	99.2	98.8	98.5	98.6	99.2	98.6	97.5	93.8	90.2	358
Region											
Ashgabad City	(100.0)	(100.0)	(96.9)	(96.9)	(94.4)	(100.0)	(100.0)	(96.8)	(90.6)	(87.4)	56
Akhal	97.6	100.0	97.5	96.3	97.6	98.8	97.5	96.1	81.8	79.3	85
Balkan	98.8	97.3	96.1	96.1	98.8	100.0	98.3	96.9	91.3	88.3	49
Dashoguz	00.0	99.5	99.5	99.5	100.0	98.9	98.9	97.6	92.9	91.0	124
Lebap	00.0	99.1	97.3	97.3	100.0	99.1	97.4	96.6	98.3	94.8	143
Mary	97.9	99.0	99.0	99.0	97.9	99.0	99.0	97.9	95.5	92.4	152
Education											
Primary/secondary	99.0	99.5	98.4	98.2	99.0	99.4	98.9	97.4	91.9	88.7	420
Secondary-special	98.8	97.9	96.2	96.2	98.8	97.9	96.2	95.4	95.1	92.2	138
Higher	(100.0)	(100.0)	(100.0)	(100.0)	(93.7)	(100.0)	(100.0)	(99.4)	(95.8)	(95.3)	51
Ethnicity											
Turkmen	99.2	99.5	98.4	98.2	98.5	99.4	98.5	97.2	92.8	90.3	494
Uzbek	00.0	100.0	98.3	98.3	100.0	99.0	99.0	97.4	93.8	89.5	77
Other	(95.9)	(94.2)	(92.6)	(92.6)	(95.9)	(95.9)	(95.9)	(95.1)	(93.4)	(88.5)	39
Total	99.1	99.2	98.1	97.9	98.5	99.1	98.4	97.1	92.9	90.0	609

Note: Figures in parentheses are based on 25-49 unweighted cases.
[1]Polio 0 is the polio vaccination given at birth.
[2]Children who are fully vaccinated, i.e., those who have received BCG, measles, and three doses each of DPT and polio vaccine (excluding polio vaccine given at birth)

10.8 Acute Respiratory Infection and Fever

Acute respiratory infection (ARI) is a primary cause of morbidity among children and a leading cause of infant mortality throughout the world. In the TDHS, mothers were asked whether their children under five years of age had been ill with a cough accompanied by short, rapid breathing in the two weeks preceding the survey. These symptoms are compatible with ARI. It should be noted that the morbidity data collected in the TDHS are subjective in the sense that they are based on the mother's perception of illness without validation by medical personnel. Also, the data apply to the period from June to September, while the peak prevalence of ARI is in midwinter.

Table 10.9 indicates that 0.8 percent of children under five years of age were ill with a cough accompanied by short, rapid breathing in the two weeks preceding the survey. Differentials in the prevalence of ARI exist by background characteristics, in particular by age, urban-rural

Table 10.9 Prevalence of symptoms of acute respiratory infection and fever

Percentage of children under five years of age who had a cough accompanied by short rapid breathing (symptoms of acute respiratory infection (ARI)) during the two weeks preceding the survey, and the percentage of children who had a fever during the two weeks preceding the survey, by background characteristics, Turkmenistan 2000

Background characteristic	Percentage of children with symptoms of ARI	Percentage of children with fever	Number of children
Child's age			
<6 months	0.5	2.1	356
6-11 months	0.3	7.5	336
12-23 months	0.8	5.3	646
24-35 months	1.2	5.2	629
35-47 months	1.0	3.7	690
48-59 months	0.6	0.8	635
Sex of child			
Male	1.0	4.3	1,664
Female	0.5	3.6	1,628
Residence			
Urban	1.3	6.3	1,310
Rural	0.4	2.5	1,982
Region			
Ashgabad City	3.2	9.2	332
Akhal	0.0	3.0	466
Balkan	1.3	4.6	259
Dashoguz	0.0	0.5	735
Lebap	0.2	2.6	692
Mary	1.3	6.5	808
Education			
Primary/secondary	0.6	3.1	2,305
Secondary-special	1.2	5.6	742
Higher	1.5	7.0	245
Total	0.8	4.0	3,292

residence and region. The reported prevalence of ARI symptoms is higher for urban than for rural areas and for Ashgabad City than for any other region. Whether these differentials reflect genuine differences in morbidity or are due to differences in perceptions of illness cannot be ascertained from these data.

Table 10.9 also indicates that 4 percent of children had an episode of fever during the two weeks prior to the survey. Differentials in the prevalence of fever show a pattern similar to that for symptoms of ARI. The reported prevalence of fever is higher for urban than for rural areas and for Ashgabad City than for any other region.

Overall, 51 percent of children with symptoms of ARI or fever were taken to a health facility or health care provider for treatment.

10.9 DIARRHEA

Dehydration caused by severe diarrhea is a major cause of morbidity among young children and an important cause of infant and child death.

Rehydration through the prompt increase in a child's fluid intake is a simple and effective procedure to prevent diarrhea from developing into a life-threatening illness. Increased fluid intake should be administered in the form of a sugar, salt, and water solution, i.e., oral rehydration salts (ORS). An ORS product called Rehydron is widely available throughout Turkmenistan.

Women who had had a birth in the past five years were asked some basic questions about how to care for a child with diarrhea; namely, if the intake of liquids and solid foods should be increased and if they had ever heard of Rehydron as a treatment for diarrhea. As indicated in Table 10.10, most women reported that they had heard of Rehydron (94 percent).

Mothers of children under age five were also asked whether their children had an episode of diarrhea in the past two weeks and, if so, whether Rehydron or any other treatment was given for the diarrhea and whether fluid intake was increased or decreased.

Table 10.11 indicates that 3 percent of children under five had diarrhea in the two weeks preceding the survey. The age pattern of diarrhea shows a peak at 6-11 and 12-23 months (i.e., around the time when a child begins to crawl and experience more exposure to the environment).

Table 10.10 Knowledge of ORS packets

Percentage of mothers with births in the five years preceding the survey who know about ORS packets for treatment of diarrhea in young children, by background characteristics, Turkmenistan 2000

Background characteristic	Percentage of mothers who know about ORS packets	Number of mothers
Age		
15-19	(85.3)	42
20-24	92.5	579
25-29	95.1	831
30-34	94.8	581
35+	95.4	437
Residence		
Urban	95.2	1,052
Rural	93.6	1,417
Region		
Ashgabad City	96.6	266
Akhal	95.0	352
Balkan	92.4	215
Dashoguz	92.8	520
Lebap	98.2	513
Mary	91.6	603
Education		
Primary/secondary	93.0	1,715
Secondary-special	96.8	560
Higher	99.0	194
Ethnicity		
Turkmen	95.2	1,992
Uzbek	92.1	295
Other	88.5	182
Total	94.3	2,470

Note: Figures in parentheses are based on 25-49 unweighted cases.
ORS = Oral rehydration salts

Table 10.11 Prevalence of diarrhea

Percentage of children under five years of age with diarrhea during the two weeks preceding the survey, by background characteristics, Turkmenistan 2000

Background characteristic	Diarrhea in preceding 2 weeks	Number of children
Child's age		
< 6 months	1.5	356
6-11 months	6.5	336
12-23 months	6.2	646
24-35 months	1.9	629
36-47 months	2.4	690
48-59 months	1.5	635
Sex		
Male	3.3	1,664
Female	3.1	1,628
Residence		
Urban	4.7	1,310
Rural	2.2	1,982
Region		
Ashgabad City	4.7	332
Akhal	2.1	466
Balkan	3.2	259
Dashoguz	1.5	735
Lebap	3.2	692
Mary	4.8	808
Education		
Primary/secondary	2.9	2,305
Secondary-special	3.2	742
Higher	6.2	245
Ethnicity		
Turkmen	2.8	2,681
Uzbek	3.6	401
Other	8.1	210
Total	3.2	3,292

Table 10.12 shows that 39 percent of children with diarrhea were taken to a health facility for treatment, 47 percent of children received Rehydron, and 62 percent of children received increased fluids. Overall, 76 percent of children with diarrhea received some form of oral rehydration therapy (Rehydron or increased fluids).

Table 10.13 summarizes the feeding practices that mothers followed when children had diarrhea. Ninety-one percent of children with diarrhea were given fluids in either the same or increased amounts, whereas only 8 percent were given reduced amounts of fluids. Alternatively, mothers reported a tendency to give less food to children with diarrhea.

10.12 Treatment of diarrhea

Among children under five years who had diarrhea in the two weeks preceding the survey, the percentage taken for treatment to a health provider, the percentage who received oral rehydration therapy (ORT) (solution prepared from ORS packets or increased fluids), Turkmenistan 2000

Treatment received	Percentage of children
Taken to a health facility or provider[1]	38.5
Received oral rehydration salts (Rehydron)	46.7
Received increased fluids	61.5
Received ORT (ORS or increased fluids)	75.9
Number of children	105

[1]Includes health center, hospital, clinic, and private doctor.

10.13 Feeding practices during diarrhea

Percent distribution of children under five years of age who had diarrhea in the two weeks preceding the survey, by amount of liquid given and amount of food given compared with normal practice, Turkmenistan 2000

Variable and category	Total
Amount of liquid offered	
Same as usual	29.7
More	61.5
Much less	7.8
Don't know/missing	1.0
Amount of food offered	
Same as usual	31.5
More	4.5
Much less	62.4
Don't know/missing	1.6
Total	100.0
Number	105

NUTRITION OF WOMEN AND CHILDREN 11

G.R. Dzhorayeva, G.Y. Khodzhayeva, and T.R. Tagirova

This chapter looks at several important aspects of the nutritional status of children and their mothers in Turkmenistan. It covers the following topics: 1) infant feeding practices, including breastfeeding and complementary feeding patterns and the prevalence of bottle-feeding; 2) current nutritional status of children under age five as well as that of their mothers based on anthropometric data (height and weight) collected in the survey; 3) levels of consumption of foods rich in vitamin A multivitamin supplementation, and the iodization of salt used in the household.

11.1 BREASTFEEDING AND SUPPLEMENTATION

The pattern of infant feeding has an important influence on the health of children. Feeding practices are the principal determinant of a young child's nutritional status, and poor nutritional status has been shown to increase the risk of illness and death among children. Breastfeeding practices also have an effect on the mother's fertility. Frequent breastfeeding for long durations is associated with longer periods of postpartum amenorrhea and thus longer birth intervals and lower fertility.

Early initiation of breastfeeding is beneficial for a number of reasons. For the mother, early suckling promotes the release of a hormone that helps the uterus achieve a contracted state and reduces the risk of postpartum hemorrhage. For the child, it is important to receive the colostrum, which is contained in the first breast milk after delivery. Colostrum is rich in antibodies that are needed since the child's own immune system is immature.

According to the results in Table 11.1, almost all Turkmen children are breastfed for some period. Differentials in the proportion of children ever breastfed are small, with 95 percent or more of children in every subgroup reported as ever breastfed.

Among Turkmen children who were ever breastfed, Table 11.1 shows that only 18 percent were put to the breast within an hour after delivery, and 76 percent were breastfed within the first day. Initiation within an hour of birth is more likely among urban women (21 percent) than among rural women (16 percent) and more likely in Akhal Region (33 percent) and Balkan Region (41 percent) than in other regions.

Prelacteal feeding is the practice of giving other liquids to a child during the period after birth before the mother's milk is flowing freely. Overall, according to Table 11.1, 18 percent of children born in the five years prior to the survey received prelacteal feeds during the first three days after birth. Infants in the Balkan and Lebap regions as well as infants born to mothers with secondary or higher education were much more likely to have received prelacteal feeds than other children.

Table 11.1 Initial breastfeeding

Percentage of children born in the five years preceding the survey who were ever breastfed, who started breastfeeding within one hour and within one day of birth, and who received a prelacteal feed, by background characteristics, Turkmenistan 2000

Background characteristic	Percentage ever breastfed	Percentage who started breastfeeding		Percentage who received prelacteal feeds[2]	Number of children
		Within 1 hour of birth	With in 1 day of birth[1]		
Sex of child					
Male	97.1	17.0	75.1	18.9	1,830
Female	97.2	19.1	76.5	16.7	1,753
Residence					
Urban	97.1	20.6	75.2	19.2	1,413
Rural	97.2	16.3	76.1	16.9	2,171
Region					
Ashgabad City	95.7	18.4	72.2	17.9	356
Akhal	96.9	33.0	84.2	14.4	507
Balkan	97.5	41.1	82.9	22.8	277
Dashoguz	98.7	16.7	85.6	4.8	801
Lebap	98.4	8.2	67.4	31.8	729
Mary	95.4	11.5	68.1	18.3	914
Total	97.1	18.0	75.8	17.8	3,583

Note: Figures are based on all children born in the five years preceding the survey, whether living or dead at the time of the interview.
[1]Includes children who started breastfeeding within one hour of birth
[2]Children given something other than breast milk during the first three days of life before the mother started breastfeeding regularly; excludes children given plain water.

11.2 BREASTFEEDING BY AGE

According to the UNICEF recommendation, during the first six months of life, children should be exclusively breastfed; that is, they should be given only breast milk and should not receive other complementary liquids (including plain water) or solids. Early complementary feeding is discouraged for a number of reasons. The early introduction of other liquids or foods increases the exposure of an infant to pathogens that may cause diarrheal disease. Malnutrition is another risk. The complementary foods given to a child may not provide all of the calories that the infant needs, particularly if they are watered down. Since the production of breast milk is influenced by the intensity and frequency of suckling, early complementary feeding may reduce breast milk output, again increasing the risk of malnutrition.

To obtain information on feeding patterns, mothers were asked about the breastfeeding status of all children under the age of five in the 24-hour period before the survey and about what other (if any) liquids or solids had been given to the child during the period. These data were used to derive the information on the age patterns of breastfeeding and supplementation presented in Table 11.2 and Figure 11.1.

The data shown in Table 11.2 and Figure 11.1 indicate that breastfeeding continues for most Turkmen children beyond the first year of life. At age 12-13 months, about three-quarters of all children are still being breastfed, and 61 percent of the children 16-17 months continue to be breastfed. Weaning takes place rapidly after this age, and about one in six children age 24-25 months are still breastfed.

Table 11.2 Breastfeeding status by child's age

Percent distribution of living children under three years of age by current breastfeeding status, according to child's current age in months, Turkmenistan 2000

Child's age in months	Not breast-feeding	Exclusively breast-fed	Breastfeeding and: Plain water only	Water-based liquids, juice	Other milk	Comple-mentary foods	Total	Using a bottle with a nipple	Number of children
0-1	2.5	26.5	35.3	31.2	3.0	1.6	100.0	35.2	96
2-3	4.6	8.4	20.2	48.4	7.9	10.5	100.0	38.4	135
4-5	5.6	5.1	9.5	28.2	7.2	44.3	100.0	35.0	125
6-7	10.9	4.3	4.6	16.1	2.6	61.5	100.0	34.0	109
8-9	14.8	0.0	0.0	2.4	2.7	80.1	100.0	28.1	103
10-11	12.8	1.3	1.6	0.8	0.0	83.5	100.0	18.6	124
12-13	25.5	0.0	0.3	0.0	0.0	74.2	100.0	11.3	136
14-15	22.9	0.0	0.0	0.7	0.0	76.4	100.0	8.8	92
16-17	39.1	0.0	0.0	0.0	0.0	60.9	100.0	5.5	102
18-19	62.9	0.0	0.0	0.0	0.0	37.1	100.0	4.7	105
20-21	69.0	0.0	0.0	0.6	0.0	30.4	100.0	7.4	102
22-23	77.0	0.0	0.0	0.0	0.0	23.0	100.0	3.6	108
24-25	82.3	0.0	0.0	0.0	0.0	17.7	100.0	3.4	127
26-27	90.2	0.0	0.0	0.0	0.0	9.8	100.0	0.6	109
28-29	90.0	0.0	0.0	0.0	0.0	10.0	100.0	3.3	103
30-31	95.0	0.0	0.0	0.0	0.0	5.0	100.0	0.0	87
32-33	97.4	0.0	0.0	0.0	0.0	2.6	100.0	1.8	110
34-35	97.8	0.0	0.0	0.0	0.0	2.2	100.0	1.6	92

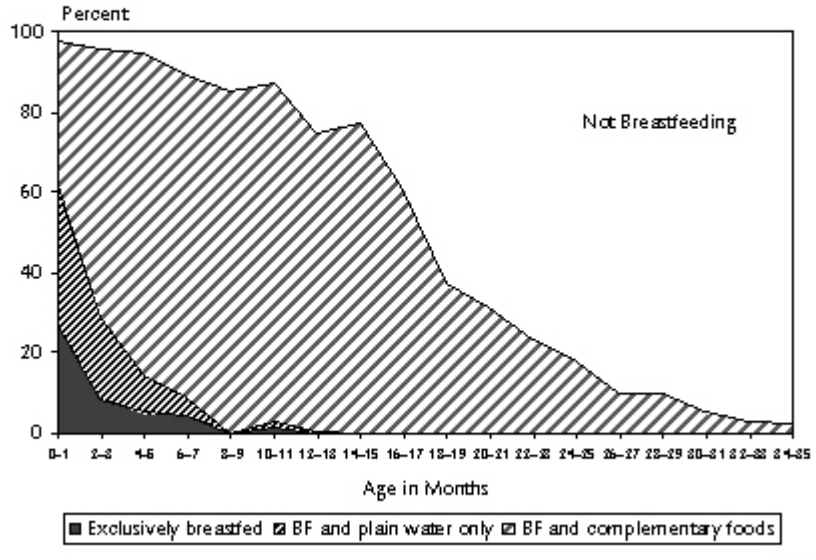
Note: Breastfeeding status refers to a 24 hour recall period (the day and night preceding the interview). Children classified as breastfeeding and plain water only receive no supplements. The categories of not breastfeeding, exclusively breastfeeding, breastfeeding and plain water, water-based liquids, other milk, and complementary foods (solids and semi-solids) are hierarchical and mutually exclusive, and their percentages add to 100 percent. Thus, a child who receives beast milk and water-based liquids and who does not receive complementary foods is classified in the water-based liquid category even though she/he may also get plain water. Any child who gets complementary food is classified in that category as long as she/he is breastfeeding as well. The percentages who use a bottle are based on all children.

Exclusive breastfeeding is not common in very early infancy in Turkmenistan. Only a minority of children are exclusively breastfed throughout the first six months of life. Table 11.2 shows that among infants under two months of age, 27 percent received only breast milk. The proportion exclusively breastfed then dropped off to just 8 percent among children 2-3 months of age, and 5 percent among children 4-5 months of age.

It is important to introduce complementary foods by age 6 months since at that stage, the mother's breast milk no longer provides adequate nutrition for the child. The results in Table 11.2 indicate that most older children were receiving other foods or milk in addition to breast milk. At 8-9 months, however, about one in six children was not being given complementary foods or other milk in addition to breast milk.

The extent to which Turkmen children are bottle-fed is also examined in Table 11.2 Bottle-feeding is discouraged for the potential negative effects that it may have on the child's health. Feeding with a bottle with a nipple increases the risk of illness, especially diarrheal disease among young children because it is difficult to properly sterilize the nipple. The use of a bottle with a nipple can also reduce the period when the mother is not at risk of conception since bottle-feeding is associated with a lessening of the intensity of breastfeeding and a consequent shortening of the period of postpartum amenorrhea.

Figure 11.1 Distribution of Children by Breastfeeding (BF) Status According to Age



Overall, only a minority of Turkmen children are fed with a bottle. Only about one-third of children under the age of 9 months are fed with a bottle. With increasing age, the percentage of children fed with a bottle decreases.

11.3 Duration and Frequency of Breastfeeding

Median durations of breastfeeding are presented in Table 11.3. The table also includes estimates of the mean duration of breastfeeding for all children under age three years. Estimates of the mean durations are based on current status information[1] and are presented to allow comparison with other studies of breastfeeding that report mean rather than median durations.

The median duration of breastfeeding is 17.5 months. Children are exclusively breastfed or predominantly breastfed for less than the recommended 6 months (0.5 months and 4.5 months, respectively).

Considering differentials in the median duration of breastfeeding, there were no differences between male and female children or between urban and rural children. By place of residence, the shortest median duration of breastfeeding was in Ashgabad City (15.1 months).

[1] Current status estimates of the median and mean durations of breastfeeding are calculated from the proportion of children who were reported to be currently breastfeeding by age. The current status mean and median durations differ because the mean is affected by the small number of extreme values at the upper end of the distribution, while the median is not.

Table 11.3 Median duration and frequency of breastfeeding

Median duration of any breastfeeding, exclusive breastfeeding, and predominant breastfeeding among children under three years of age living with their mother, and the percentage of breastfeeding children under six months who were breastfed six or more times in the 24 hours preceding the survey, and the mean number of feeds (day/night), by background characteristics, Turkmenistan 2000

Background characteristic	Median duration of breastfeeding among children under 3 years of age[1]				Children under six months[2]			
	Any breast-feeding	Exclusive breast-feeding	Predominant breast-feeding[3]	Number of children	Percentage breastfed 6+ times in last 24 hours	Mean number of day feeds	Mean number of night feeds	Number of children
Sex								
Male	17.9	0.6	4.4	996	95.6	6.2	2.9	181
Female	17.3	0.5	4.6	969	97.0	6.3	3.2	159
Residence								
Urban	17.2	0.6	4.2	774	98.8	6.7	3.4	121
Rural	17.8	0.4	4.6	1,190	94.8	6.0	2.9	219
Region								
Ashgabad City	15.1	1.5	4.0	198	*	*	*	40
Akhal	17.5	0.6	4.4	285	(95.5)	(5.7)	(3.4)	48
Balkan	20.8	0.8	4.8	156	90.5	6.9	2.6	24
Dashoguz	19.2	0.5	5.4	441	98.5	6.6	2.9	82
Lebap	18.0	0.4	4.9	419	97.1	6.5	2.6	81
Mary	16.7	0.4	3.3	466	(92.8)	(5.5)	(3.1)	65
Mother's education								
Primary/secondary	17.7	0.5	4.5	1,406	96.1	6.3	3.1	257
Secondary-special	17.1	0.4	3.6	413	97.5	6.6	2.9	59
Higher	16.2	0.6	5.6	145	*	*	*	24
Ethnicity								
Turkmen	17.6	0.5	4.5	1,600	96.1	6.3	3.1	279
Uzbek	17.6	0.5	5.3	240	96.0	6.3	3.0	45
Other	15.6	0.5	3.2	124	*	*	*	16
Total	17.5	0.5	4.5	1,965	96.2	6.3	3.1	340
Mean for all children	18.3	1.6	5.3	na	na	na	na	na

Note: Medians and means are based on current status. Figures in parenthesis are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
na = Not applicable
[1] All children whether living or dead
[2] Excludes children for whom there is no valid answer on the number of times breastfed.
[3] Either exclusively breastfed or received breast milk and plain water, liquids, and/or juice only.

The frequency of breastfeeding during the 24-hour period before the survey is examined in Table 11.3. The duration of postpartum amenorrhea for a mother is related not only to the duration of breastfeeding but also to the frequency of breastfeeding.

Among children under age 6 months, 96 percent were breastfed at least 6 times during the 24-hour period before the survey. Mothers reported a mean number of 6.3 daytime feeds and 3.1 nighttime feeds. No significant differences in the measures of breastfeeding frequency were observed by background characteristics.

11.4 COMPLEMENTARY FOODS

More detailed information on the types of foods given to children during the 24-hour period before the survey is shown in Table 11.4 for children under age 3, according to the breastfeeding status of the child. Overall, the results suggest that Turkmen mothers are much less likely to give a child infant formula than other types of milk (e.g., fresh milk or powdered milk) or other liquids. As expected, milk supplements are introduced at an earlier age among nonbreastfeeding children than among breastfeeding children.

Looking at semisolid or solid foods, fruits and vegetables (e.g., apples/sauce, pears, tomatoes) are the most common weaning foods, followed by grain-based foods (e.g., porridge), meat, fish, and poultry. In general, all of these foods are introduced earlier into the diets of nonbreastfeeding children than breastfeeding children, and especially during the first year of life, nonbreastfeeding children are much more likely than breastfeeding children to be given these types of foods. After age 12 months, breastfeeding children continue to be less likely than nonbreastfeeding children to receive most foods in the 24-hour period before the survey.

Table 11.4 Foods consumed by children in preceding 24 hours

Percentage of youngest child under three years of age living with the mother who received specific foods in the 24 hours preceding the interview, by breastfeeding status and child's age, Turkmenistan 2000

Child's age in months	Infant formula	Other milk/ cheese/ yogurt	Liquids other than water	Grains/ bread cereal/ porridge	Fruit vegetables	Beans/ legumes/ lentils	Meats/ fish/ poultry eggs	Any solid food	Foods rich in vitamin A	Number of children
BREASTFEEDING CHILDREN[1]										
<2	2.2	0.9	34.5	0.0	1.6	0.0	0.0	1.6	1.6	93
2-3	6.6	12.1	64.4	3.0	5.7	0.5	0.0	7.4	4.3	129
4-5	6.5	34.9	79.0	30.9	31.5	0.0	8.0	43.2	27.9	118
6-7	5.4	44.9	89.6	53.6	57.1	2.2	26.6	68.4	54.4	97
8-9	8.6	78.1	95.4	83.7	90.4	14.7	51.9	93.3	87.0	88
10-11	3.2	82.1	95.8	90.6	91.5	15.8	61.3	95.8	83.5	108
12-13	2.5	91.5	98.4	95.5	95.4	13.8	74.5	98.4	88.4	101
14-15	3.0	85.0	96.3	96.8	96.3	25.4	84.6	99.1	86.7	71
16-17	0.0	91.4	99.0	96.9	99.0	29.0	81.9	100.0	95.2	62
18-23	4.2	94.6	99.3	99.3	98.1	21.8	82.9	99.3	96.8	96
24-35	0.0	91.2	100.0	98.7	100.0	17.7	84.1	100.0	93.3	53
<4	4.8	7.4	51.8	1.7	4.0	0.3	0.0	4.9	3.1	222
4 to 5	6.5	34.9	79.0	30.9	31.5	0.0	8.0	43.2	27.9	118
6 to 9	6.9	60.6	92.3	67.9	73.0	8.2	38.6	80.2	69.9	185
Total	4.3	59.7	84.6	62.6	64.2	11.1	45.0	68.3	60.1	1,016
NONBREASTFEEDING CHILDREN[1]										
0-11	44.2	75.1	90.4	76.8	76.2	7.9	45.8	80.0	65.8	59
12-15	(7.1)	(97.8)	(100.0)	(100.0)	(93.9)	(28.2)	(92.6)	(100.0)	(88.0)	56
16-17	(9.5)	(100.0)	(98.2)	(94.9)	(100.0)	(22.4)	(87.6)	(100.0)	(91.6)	40
18-23	3.5	94.2	98.5	96.8	100.0	29.1	91.2	100.0	94.5	220
24-29	2.0	95.5	99.6	99.1	100.0	32.8	93.0	100.0	95.2	295
30-35	2.3	92.1	100.0	96.6	99.8	28.6	95.9	100.0	94.8	280
Total	5.7	93.2	98.9	96.3	98.1	28.4	90.3	98.8	92.5	949

Note: Percentages may sum to more than 100.0 because a child may have received more than one type of supplement in the last 24 hours. Figures in parentheses are based on 25-49 unweighted cases.
[1] Breastfeeding status refers to a 24 hour recall period (i.e., the day and night preceding the interview).

After age 12 months, about 90 percent of breastfeeding and nonbreastfeeding children receive foods rich in vitamin A.

11.5 Nutritional Status of Children

Nutritional status is a primary determinant of a child's health and well-being. Both inadequate or unbalanced diets and chronic illness are associated with poor nutritional status among children. The TDHS 2000 included the collection of anthropometric data that permit an assessment of the nutritional status of young children in Turkmenistan.

To assess nutritional status, measurements of height and weight[2] were obtained 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:

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

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

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 result of a failure to receive adequate nutrition over a long period of time or of the effects of recurrent or chronic illness. Height-for-age therefore represents a measure of the outcome of malnutrition in a population over a long period and does not vary appreciably with the season of data collection.

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

[2] Although the term "height" 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 that displays weights in increments of 0.1 kg.

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

Anthropometric data collection was conducted in all households in the TDHS 2000 sample. The anthropometric data were reported for the survey respondents (women age 15-49) and their children born since 1995.

Table 11.5 shows the proportions of children born to TDHS respondents and under age five who are classified as malnourished according to the three measures of nutritional status, i.e., height-for-age, weight-for-height, and weight-for-age, by selected demographic characteristics of the child.

Table 11.5 Nutritional status of children by demographic characteristics

Percentage of children under five years classified as malnourished according to three anthropometric indices of nutritional status: height-for-age, weight-for-height, and weight-for-age, by demographic characteristics, Turkmenistan 2000

Demographic characteristic	Height-for-age			Weight-for-height			Weight-for-age			Number of children
	Percentage below -3 SD	Percentage below -2 SD[1]	Mean Z-score (SD)	Percentage below -3 SD	Percentage below -2 SD[1]	Mean Z-score (SD)	Percentage below -3 SD	Percentage below -2 SD[1]	Mean Z-score (SD)	
Age										
<6 months	2.4	8.6	-0.1	0.9	5.5	0.1	0.4	4.8	0.1	309
6-9 months	6.1	20.1	-0.8	1.0	8.1	0.1	3.7	14.6	-0.6	182
10-11 months	2.9	17.9	-0.8	1.2	2.9	0.0	3.4	13.5	-0.7	113
12-15 months	1.2	31.3	-1.3	0.6	7.3	-0.2	5.0	25.1	-1.1	201
16-23 months	2.4	36.3	-1.5	1.9	6.4	-0.2	1.2	16.2	-1.0	369
24-35 months	8.3	22.6	-1.1	0.3	4.8	-0.1	1.7	10.8	-0.8	572
36-47 months	7.9	22.0	-1.0	1.9	5.3	-0.2	1.7	10.7	-0.9	622
48-59 months	5.1	19.3	-1.0	1.5	6.1	-0.2	0.6	10.0	-0.8	560
Sex										
Male	7.6	23.9	-1.1	1.6	6.5	-0.1	1.8	12.4	-0.8	1,478
Female	7.1	20.8	-0.9	0.9	5.0	-0.1	1.7	11.6	-0.7	1,449
Birth order										
1	7.8	21.1	-1.0	1.5	5.8	-0.1	1.7	10.9	-0.7	972
2-3	6.9	22.1	-1.0	0.9	5.1	-0.1	1.5	11.9	-0.7	1,352
4-5	7.5	22.6	-1.1	1.5	7.8	-0.2	2.2	13.4	-0.8	430
6+	7.8	30.5	-1.3	1.5	5.5	-0.2	2.2	15.3	-1.0	174
Birth interval										
First birth	7.8	21.1	-1.0	1.5	5.7	-0.1	1.7	10.9	-0.7	976
<24 months	6.3	24.1	-1.1	1.3	5.3	-0.2	1.8	12.2	-0.8	704
24-47 months	8.2	23.7	-1.1	1.4	6.7	-0.2	2.3	14.2	-0.8	856
48+ months	6.3	19.3	-0.8	0.2	4.4	-0.1	0.5	9.6	-0.6	392
Total	7.4	22.3	-1.0	1.2	5.7	-0.1	1.7	12.0	-0.7	2,928

Note: Figures are for children under age five whose mother was a survey respondent. Each index is expressed in terms of the number of standard deviation (SD) units from the median of the NCHS/CDC/WHO International Reference Population. Children are classified as undernourished if their z-scores are below minus two or minus three standard deviations (-2 SD or -3SD) from the median of the reference population.
[1]Includes children who are below -3 SD from the International Reference Population median.

An examination of the data on height-for-age in Table 11.5 shows that overall, 22 percent of children under age five are stunted, and 7 percent are severely stunted. A child's age is associated with the likelihood of stunting. Stunting increases rapidly with age, from only 9 percent among children under 6 months of age to 36 percent among children 16-23 months, before falling to 19 percent among children age 4 and older. Levels of stunting are slightly higher for male children than for female children. Stunting is higher among children of birth order six or higher compared with other children. It varies inversely with the length of the birth interval. A child born less than 24 months after an elder sibling is more likely to be stunted than a child born 48 months or longer after an elder sibling.

The weight-for-height index provides a measure of wasting, or acute malnutrition. Overall, nearly 6 percent of Turkmen children are wasted. Wasting is more common among children 6-9 months (8 percent) than among children under 6 months of age (6 percent) or age 10-11 month (3 percent). The levels of wasting among children of age 12-59 months are between 5 and 7 percent. Regarding the other demographic characteristics presented in Table 11.5, there are generally only minor variations in the level of wasting.

Reflecting the effects of both chronic and short-term malnutrition, 12 percent of children under age five are underweight for their age. Low weight-for-age is more common among children 12-15 months (25 percent) than among older or younger children. It generally increases with birth order and is higher among children born less than 48 months than among children born more than 48 months after a prior birth.

Table 11.6 shows the proportions of children born to TDHS respondents and under age five who are classified as malnourished according to socioeconomic characteristics of the child's mother. The table shows that there are marked socioeconomic differentials in stunting. Children in rural areas are more likely to be stunted than urban children (24 percent and 20 percent, respectively). The percentage stunted varies greatly by place of residence, ranging from only 13 percent in Ashgabad City to 27 percent in Dashoguz Region.

The educational level of the mother is inversely related to the level of stunting. Among children whose mother has primary/secondary or no education, 23 percent are stunted, compared with 20 and 19 percent of children whose mother completed the secondary-special or higher levels of education, respectively. Children of mothers of Turkmen or Uzbek ethnicities are somewhat more likely to be stunted than children of other ethnicities (23, 22, and 19 percent, respectively).

With respect to weight-for height (wasting) index, Table 11.6 shows that wasting is more common among children living in Ashgabad City and Mary Region than in other survey regions. Surprisingly, children born to mothers with higher education are more likely to be wasted than children born to mothers with lower levels of education. Children of Uzbek ethnicity are less likely to be wasted than children of Turkmen and other ethnicities.

Considering the effects of both chronic and short-term malnutrition, low weight-for-age is slightly more common among children living in Dashoguz Region (16 percent) than among children living in other regions (between 8 and 12 percent). The index is lower among children born to a mother with higher education (9 percent) and among children of other ethnicities (7 percent) than among children with other socioeconomic characteristics.

Table 11.6 Nutritional status of children by background characteristics

Percentage of children under five years of age classified as malnourished according to three anthropometric indices of nutritional status: height-for-age, weight-for-height, and weight-for-age, by background characteristics, Turkmenistan 2000

Background characteristic	Height-for-age			Weight-for-height			Weight-for-age			Number of children
	Percentage below -3 SD	Percentage below -2 SD[1]	Mean Z-score (SD)	Percentage below -3 SD	Percentage below -2 SD[1]	Mean Z-score (SD)	Percentage below -3 SD	Percentage below -2 SD[1]	Mean Z-score (SD)	
Residence										
Urban	6.8	19.5	-0.9	1.9	6.6	-0.1	2.1	12.0	-0.7	1,101
Rural	7.7	24.1	-1.1	0.9	5.2	-0.1	1.5	12.0	-0.8	1,827
Region										
Ashgabad city	7.9	13.3	-0.7	3.9	10.9	-0.2	2.6	11.7	-0.6	228
Akhal	7.2	24.0	-1.0	1.2	5.3	-0.0	1.0	7.6	-0.6	430
Balkan	4.2	14.3	-0.8	1.3	3.8	-0.3	2.7	11.6	-0.8	247
Dashoguz	8.6	27.2	-1.2	0.9	5.0	-0.1	2.6	16.0	-0.9	635
Lebap	7.0	21.9	-1.0	0.6	3.6	-0.0	1.3	12.1	-0.6	668
Mary	7.7	23.1	-1.0	1.2	7.6	-0.2	1.1	11.2	-0.8	720
Mother's education										
Primary/Secondary	7.7	23.4	-1.1	1.0	5.4	-0.1	1.8	12.3	-0.8	2,054
Secondary-special	6.5	20.0	-0.9	1.6	5.8	-0.2	1.7	11.8	-0.7	662
Higher	6.6	19.2	-0.8	2.7	8.7	-0.1	1.2	9.3	-0.6	212
Ethnicity										
Turkmen	7.4	22.6	-1.0	1.2	6.0	-0.1	1.7	12.3	-0.8	2,405
Uzbek	7.1	22.0	-1.1	0.5	3.2	0.0	2.1	12.3	-0.6	358
Other	6.9	19.1	-0.7	3.1	7.7	-0.1	1.4	7.0	-0.6	164
Total	7.4	22.3	-1.0	1.2	5.7	-0.1	1.7	12.0	-0.7	2,928

Note: Figures are for children under age five whose mother was a survey respondent. Each index is expressed in terms of the number of standard deviation (SD) units from the median of the NCHS/CDC/WHO International Reference Population. Children are classified as undernourished if their z-scores are below minus two or minus three standard deviations (-2 SD or -3SD) from the median of the reference population.
[1]Includes children who are below -3 SD from the International Reference Population median.

11.6 NUTRITIONAL STATUS OF WOMEN

In the TDHS 2000, data were collected on the height and weight of women 15-49 years of age. The anthropometric measurements were obtained for 7,340 of the surveyed women. Three indices of women's nutritional status are presented in this report: height, weight, and body mass index (BMI)—an indicator combining height and weight data.

Table 11.7 shows the percent distribution of women by height. Maternal height is an outcome of nutrition during childhood and adolescence. It is useful in predicting the risk of difficult delivery since small stature is frequently associated with small pelvis size. The risk of low birth weight babies is also higher for short women. The cutoff point, i.e., the height below which a woman is considered to be at nutritional risk, is in the range of 140 to 150 centimeters. The mean height of mothers measured in the TDHS 2000 was 159 centimeters. About 5 percent fell below the cutoff point; less than 1 percent were shorter than 145 centimeters and 4 percent were in the 145 to 149 centimeter range.

Low prepregnancy weight is associated with unfavorable pregnancy outcomes, although maternal height must also be taken into account. Excluding women who were pregnant or had a birth within two months of the interview, the mean weight of women age 15-49 in Turkmenistan is 60 kilograms.

Table 11.7 Anthropometric indicators of women's nutritional status

Percent distribution, mean, and standard deviation for all women by height, weight, and body mass index (BMI), Turkmenistan 2000

Indicator	Percent distribution of women	
	Excluding missing	Including missing
Height (cm)		
130.0-134.9	0.0	0.0
135.0-139.9	0.1	0.1
140.0-144.9	0.6	0.6
145.0-149.9	4.3	4.2
150.0-154.9	18.2	17.8
155.0-159.9	32.1	31.5
160.0-164.9	28.9	28.3
165.0-169.9	12.3	12.1
170.0-174.9	2.9	2.8
175.0-179.9	0.4	0.4
180.0+	0.1	0.1
Missing	-	2.1
Mean	159.0	-
Standard deviation	5.8	-
Number of women	7,754	7,919
Weight (kg)		
35.0-39.9	1.1	1.1
40.0-49.9	22.1	21.6
50.0-59.9	37.3	36.5
60.0-69.9	22.1	21.6
70.0+	17.5	17.1
Missing	-	2.0
Mean	59.5	-
Standard deviation	13.1	-
Number of women	7,319	7,472
BMI[1] (Kg/m^2)		
12.0-15.9 (Severe)	0.9	0.8
16.0-16.9 (Moderate)	2.0	1.9
17.0-18.4 (Mild)	7.0	6.9
18.5-20.4 (Normal)	19.1	18.6
20.5-22.9 (Normal)	26.5	26.0
23.0-24.9 (Normal)	15.9	15.6
25.0-26.9 (Overwt.)	9.3	9.1
27.0-28.9 (Overwt.)	6.6	6.4
29.0-29.9 (Overwt.)	2.6	2.5
30.0+ (Obese)	10.2	10.0
Missing	-	2.2
Mean	23.5	-
Standard deviation	5.0	-
Number of women	7,308	7,472

[1]Excludes women who are pregnant and women who gave birth in the preceding 2 months.

Body mass indices, which take into account both height and weight, provide a better measure of a woman's nutritional status than height or weight alone. The most commonly used body mass index is the BMI, which is defined as weight in kilograms divided by the squared height in meters (kg/m^2). For the BMI, a cutoff of 18.5 has been recommended for assessing chronic energy deficiency among nonpregnant women. At the other end of the BMI scale, women are considered overweight if their BMI ranges between 25.0 and 29.9 and obese if their BMI is 30.0 or higher.

As Table 11.7 shows, excluding those who are pregnant, the mean BMI of Turkmen women is 23.5. Ten percent of women have a BMI below 18.5, the level indicating chronic energy deficiency. However, a substantial proportion of women (29 percent) had a BMI of 25.0 or higher, and about 10 percent had a BMI of 30.0 or higher; i.e., they are obese.

Table 11.8 shows mean values for women's height and BMI by background characteristics. There is little variation in women's mean height. There are significant differentials in the percentage of women with a BMI less than 18.5. Women in the 15-19 age group, those residing in rural areas and the Balkan and Mary regions, those with a primary/secondary education, and those of Turkmen and other ethnicities have relatively high percentages with a BMI below 18.5.

11.7 MICRONUTRIENTS

Vitamin A and other micronutrients such as iodine are found in small quantities in some foods. They are considered essential for normal sight, growth, and development. For example, vitamin A is important in protecting the body against some infectious illnesses such as measles and diarrheal disease. Severe vitamin A deficiency is associated with total loss of vision or with other vision impairments, including night blindness.

Table 11.8 Nutritional status of women by background characteristics

Among women age 15-49, mean height and percentage under 145 cm, mean body mass index (BMI), percentage whose BMI is below 18.5 and 30.0 or higher, by background characteristics, Turkmenistan 2000

Background characteristic	Height			Body mass index (kg/m²)[1]			
	Mean height in cm	Percentage below 145 cm	Number of women	Mean BMI	<18.5	30.0+	Number of women
Age							
15-19	158.6	0.8	1,548	21.3	16.2	1.6	1,517
20-24	159.3	0.2	1,517	21.9	12.3	3.0	1,351
25-29	159.8	0.4	1,236	22.9	11.3	7.4	1,088
30-34	159.3	0.9	1,033	24.0	7.6	11.7	972
35-39	158.6	0.9	944	24.8	6.1	14.9	922
40-44	158.6	1.2	830	26.4	4.6	21.3	821
45-49	158.2	1.2	645	27.2	3.1	28.0	645
Residence							
Urban	159.4	0.9	3,563	23.9	9.4	11.8	3,392
Rural	158.6	0.6	4,191	23.2	10.2	9.0	3,923
Region							
Ashgabad City	160.3	1.2	957	24.2	7.1	12.4	907
Akhal	159.6	0.5	1,134	23.6	8.7	10.6	1,066
Balkan	158.5	0.8	702	23.6	13.4	12.1	675
Dashoguz	158.0	1.2	1,608	23.1	10.4	8.4	1,511
Lebap	158.9	0.6	1,602	23.7	8.4	10.5	1,494
Mary	159.0	0.4	1,751	23.3	11.5	9.7	1,663
Mother's education							
Primary/secondary	158.7	0.8	5,696	23.3	10.6	9.5	5,372
Secondary-special	159.7	0.9	1,516	24.2	8.0	13.0	1,435
Higher	160.2	0.0	542	24.1	8.1	10.6	508
Ethnicity							
Turkmen	158.9	0.6	6,073	23.4	10.1	9.9	5,724
Uzbek	158.4	1.0	847	23.5	8.0	9.5	789
Other	160.3	1.1	834	24.0	9.8	13.6	803
Total	159.0	0.7	7,754	23.5	9.9	10.3	7,316

[1] Excludes women who are pregnant and women who gave birth in the preceding 2 months

Table 11.9 presents information on children under three years of age who consumed foods rich in vitamin A, such as foods made from pumpkin, carrots, green leafy vegetables, meat, poultry, fish, or eggs. Eighty percent of children in Turkmenistan received foods rich in vitamin A. There is little variation in the percentage of children who received food rich in vitamin A by their age, sex, birth order, residence, region, and mother's age.

Table 11.9 also shows the percentage of children under age three who received supplements of multivitamins during the six months preceding the survey according to the mother's report. The table shows that 15 percent of children in Turkmenistan have received a multivitamin capsule/tablet. Boys are more likely than girls to receive multivitamins (17 and 14 percent, respectively), and the likelihood of having received them generally decreases with the child's birth order. Percentage of children who had received the multivitamins is higher in urban areas (18 percent) than in rural areas (14 percent).

Table 11.9 Micronutrient intake among children

Percentage of living children under three years who received foods rich in vitamin A, percentage who received multivitamin supplements during the past 6 months, percentage who lived in households with iodized salt, and percentage of last-born children under three whose mother took iron on 90+ days during pregnancy, by background characteristics, Turkmenistan 2000

Background characteristic	Percentage of children under 3 years who received:						Percentage of last-born children under 3 years whose mother took iron on 90+ days during pregnancy	Number of last-born living children
	Foods rich in vitamin A	Multivitamin supplement in past 6 months	Iodine in household salt			Number of living children		
			None	<15 ppm	15+ ppm			
Child's age								
<7 months	17.9	5.5	10.3	10.3	77.1	409	12.4	417
7 -11months	87.0	18.0	10.7	12.7	74.2	283	8.9	301
12-17 months	95.0	16.8	12.0	11.1	74.6	329	10.1	339
18-23 months	99.2	19.9	8.6	14.7	74.3	315	11.1	273
24-35 months	99.2	17.4	11.2	10.6	76.1	628	10.6	449
Sex								
Male	79.3	16.7	11.0	11.5	75.1	996	11.0	918
Female	80.3	13.9	10.3	11.7	75.8	969	10.5	861
Birth order								
1	79.8	16.9	8.8	13.5	75.3	660	9.0	522
2-3	80.7	14.9	11.0	10.3	75.8	941	11.9	890
4-5	76.6	15.0	12.6	12.9	74.3	268	9.5	271
6+	81.0	9.9	14.4	7.7	77.3	96	12.8	95
Residence								
Urban	81.3	18.1	12.1	12.8	72.6	774	8.7	727
Rural	78.8	13.6	9.7	10.8	77.4	1,190	12.1	1,052
Region								
Ashgabad City	79.4	17.4	6.4	12.3	75.0	198	2.9	188
Akhal	81.5	6.8	11.3	9.4	78.1	285	0.0	258
Balkan	82.6	13.6	19.6	14.0	65.9	156	1.5	143
Dashoguz	75.4	11.4	11.3	9.0	78.4	441	43.0	386
Lebap	78.2	25.8	11.5	11.9	76.0	419	2.6	370
Mary	83.6	14.6	7.7	14.1	74.0	466	1.7	434
Mother's age at birth								
15-19	(65.2)	(6.3)	(13.8)	(6.4)	(79.8)	40	(11.8)	40
20-24	75.6	14.8	8.2	13.2	77.8	601	11.2	522
25-29	81.5	16.3	11.2	11.1	73.9	727	10.6	637
30-34	83.4	15.0	11.2	11.0	75.4	384	10.2	358
35-39	79.6	15.1	14.5	9.1	74.7	160	10.9	168
40-44	(88.7)	(16.8)	(12.0)	(15.4)	(72.6	44	(5.7)	43
45-49	*	*	*	*	*	9	*	9
Total	79.8	15.3	10.7	11.6	75.5	1,965	10.7	1,779

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

Vitamin supplementation is more common for children living in Ashgabad City (17 percent) and Lebap Region (26 percent) compared with other survey regions of Turkmenistan.

11.8 USE OF IODIZED SALT

Iodine is another important micronutrient. Low levels of iodine in the diet are associated with a number of problems including miscarriages and among children, retarded mental development. Turkmenistan has adopted a program of fortifying salt with iodine to prevent iodine deficiency.

In the TDHS 2000, the iodine content of the salt used in the household was measured using a rapid-test kit provided by UNICEF. The test kit consisted of ampoules of a stabilized starch solution and a weak acid-based solution. A drop of the starch solution was squeezed onto a salt sample obtained in the household, causing the salt to change color. The TDHS interviewer conducting the test matched the color of the salt to a color chart included with the test kit to determine the level of iodine.

Table 11.10 shows the percentage of households using iodized salt. Overall, the iodine content of the salt exceeded 15 ppm (parts per million) in 75 percent of households. In 12 percent of the households, the iodine content of the salt fell below 15 ppm (inadequate salt content), while the salt used by 11 percent of the households was not found to contain iodine. By place of residence, the proportion of households using noniodized salt ranged from 7 percent in Ashgabad City to 18 percent in Balkan Region. There are no differences by urban-rural residence in the proportion of households using iodized salt.

Table 11.10 Iodization of household salt

Percentage of households in which salt was tested for iodine and the percent distribution of households by level of iodine in household salt (parts per million), according to background characteristics, Turkmenistan 2000

Background characteristic	Percentage of households in which salt was tested	Number of households	Iodine level in households tested					Number of households tested
			None	Inadequate (<15 ppm)	Adequate (15+ ppm)	Missing	Total	
Region								
Ashgabad City	99.8	959	7.4	8.3	81.5	2.9	100.0	957
Akhal	100.0	859	10.9	7.4	80.5	1.2	100.0	859
Balkan	99.8	642	17.8	13.5	68.5	0.2	100.0	641
Dashoguz	99.9	1,054	11.2	10.5	77.0	1.2	100.0	1,053
Lebap	99.9	1,350	11.1	14.6	73.1	1.2	100.0	1,350
Mary	100.0	1,436	11.2	13.1	72.0	3.7	100.0	1,436
Residence								
Urban	99.9	3,174	11.9	11.3	74.8	2.0	100.0	3,171
Rural	99.9	3,128	10.5	11.7	75.9	1.9	100.0	3,126
Total	99.9	6,301	11.2	11.5	75.3	1.9	100.0	6,297

ppm = Parts per million

ANEMIA 12

G.K. Kariyeva, A. Magtymova, and A. Sharman

12.1 INTRODUCTION

Anemia is a condition characterized by a decrease in the concentration of hemoglobin in the blood. Hemoglobin is necessary for transporting oxygen to tissues and organs in the body. The reduction in oxygen available to organs and tissues when hemoglobin levels are low is responsible for many of the symptoms experienced by anemic people. The consequences of anemia include general body weakness, frequent tiredness, and lowered resistance to disease. Anemia can be a particularly serious problem for pregnant women, leading to premature delivery and low birth weight. It is of concern in children since anemia is associated with impaired mental and physical development. Overall, morbidity and mortality risks increase for individuals suffering from anemia (Sharmanov, 1998).

Hemoglobin testing is the primary method of anemia diagnosis. The TDHS 2000 included direct measurement of hemoglobin levels in all women 15-49 and their children age 5 and under (born since January 1995). The HemoCue system was used in the TDHS 2000 for hemoglobin testing. This system consists of a battery-operated photometer and a disposable microcuvette,[1] coated with a dried reagent that serves as the blood-collection device. After obtaining consent from each respondent (in the case of children, the consent of the child's mother), a drop of capillary blood taken from a person's fingertip or heel was drawn into a microcuvette. The blood in the microcuvette was analyzed using the photometer, which displayed the hemoglobin concentration (Sharmanov, 2000).

Medically trained personnel, primarily doctors, assigned to each of the TDHS teams conducted the testing. The personnel responsible for the testing received extensive classroom training and field practice prior to the survey.

During the fieldwork, each respondent was given the results of the test immediately. In cases in which the hemoglobin reading was below 7.0 g/dl (grams per deciliter), the respondent was referred to the local health care facilities for followup. With the permission of the respondent, the Ministry of Health and Medical Industry of Turkmenistan was also advised of the names of the individuals with a reading below 7.0 g/dl to help ensure that they would receive followup.

Anemia is classified as mild, moderate, or severe based on the concentrations of hemoglobin in the blood. Mild anemia corresponds to a level of hemoglobin concentration of 10.0-10.9 g/dl for pregnant women and children under age 5 and 10.0-11.9 g/dl for nonpregnant women. For all of the tested groups, moderate anemia corresponds to a level of 7.0-9.9 g/dl, while severe anemia corresponds to a level less than 7.0 g/dl.

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

12.2 Prevalence of Anemia among Women Age 15-49

Table 12.1 shows anemia levels among the women 15-49 interviewed in the TDHS 2000. Almost every second woman had some degree of anemia. The level of anemia was severe in about 1 percent of the women, while 8 percent had a moderate level and 38 percent had mild anemia.

Age was associated with anemia levels, with older women being somewhat more likely to be moderately or severely anemic than younger women. The rate of moderate-to-severe anemia (moderate and severe anemia combined) among women age 35-49 is almost three times as high as among women age 15-19.

Table 12.1 Anemia among women

Percentage of women age 15-49 classified as having anemia, by background characteristics, Turkmenistan 2000

Background characteristic	Percentage of women with anemia			Number measured
	Severe anemia[1]	Moderate anemia[2]	Mild anemia[3]	
Age				
15-19	0.5	4.1	33.0	1,534
20-24	0.6	7.1	38.6	1,507
25-29	1.3	9.6	38.4	1,228
30-34	1.3	9.5	43.4	1,028
35-39	1.4	10.6	38.6	943
40-44	1.4	11.3	38.5	832
45-49	1.8	10.2	35.3	642
Residence				
Urban	1.1	7.6	36.7	3,528
Rural	1.0	9.0	38.7	4,186
Region				
Ashgabad City	0.8	5.0	31.0	928
Akhal	1.0	6.4	37.4	1,130
Balkan	1.8	12.8	44.9	705
Dashoguz	1.8	10.5	40.1	1,606
Lebap	0.9	6.4	30.6	1,601
Mary	0.6	9.5	43.4	1,774
Education				
Primary/secondary	1.1	8.7	38.3	5,678
Secondary-special	1.0	7.8	37.2	1,502
Higher	0.5	6.3	34.3	534
Ethnicity				
Turkmen	1.1	8.6	37.8	6,051
Uzbek	1.2	9.0	38.2	846
Other	1.0	5.9	37.2	817
Total	1.1	8.4	37.8	7,714

[1] Hemoglobin level less than 7g/dl
[2] Hemoglobin level 7-9.9 g/dl
[3] Hemoglobin level 10-11.9 g/dl (10-10.9 g/dl for pregnant women)

High rates of moderate and severe anemia were found among women living in the Balkan and Dashoguz regions (15 percent and 12 percent, respectively), while only 6 percent of women in Ashgabad City were diagnosed as having moderate or severe anemia.

Women with a higher education are less frequently anemic than women with a primary or secondary-special education. The rates of moderate and severe anemia are higher among ethnic Turkmen and Uzbek women (10 percent each) than among women of other ethnic groups (7 percent).

There are differentials in the anemia rates by nutritional and reproductive health characteristics. Table 12.2 shows that the prevalence of moderate-to-severe anemia is higher among women with a body mass index (BMI) less than 18.5 (11 percent) than among women with a higher BMI (9 percent). The prevalence of moderate-to-severe anemia among women with two or more births (12 percent) is twice as high as that among women with fewer than two births or no pregnancies (6 and 5 percent, respectively). There is a relatively small association between the birth intervals and the rate of anemia.

Studies also suggest that IUD use can lead to iron depletion and iron-deficiency anemia. Table 12.2 also shows that among women who are using intrauterine devices as a method of contraception, the prevalence of moderate-to-severe anemia (12 percent) is higher than among women who are not using the IUD (9 percent). According to the TDHS 2000 data, 25 percent of women age 15-49 in Turkmenistan were using an IUD at the time of the survey, i.e., when they were tested for anemia.

Table 12.2 Anemia among women by nutritional status, reproductive history, and IUD use

Percentage of women age 15-49 years classified as having anemia by nutritional status, reproductive history, and IUD use, Turkmenistan 2000

Characteristic	Iron-deficiency anemia			
	Severe anemia[1]	Moderate anemia[2]	Mild anemia[3]	Number measured
Nutritional status				
BMI <18.5	1.3	9.8	39.2	732
BMI >18.5	1.0	8.3	37.8	6,954
Reproductive history				
No pregnancies	0.5	4.9	34.0	2,765
Number of births <2	0.5	5.9	35.6	3,658
Number of births ≥2	1.6	10.6	40.0	4,036
Average birth interval <24 months	1.9	10.4	39.1	1,516
Average birth interval >24 months	1.5	12.0	41.5	1,340
Use of IUD				
Currently using	1.7	9.8	44.0	1,923
Currently not using	0.9	7.9	35.9	5,771
Total	1.1	8.4	37.9	7,694

[1] Hemoglobin level less than 7g/dl
[2] Hemoglobin level 7-9.9 g/dl
[3] Hemoglobin level 10-11.9 g/dl (10-10.9 g/dl for pregnant women)

12.3 Iron Supplementation during Pregnancy

Supplementation of iron during pregnancy is one of the main components of the Anemia Control and Prevention Strategy of the UNICEF Area Office for Central Asian Republics. The government of Turkmenistan supports this program by promoting iron supplementation during pregnancy and the postpartum period.

The recommended dosage of iron supplementation for pregnant women is currently 60 mg per day for six months. This dosage may be increased to 120 mg if the duration of supplementation is short. In addition to the iron supplementation, supplementation of 400 mg of folic acid around the time of conception not only prevents megaloblastic anemia but also significantly reduces the incidence of neural tube defects, which are severe birth defects (Stoltzfus and Dreyfuss, 1998).

In the TDHS 2000 women were asked whether they received iron pills during their last pregnancy. As shown in Table 12.3, 32 percent of women in Turkmenistan received iron pills during their last pregnancy. On average, women took iron pills for 14 days. Iron supplementation is most common in Dashoguz region in terms of the percentage of women taking iron pills: 70 percent. The Akhal region has the lowest percentage of women who took iron pills during their last pregnancy (10 percent). However, the average length of the iron supplementation among the women in Akhal region (19 days) was greater than in any other survey region of Turkmenistan.

Table 12.3 Iron supplementation

Percentage of women who were given or bought iron tablets during current or last pregnancy and average number of days women took iron tablets during the last pregnancy by background characteristics, Turkmenistan 2000

Background characteristic	Iron supplementation for current pregnancy or last birth: Percentage who took iron pills	Average number of days	Weighted number of women
Age			
15-19	(32.9)	(8.1)	42
20-24	33.9	13.6	579
25-29	30.7	15.2	831
30-34	33.1	13.1	581
35-39	33.5	14.0	304
40-44	29.9	15.1	107
46-49	(30.0)	(10.0)	26
Residence			
Urban	31.5	15.4	1,052
Rural	33.0	12.9	1,417
Region			
Ashgabad City	36.2	18.5	266
Akhal	10.3	18.8	352
Balkan	17.4	10.6	215
Dashoguz	69.6	15.1	520
Lebap	29.7	11.9	513
Mary	18.9	11.1	603
Education			
Primary/secondary	31.4	14.1	1,715
Secondary-special	34.3	13.0	560
Higher	35.1	15.6	194
Ethnicity			
Turkmen	29.3	13.8	1,992
Uzbek	53.4	14.5	295
Other	31.5	14.7	182
Total	32.3	14.0	2,470

Note: Figures in parentheses are based on 25-49 unweighted cases.

Iron supplementation is more common among Uzbek women (53 percent) than among Turkmen women or women of other ethnicities (29 and 32 percent, respectively). There was no significant difference in the percentage of women who received iron supplements by their age, type of residence, and level of education.

Thus, despite efforts promoting iron supplementation, more than half of the women in Turkmenistan did not receive iron supplements during their last pregnancy. Even women who received iron pills took them for a shorter period than recommended.

12.4 Anemia Prevalence among Children

Table 12.4 presents anemia rates for children in Turkmenistan by background characteristics. Thirty-six percent of the children under the age of five suffer from some degree of anemia; 16 percent have moderate anemia, and 1 percent are severely anemic.

As was the case with women, there are substantial differences in the anemia rates among children by residence, region, level of mother's education, and ethnicity. The prevalence of moderate-to-severe anemia among children living in urban areas is higher than among children living in rural areas (18 and 15 percent, respectively). As with the women, the rate of moderate-to-severe anemia is highest among children living in Balkan and Dashoguz regions (24 and 25 percent, respectively). Prevalence of moderate-to-severe anemia is relatively low among children living in Mary and Akhal regions: 7 and 10 percent, respectively. As in Ashgabad City, in Mary and Akhal regions, no cases of severe anemia were diagnosed among children. Intermediate levels of moderate-to-severe anemia were found among children in Ashgabad City and Lebap Region: 19 and 20 percent, respectively.

Table 12.4 Anemia among children

Percentage of children under five years of age classified as having anemia, by background characteristics, Turkmenistan 2000

Background characteristic	Iron-deficiency anemia			
	Severe anemia[1]	Moderate anemia[2]	Mild anemia[3]	Number measured
Residence				
Urban	0.3	18.0	22.6	1,115
Rural	0.8	14.6	17.2	1,835
Region				
Ashgabad City	0.0	19.3	20.8	228
Akhal	0.0	10.1	20.4	444
Balkan	1.2	23.2	25.8	258
Dashoguz	1.3	23.9	27.0	574
Lebap	0.9	19.3	21.6	683
Mary	0.0	6.7	8.1	763
Education				
Primary/secondary	0.6	15.1	18.8	2,076
Secondary-special	0.7	16.3	21.8	667
Higher	0.1	22.5	16.0	207
Ethnicity				
Turkmen	0.5	15.3	18.4	2,444
Uzbek	1.4	18.9	25.3	340
Other	0.3	18.8	19.8	166
Total	0.6	15.9	19.3	2,950

[1] Hemoglobin level less than 7g/dl
[2] Hemoglobin level 7-9.9 g/dl
[3] Hemoglobin level 10-10.9 g/dl

Table 12.4 also shows that children of mothers who have a primary or secondary education are less likely to have anemia than children whose mother has a higher education. The rate of moderate-to-severe anemia among Turkmen children (16 percent) is relatively lower than among children of Uzbek and other ethnicities (20 and 19 percent, respectively).

Table 12.5 presents anemia rates for children in Turkmenistan by demographic and nutritional characteristics. The results show that moderate-to-severe anemia is more common

Table 12.5 Anemia among children by demographic characteristics and nutritional status

Percentage of children under five years of age classified as having anemia by demographic characteristics, Turkmenistan 2000

Demographic characteristic	Iron-deficiency anemia			
	Severe anemia[1]	Moderate anemia[2]	Mild anemia[3]	Number measured
Sex of child				
Male	0.8	17.4	18.2	1,492
Female	0.3	14.3	20.4	1,458
Age of child				
0-24 months	0.5	18.0	19.3	601
24-59 months	0.6	15.4	19.2	2,349
Birth order				
1	0.7	15.4	17.7	985
2-3	0.4	16.8	19.2	1,366
4-5	0.9	15.0	22.8	426
6+	0.4	13.6	19.7	174
Birth interval				
First birth	0.7	15.4	17.8	990
< 24 months	0.7	16.6	19.7	706
24-47 months	0.5	16.0	20.1	869
48+ months	0.2	15.7	20.4	384
Weight at birth				
< 2.5 kg	2.5	21.2	20.5	138
≥ 2.5 kg	0.5	15.6	19.2	2,812
Height for age				
Below -2 SD[4]	1.1	21.6	19.5	660
-2 SD or above	0.4	14.2	19.2	2,290
Weight for height				
Below -2 SD[4]	0.7	18.6	15.4	173
-2 SD or above	0.6	15.7	19.5	2,777
Weight for age				
Below -2 SD[4]	1.2	24.5	22.7	348
-2 SD or above	0.5	14.7	18.8	2,602
Total	0.6	15.9	19.3	2,950

[1] Hemoglobin level less than 7g/dl
[2] Hemoglobin level 7-9.9 g/dl
[3] Hemoglobin level 10-10.9 g/dl
[4] Includes children who are below -3 SD

among male children than among female children (18 and 15 percent, respectively) and among younger children up to 24 months of age (19 percent) than among children age 24 months and older (16 percent). No significant differences in the children's anemia rates were observed by birth order or birth interval. Looking at children's weight at birth (according to their mother's recollection), the rate of moderate-to-severe anemia was higher among children with a weight at birth less than 2.5 kg (24 percent) than among children with a birth weight of more than 2.5 kg (16 percent).

Considering differentials by child's nutritional status, the greatest variation in moderate-to-severe anemia is observed for height-for-age (stunting) and weight-for-age. The rate of moderate-to-severe anemia among children with height-for-age below -2 SD was 23 percent, compared with 15 percent among children with height-for-age -2 SD or above. The moderate-to-severe anemia rate among children with weight-for-age below -2 SD was 26 percent, compared with 15 percent among the children with weight-for-age -2 SD or above.

HIV/AIDS AND OTHER SEXUALLY TRANSMITTED INFECTIONS

13

J.M. Sullivan, S.M. Turayeva, and A.Y. Khaimova

Acquired immune deficiency syndrome (AIDS) is a condition caused by the human immunodeficiency virus (HIV) that weakens the immune system, making the body susceptible to and unable to recover from other diseases such as tuberculous or pneumonia.

HIV/AIDS is a pandemic with cases reported from virtually every country in the world. The current worldwide estimate of the number of cases of HIV infection is 32 million adults and 1 million children. The World Health Organization estimates that approximately 11 million adults and 3 million children infected with HIV have died since the beginning of the epidemic (Fauci and Lane, 2000).

Compared with other parts of the world, Turkemenistan has been relatively untouched by the HIV/AIDS epidemic. Currently, there is only one known case of AIDS and one other known HIV-positive case in Turkmenistan. Nevertheless, the Ministry of Health and Medical Industry, considering the potential seriousness of the HIV/AIDS problem, has with assistance from the United Nations Program on AIDS (UNAIDS) developed a National Program on AIDS Prevention (MOHMI, 1999). The program is comprehensive and has components on population education via the mass media about AIDS and sexually transmitted infections, protection of the national blood supply, addressing drug abuse, increasing access to condoms, and providing care and support to HIV-infected people.

The establishment of the National Program in Turkmenistan is noteworthy because the prevalence of STIs appears to be on the rise. Evidence for this is a sevenfold increase in the reported rate of syphilis between 1992 and 1998, when the rate reached 45 cases per 100,000 population. Drug addiction, another factor that has contributed to the AIDS epidemic in many countries, is also on the rise and increased fourfold between 1995 and 1997, when the rate reached 53 per 100,000 population (MOHMI, 1999).

The TDHS 2000 included a section on HIV/AIDS in order to obtain baseline information on the level of awareness and knowledge about HIV/AIDS among women of reproductive age. Questions were included about behavior patterns that could reduce the risk of becoming infected with the AIDS virus, about attitudes toward infected individuals, and about attitudes toward broadcasting messages about HIV/AIDS on radio and television. Questions were also asked to determine the level of knowledge of sexually transmitted infections other than AIDS and knowledge of places to obtain condoms. This chapter summarizes this information at the national level and for geographic and socioeconomic subgroups of the population.

13.1 AWARENESS OF HIV/AIDS

In the TDHS, respondents were asked whether they had heard of an illness called AIDS. Table 13.1 indicates that knowledge of AIDS is widespread but not universal among women of childbearing age. Overall, 73 percent of respondents reported having heard of AIDS. Among certain population groups the percentage of women reporting awareness of AIDS was lower than the national rate: women age 15-19 (58 percent), never-married women (64 percent), rural women

(67 percent), women residing in the Balkan Region (56 percent), and women with primary/secondary education (67 percent).

Respondents who had heard of AIDS were also asked, "Is there anything a person can do to avoid getting AIDS or the virus that causes AIDS?" Table 13.1 indicates that approximately three-quarters of women who had heard of AIDS believed that the disease could be avoided. Thus, 50 percent of all respondents had heard of AIDS and believed that the disease could be avoided.

There were significant differentials by background characteristics in the percentage of respondents reporting that they believed that the disease could be avoided. Recognition that the disease could be avoided was especially low among women 15-19 (32 percent), never-married women (38 percent), rural women (42 percent), and women with primary/ secondary education (40 percent).

Table 13.1 Knowledge of HIV/AIDS

Percentage of women who have heard of HIV/AIDS and who believe there is a way to avoid HIV/AIDS, by background characteristics, Turkmenistan 2000

Background characteristic	Has heard of AIDS	Believes there is a way to avoid AIDS	Number of women
Age			
15-19	58.2	31.5	1,574
20-24	70.5	42.7	1,541
25-29	81.2	58.2	1,256
30-39	78.6	59.0	2,034
40-49	76.9	57.4	1,513
Marital status			
Married/living together	77.4	55.6	4,892
Divorced/separated, or widowed	77.2	56.9	463
Never married	64.0	37.9	2,563
Residence			
Urban	80.1	59.2	3,691
Rural	66.9	41.9	4,228
Region			
Ashgabad City	86.1	69.8	1,038
Akhal	73.9	51.6	1,145
Balkan	56.3	44.1	709
Dashoguz	69.7	44.1	1,628
Lebap	76.2	43.5	1,607
Mary	71.8	50.7	1,791
Education			
Primary/secondary	66.6	40.2	5,800
Secondary-special	88.8	72.3	1,556
Higher	96.3	87.9	563
Total	73.1	49.9	7,919

13.2 KNOWLEDGE OF HIV/AIDS PREVENTION

Respondents who had heard of HIV/AIDS and who reported that they believed that a person could do something to avoid the disease were asked, "What can a person do?" Respondents were requested to spontaneously report as many ways to avoid AIDS as they knew. This information is useful for determining the percentage of respondents who know about the correct methods of preventing HIV infection. It is also helpful for identifying whether there are common misconceptions about HIV/AIDS transmission.

Table 13.2 indicates that among the 50 percent of respondents who knew of AIDS and believed that the disease could be avoided, only 2 percent were unable to report a specific way to avoid AIDS. Among those reporting specific behaviors, the two most frequently mentioned practices were to avoid sex with prostitutes and to limit sex to one partner/stay faithful to one partner (both reported by 22 percent of respondents). Two additional frequently mentioned responses were to abstain from sexual relations and to use condoms (both reported by 16 percent of respondents). Significant percentages of respondents also reported avoiding injections (10 percent) and avoiding blood transfusions (7 percent).

The reporting of erroneous behaviors to avoid contracting HIV/AIDS was infrequent. Only a small percentage of respondents reported that AIDS could be avoided by refraining from kissing (1.6 percent) or by avoiding mosquito bites (0.2 percent).

Table 13.2 Knowledge of ways to avoid HIV/AIDS

Percentage of women who spontaneously mentioned ways to avoid HIV/AIDS, Turkmenistan 2000

Ways to avoid HIV/AIDS	Percentage of women
Does not know of AIDS or if AIDS can be avoided	48.1
Believes no way to avoid AIDS	2.0
Does not know specific way to avoid AIDS[1]	1.8
Ways to avoid AIDS	
Abstain from sex	15.7
Use condoms	16.1
Limit sex to one partner/stay faithful to one partner	21.7
Limit number of sexual partners	8.8
Avoid sex with prostitutes	22.1
Avoid sex with homosexuals	0.8
Avoid sex with persons who inject drugs intravenously	4.7
Avoid blood transfusions	7.4
Avoid injections	9.6
Avoid sharing razors/blades	0.3
Avoid kissing	1.6
Avoid mosquito bites	0.2
Seek protection from a traditional healer	0.2
Other	1.2
Number	7,919

[1] Believes there is something a person can do to avoid AIDS, but cannot spontaneously mention any specific way.

13.3 PROGRAMMATICALLY IMPORTANT RISK-REDUCING PRACTICES

Abstaining from sex, using condoms, and limiting the number of sexual partners have been identified as programmatically important ways to avoid the spread of AIDS. Accordingly, in addition to asking respondents to spontaneously report their beliefs about behaviors that could reduce the risk of AIDS, respondents were explicitly asked whether they thought that the risk of becoming infected with the AIDS virus could be reduced by 1) abstaining from all sexual relations, 2) limiting the number of sexual partners, and 3) using condoms.

Table 13.3 presents information on the percentage of women who either spontaneously or in response to a specific question reported knowledge of the three programmatically important risk-reducing practices. Overall, 53 percent of all respondents did not cite any of the three risk-reducing practices (27 percent of respondents reported no knowledge of AIDS and another 26 percent reported that they had heard of AIDS but knew of no way to avoid the disease). The remaining 47 percent of respondents reported knowledge of either one (13 percent) or more (34 percent) of the three programmatically important ways to avoid AIDS.

Overall, 37 percent of respondents indicated that abstaining from all sexual relations would reduce the risk of AIDS, 43 percent indicated that limiting the number of sexual partners would do so, and 31 percent indicated that using condoms would do so. There were significant differentials

Table 13.3 Knowledge of specific ways to avoid HIV/AIDS

Percent distribution of women by knowledge of programmatically important ways to avoid HIV/AIDS, and percentage of women who know of two specific ways to avoid HIV/AIDS, according to background characteristics, Turkmenistan 2000

Background characteristic	Does not know of HIV/AIDS	Knows of HIV/AIDS but not how to avoid HIV/AIDS	Programmatically important ways to avoid HIV/AIDS		Total	Specific ways to avoid HIV/AIDS			Number of women
			One way	Two or more ways		Abstain from all sexual inter-course	Using condoms	Limiting number of sexual partners	
Age									
15-19	41.7	31.1	6.3	20.8	100.0	20.5	15.4	22.8	1,574
20-24	29.5	30.1	7.0	33.5	100.0	30.3	26.7	35.1	1,541
25-29	18.8	25.5	5.5	50.3	100.0	45.2	38.9	51.8	1,256
30-39	21.4	22.0	5.8	50.8	100.0	45.7	38.4	52.8	2,034
40-49	23.1	22.1	8.0	46.7	100.0	41.5	36.1	50.9	1,513
Marital status									
Married/living together	22.6	24.2	6.0	47.2	100.0	41.9	36.0	49.6	4,892
Divorced, separated, or widowed	22.8	22.8	7.2	47.2	100.0	42.4	39.1	49.4	463
Never married	35.9	29.9	7.3	26.9	100.0	26.1	20.4	28.8	2,563
Residence									
Urban	19.9	23.6	6.7	49.7	100.0	42.6	42.8	50.7	3,691
Rural	33.0	28.0	6.3	32.7	100.0	31.8	21.0	36.1	4,228
Region									
Ashgabad City	13.9	17.9	8.4	59.8	100.0	46.0	56.2	61.5	1,038
Akhal	26.1	30.7	6.2	37.0	100.0	31.1	30.3	40.9	1,145
Balkan	43.7	13.0	4.6	38.7	100.0	36.4	31.6	39.0	709
Dashoguz	30.3	28.6	9.2	31.9	100.0	30.7	21.8	37.1	1,628
Lebap	23.8	35.0	5.4	35.8	100.0	33.5	26.5	36.6	1,607
Mary	28.1	22.2	4.9	44.7	100.0	43.9	29.8	45.8	1,791
Education									
Primary/secondary	33.4	29.1	5.7	31.8	100.0	30.3	22.2	33.9	5,800
Secondary-special	11.2	19.7	8.3	60.9	100.0	53.1	51.4	63.3	1,556
Higher	3.7	10.8	9.8	75.6	100.0	58.5	68.0	78.9	563
Total	26.9	25.9	6.5	40.6	100.0	36.8	31.2	42.9	7,919

Note: The programmatically important ways to avoid HIV/AIDS are abstaining from all sex, using condoms and limiting the number of sexual partners.

by background characteristics in recognition of the risk-reducing effects of these behaviors. For example, the percentage of all respondents reporting that condom use could lower the risk of HIV infection was particularly low among women age 15-19 (15 percent), never-married women (20 percent), rural women (21 percent), and women with primary/secondary education (22 percent).

13.4 KNOWLEDGE OF HIV/AIDS-RELATED ISSUES

Respondents who had heard of AIDS were asked questions to determine the depth of their knowledge. These questions concerned whether a healthy-looking person can be infected with the AIDS virus, whether AIDS can be passed from a woman to her child, and whether the respondent knew anyone who was infected with the AIDS virus or who had died of AIDS. The results are presented in Table 13.4 in terms of the percentage of all respondents having specific knowledge (i.e., respondents reporting no knowledge of AIDS are included in the analysis as people lacking knowledge on the issues).

Table 13.4 Knowledge of HIV/AIDS-related issues

Percent distribution of women by responses to questions on various AIDS-related issues, according to background characteristics, Turkmenistan 2000

Background characteristic	Percentage who say a healthy-looking person can have AIDS	Percentage who say HIV/AIDS can be transmitted from mother to child:			Percentage who know someone personally who has AIDS virus	Number of women
		During delivery	Through pregnancy	Through breast-feeding		
Age						
15-19	36.7	38.9	43.1	39.0	1.1	1,574
20-24	48.1	55.1	58.0	53.5	1.3	1,541
25-29	56.6	64.7	68.9	64.5	1.7	1,256
30-39	56.1	64.9	68.7	64.4	1.0	2,034
40-49	53.9	64.1	66.8	63.2	1.5	1,513
Marital status						
Married/living together	54.1	63.3	66.6	62.8	1.4	4,892
Divorced, separated, or widowed	58.7	64.5	68.1	61.7	1.4	463
Never married	41.7	45.6	49.6	45.0	1.1	2,563
Residence						
Urban	58.3	64.0	67.8	61.9	1.4	3,691
Rural	43.4	52.1	55.4	52.7	1.2	4,228
Region						
Ashgabad City	63.7	70.5	73.6	62.7	1.5	1,038
Akhal	46.3	64.8	66.2	59.5	0.4	1,145
Balkan	48.7	48.3	49.2	48.6	0.5	709
Dashoguz	43.8	56.4	59.5	60.5	1.5	1,628
Lebap	45.0	58.2	61.4	54.7	0.4	1,607
Mary	56.7	49.9	57.0	54.2	2.6	1,791
Education						
Primary/secondary	43.4	50.7	54.0	51.0	1.3	5,800
Secondary-special	66.4	73.4	78.0	71.3	1.4	1,556
Higher	77.9	85.3	89.2	78.8	1.3	563
Total	50.3	57.6	61.2	57.0	1.3	7,919

An important concept in HIV/AIDS prevention is the knowledge that a person can become HIV infected by having unprotected sex with a healthy-looking person who is HIV infected. Table 13.4 indicates that 50 percent of all respondents were aware that a healthy-looking person could be infected with the AIDS virus.

In terms of transmittal of the AIDS virus from mother to child during pregnancy, delivery or when breastfeeding, between 57 and 61 percent of respondents were aware that such transmittal was possible.

The percentage of respondents with personal knowledge of someone who is HIV infected or who has died of AIDS was very low, about 1 percent. This is undoubtedly a consequence of the fact that HIV/AIDS was relatively rare in Turkmenstan at the time of the survey.

13.5 Social Aspects of HIV/AIDS Prevention and Mitigation

The discussion of HIV/AIDS prevention with a spouse or cohabiting partner is an important aspect of preventive behavior. Table 13.5 indicates the proportion of currently married women who have ever discussed AIDS prevention with their partner. Approximately one-quarter (23 percent) of currently married women have no knowledge of AIDS. One-half of women (50 percent) know about AIDS but have not discussed AIDS prevention with their partner. And a final one-quarter of respondents (27 percent) have knowledge of AIDS and have discussed AIDS prevention with their partner.

Table 13.5 Discussion of HIV/AIDS with partner

Percent distribution of women who are currently married or living with a partner by whether they ever discussed HIV/AIDS prevention with their husband/partner, according to background characteristics, Turkmenistan 2000

Background characteristic	Discussed with partner how to prevent AIDS virus: Yes	No	Has not heard of AIDS	Total	Number of women
Age					
15-19	10.3	51.1	38.5	100.0	83
20-24	22.5	49.2	28.4	100.0	682
25-29	29.8	51.9	18.3	100.0	1,015
30-39	28.8	49.2	22.0	100.0	1,791
40-49	24.5	52.3	23.3	100.0	1,321
Residence					
Urban	30.3	52.0	17.8	100.0	2,307
Rural	23.4	49.4	27.2	100.0	2,585
Region					
Ashgabad City	31.4	55.7	12.9	100.0	639
Akhal	3.6	74.2	22.2	100.0	699
Balkan	16.0	45.9	38.1	100.0	424
Dashoguz	23.7	49.3	27.1	100.0	950
Lebap	38.3	40.6	21.2	100.0	1,030
Mary	34.0	45.3	20.7	100.0	1,150
Education					
Primary/secondary	20.6	50.4	29.0	100.0	3,347
Secondary-special	37.2	52.1	10.7	100.0	1,149
Higher	46.8	48.4	4.8	100.0	396
Total	26.7	50.6	22.7	100.0	4,892

The level of respondent communication with their partner about AIDS prevention is lowest among women 15-19 (10 percent), rural women (23 percent), women residing in Akhal (4 percent) and women with primary/secondary education (21 percent).

The social aspects of HIV/AIDS include, among other things, whether there is a negative attitude toward people with AIDS. Such attitudes can arise when the public perceives that this disease is primarily found among marginalized groups such as commercial sex workers and injecting drug users. Such attitudes are sometimes expressed by open discrimination, which is of concern to programs responsible for the mitigation of the effects of HIV/AIDS.

In the TDHS, respondents who had heard of AIDS were asked several questions designed to measure their attitude toward individuals infected with the AIDS virus. For example, respondents were asked whether they felt that a person who has the AIDS virus should be allowed to keep this information private or whether that information should be made available to the community.

Table 13.6 indicates that only a minority of respondents, 24 percent, felt that a person infected with HIV should be allowed to keep that information private. Regarding caring for a relative who has AIDS in their home, 45 percent of respondents indicated that they would not be willing to do so. Seventy-three percent of respondents indicated that a person with AIDS should not be allowed to continue working alongside other people in a shop or office.

Overall, these findings indicate an unsympathetic attitude toward individuals infected with the AIDS virus and, quite possibly, a mistaken idea that the virus can be readily transmitted through ordinary contact with an infected person.

Table 13.6 Social aspects of HIV/AIDS prevention and mitigation

Among women who have heard of AIDS, the percentage providing specific responses to various questions on social aspects of HIV/AIDS prevention and mitigation, according to background characteristics, Turkmenistan 2000

Background characteristic	Believes a person with HIV/AIDS should be allowed to keep that information confidential	Not willing to care for relative with AIDS in home	Does not believe a person with HIV/AIDS should be allowed to work along side other people in an office or shop	Number of women
Age				
15-19	24.4	46.0	73.1	917
20-24	26.8	42.9	69.4	1,087
25-29	23.4	44.1	71.5	1,021
30-39	21.4	46.1	74.5	1,598
40-49	24.9	44.8	76.2	1,163
Marital status				
Married/living together	23.3	44.8	73.8	3,787
Divorced, separated, or widowed	25.8	41.9	71.4	358
Never married	24.9	45.8	71.8	1,641
Residence				
Urban	26.4	43.0	67.6	2,955
Rural	21.4	46.8	78.8	2,831
Region				
Ashgabad City	26.4	38.5	58.8	894
Akhal	29.2	52.5	63.3	847
Balkan	36.1	32.1	56.2	399
Dashoguz	5.1	79.5	85.6	1,135
Lebap	39.9	25.4	76.0	1,225
Mary	16.4	36.3	81.0	1,286
Education				
Primary/secondary	22.9	47.1	76.6	3,862
Secondary-special	26.1	42.4	67.5	1,382
Higher	25.9	35.7	62.5	542
Total	23.9	44.9	73.1	5,786

13.6 Acceptability of HIV/AIDS Messages in the Media

Respondents who reported that they knew about AIDS were asked to report whether they thought it was acceptable for HIV/AIDS educational messages to be broadcast on radio and television or to be published in newspapers. As indicated in Table 13.7, more than 95 percent of women indicated that it was acceptable for such messages to be presented in the mass media. High rates of media acceptability were indicated by respondents of all background characteristics.

Table 13.7 Discussion of AIDS in the media

Among women who have heard of AIDS, the percentage who think that discussion of AIDS in the media is acceptable, by media type and background characteristics, Turkmenistan 2000

Background characteristic	Discussion of AIDS acceptable			Discussion of AIDS not acceptable in any media	Number of women
	On radio	On TV	In newspaper		
Age					
15-19	94.5	95.3	95.3	4.5	917
20-24	95.8	96.0	96.0	3.9	1,087
25-29	96.6	96.5	96.5	3.2	1,021
30-39	96.9	97.3	97.2	2.6	1,598
40-49	97.3	97.5	97.6	2.4	1,163
Marital status					
Married/living together	96.9	97.1	97.1	2.7	3,787
Divorced, separated, or widowed	97.0	97.2	97.2	2.8	358
Never married	94.9	95.4	95.4	4.3	1,641
Residence					
Urban	95.7	96.0	96.0	3.8	2,955
Rural	97.0	97.3	97.3	2.6	2,831
Region					
Ashgabad City	95.1	95.9	95.7	4.1	894
Akhal	94.7	95.0	95.0	5.0	847
Balkan	89.1	90.3	90.9	9.1	399
Dashoguz	98.3	98.4	98.4	1.4	1,135
Lebap	97.3	97.3	97.3	2.5	1,225
Mary	97.9	98.1	97.9	1.8	1,286
Education					
Primary/secondary	95.2	95.7	95.6	4.2	3,862
Secondary-special	98.4	98.4	98.5	1.4	1,382
Higher	99.1	99.2	99.2	0.6	542
Total	96.4	96.6	96.6	3.2	5,786

13.7 Knowledge of Symptoms of Sexually Transmitted Infections

The presence of sexually transmitted infections, such as syphilis, gonorrhea, and chlamydia, increases the likelihood that HIV will spread rapidly throughout a population. Therefore, HIV/AIDS prevention programs should address the prevention and treatment of STIs. Improving knowledge of STIs and their symptoms, along with promotion of changes in sexual behavior, are important components of such programs.

In the TDHS, respondents were asked whether they had heard of any STIs other than AIDS. Table 13.8 indicates that only 48 percent of respondents reported that they had heard of any STIs other than AIDS. This is less than the percentage of respondents reporting knowledge of AIDS (73 percent). The percentage of women with knowledge of STIs was particularly low among women 15-19 (29 percent), never-married women (35 percent), rural women (38 percent), and those with the lowest level of education (37 percent).

Respondents reporting knowledge of STIs were also asked which signs and symptoms would be evident in an infected man and in an infected woman. Overall, only 28 percent of respondents mentioned one or more specific signs or symptoms of male STIs. A total of 73 percent of respondents were unaware of any sign or symptom of male STIs (52 percent were unaware of STIs, and 21 percent were unable to indicate any symptom).

Respondent knowledge of female STIs differed little from their knowledge of male STIs. Overall, only 34 percent of respondents mentioned one or more specific signs or symptoms of female STIs. A total of 66 percent of respondents were unaware of any sign or symptom of female STIs (52 percent were unaware of STIs, and 14 percent were unable to indicate any symptom).

Table 13.8 Knowledge of signs and symptoms of STIs

Percent distribution of women by knowledge of signs and symptoms associated with sexually transmitted infections (STIs) in men and women, according to background characteristics, Turkmenistan 2000

Background characteristic	No knowledge of STIs	Knowledge of symptoms of STIs in men			Knowledge of symptoms of STIs in women			Number
		Does not know any STI symptoms	Knows one symptom	Knows two or more symptoms	Does not know any STI symptoms	Knows one symptom	Knows two or more symptoms	
Age								
15-19	70.6	17.2	5.9	6.0	15.0	5.5	8.5	1,574
20-24	56.8	20.7	7.6	14.7	15.4	7.4	20.2	1,541
25-29	45.4	20.4	10.6	23.5	12.0	9.8	32.8	1,256
30-39	44.0	21.4	10.5	23.7	13.0	10.3	32.3	2,034
40-49	42.6	22.4	9.4	25.3	14.2	10.5	32.5	1,513
Marital status								
Married/living together	45.8	21.1	10.1	22.7	13.0	9.9	31.0	4,892
Divorced, separated, or widowed	39.8	23.0	9.4	27.8	14.4	12.7	33.1	463
Never married	65.2	18.8	6.3	9.5	15.7	5.9	13.0	2,563
Residence								
Urban	40.1	22.7	10.3	26.7	15.4	10.0	34.2	3,691
Rural	61.9	18.6	7.6	11.8	12.7	7.7	17.5	4,228
Region								
Ashgabad City	30.3	19.4	13.6	35.7	15.5	11.9	41.4	1,038
Akhal	50.8	3.3	19.4	26.4	2.6	16.7	29.9	1,145
Balkan	60.6	15.3	8.1	15.9	9.9	6.9	22.5	709
Dashoguz	62.6	14.2	5.9	17.0	8.9	6.8	21.4	1,628
Lebap	39.7	41.6	6.4	12.2	26.5	8.9	24.8	1,607
Mary	62.3	20.8	4.4	12.5	15.2	4.3	18.2	1,791
Education								
Primary/secondary	62.7	17.8	7.9	11.5	12.7	8.1	16.3	5,800
Secondary-special	24.7	27.1	12.6	35.3	16.7	11.5	46.8	1,556
Higher	13.8	30.0	7.9	48.0	18.9	8.2	58.8	563
Total	51.8	20.5	8.8	18.7	13.9	8.8	25.3	7,919

13.8 SEXUAL BEHAVIOR

The promotion of safe sexual behavior has been the most significant component of HIV/AIDS prevention programs to date. This component includes encouraging mutually monogamous relationships, eliminating sexual contacts outside marriage, and using condoms, especially with noncohabiting sexual partners. Accordingly, information on sexual behavior is important to designing and monitoring HIV/AIDS prevention programs.

The TDHS included questions about the sexual relations of respondents during the last 12 months by type of partner (spouse/cohabiting partner or noncohabiting partner). These questions determined the proportion of currently married and unmarried respondents who have had sex with a noncohabiting partner in the recent past.

Table 13.9 presents results for married women. Overall, 3 percent of married women reported having had sexual relations with someone other than their spouse or cohabiting partner during the past 12 months. This percentage tends to increase with the age of the respondent and is higher among women residing in urban areas (5 percent) than in rural areas (0.3 percent) and highest among women residing in Ashgabad (8 percent).

Table 13.9 Number of sexual partners of married women

Percent distribution of currently married women by number of persons with whom they had sexual intercourse in the past 12 months, excluding spouse or cohabitating partner, according to background characteristics, Turkmenistan 2000

Background characteristic	Number of partners excluding spouse or cohabiting partner				
	0	1	2+	Total	Number
Age					
15-19	100.0	0.0	0.0	100.0	83
20-24	98.2	1.8	0.0	100.0	682
25-29	95.9	3.8	0.3	100.0	1,015
30-39	97.4	2.5	0.0	100.0	1,791
40-49	97.0	2.7	0.2	100.0	1,321
Residence					
Urban	94.3	5.4	0.3	100.0	2,307
Rural	99.7	0.3	0.0	100.0	2,585
Region					
Ashgabad City	91.8	7.9	0.3	100.0	639
Akhal	98.3	1.7	0.0	100.0	699
Balkan	96.7	2.7	0.4	100.0	424
Dashoguz	99.5	0.5	0.0	100.0	950
Lebap	97.6	2.3	0.1	100.0	1,030
Mary	97.3	2.6	0.2	100.0	1,150
Education					
Primary/secondary	98.6	1.4	0.0	100.0	3,347
Secondary-special	93.3	6.3	0.4	100.0	1,149
Higher	96.3	3.7	0.0	100.0	396
Total	97.1	2.7	0.1	100.0	4,892

Table 13.10 shows results for unmarried women. About 3 percent of unmarried women reported having sex during the last 12 months. As might be expected, the percentage who reported having had sex increased with the respondent's age, was higher among women residing in urban areas (5 percent) than in rural areas (1 percent), and was highest among women residing in Ashgabad (6 percent). It should be noted that virtually all unmarried women who had sexual relations in the last 12 months were formerly married but, at the time of the survey, were either divorced, separated, or widowed. Among formerly married respondents, 18 percent reported having sexual relations in the last 12 months.

Table 13.10 Number of sexual partners of unmarried women

Percent distribution of unmarried women by number of persons with whom they had sexual intercourse in the past 12 months, according to background characteristics, Turkmenistan 2000

Background characteristic	Number of partners			Number
	0	1	Total	
Age				
15-19	99.6	0.4	100.0	1,491
20-24	98.2	1.8	100.0	859
25-29	93.9	6.1	100.0	241
30-39	88.5	11.5	100.0	243
40-49	89.4	10.6	100.0	192
Marital status				
Divorced, separated, or widowed	82.0	18.0	100.0	463
Never married	100.0	0.0	100.0	2,563
Residence				
Urban	95.4	4.6	100.0	1,383
Rural	98.8	1.2	100.0	1,643
Region				
Ashgabad City	94.4	5.6	100.0	399
Akhal	98.8	1.2	100.0	447
Balkan	97.3	2.7	100.0	285
Dashoguz	98.3	1.7	100.0	678
Lebap	96.1	3.9	100.0	577
Mary	97.8	2.2	100.0	641
Education				
Primary/secondary	98.2	1.8	100.0	2,453
Secondary-special	91.9	8.1	100.0	407
Higher	96.1	3.9	100.0	166
Total	97.2	2.8	100.0	3,027

13.9 KNOWLEDGE OF CONDOMS

Knowledge and use of condoms can play an important role in preventing the spread of AIDS. Table 13.11 provides information on condom awareness among women in Turkmenistan. Among all respondents, 61 percent indicated that they knew about male condoms, and 45 percent indicated that they knew of a place where they could obtain condoms, but only 33 percent indicated that they, themselves, could get condoms if they wanted to do so.

Knowledge and access to condoms varied widely by background characteristics of respondents. Younger women, never-married women, rural women, and less educated women were less aware of condoms, less aware of where to obtain condoms, and less confident of their ability to obtain them. These are the same categories of women that were identified earlier in this chapter as having less knowledge about HIV/AIDS and less knowledge of the signs and symptoms of STIs.

Table 13.11 Knowledge and source of male condom and access

Percentage of women who know about male condoms, percentage who know a source for male condoms, and the percentage who think they themselves could get a male condom, according to background characteristics, Turkmenistan 2000

Background characteristic	Knows about male condoms	Knows a source for male condoms	Could get a male condom herself	Number
Age				
15-19	37.9	27.3	13.3	1,574
20-24	56.1	39.7	25.2	1,541
25-29	70.7	51.7	40.6	1,256
30-39	72.3	53.5	43.2	2,034
40-49	66.3	50.8	41.8	1,513
Marital status				
Married/living together	69.7	50.3	40.9	4,892
Divorced, separated, or widowed	71.0	59.6	47.8	463
Never married	42.3	31.6	15.5	2,563
Residence				
Urban	73.5	61.5	46.5	3,691
Rural	49.9	30.2	21.4	4,228
Region				
Ashgabad City	81.5	74.4	61.2	1,038
Akhal	62.3	55.6	38.2	1,145
Balkan	56.9	38.8	28.4	709
Dashoguz	34.6	25.3	15.2	1,628
Lebap	76.0	56.6	43.0	1,607
Mary	60.0	30.3	22.8	1,791
Education				
Primary/secondary	51.4	34.3	23.8	5,800
Secondary-special	84.9	70.2	54.8	1,556
Higher	92.0	83.6	68.4	563
Total	60.9	44.8	33.1	7,919

13.10 Summary

The survey revealed that women of reproductive age have a limited degree of awareness and knowledge of HIV/AIDS. Seventy-three percent of respondents reported having heard of HIV/AIDS, and only 50 percent believed that they could adopt behavior patterns that would reduce their risk the disease. The limited knowledge about AIDS was further indicated by the low percentage who reported that condom use was a risk-reducing behavior. Thus, many more respondents could report name-recognition of AIDS than had an understanding of its means of transmission or of risk-reducing behavior patterns.

Significant difference in awareness and knowledge of HIV/AIDS was found by background characteristics of respondents. Women age 15-19 (and to some extent women age 20-24), never-married women, rural women, and women with primary/secondary education were much less informed. Thus, although it appears that the depth of knowledge about HIV/AIDS is limited throughout the population of women of reproductive age, there are specific sectors of the population that should be targeted by HIV/AIDS education programs.

The survey also found that in Turkmenistan there is social stigma associated with HIV/AIDS. A high percentage of respondents who had heard of AIDS indicated that infected people should not be allowed to keep that information confidential but that it should be available to members of the community (76 percent). Additionally, a relatively high percentage of respondents reported that an infected person should not be allowed to work alongside other people in a shop or office (73 percent). These results suggest that respondents hold the mistaken idea that the HIV virus can be transmitted through ordinary contact between people.

The survey has made it clear that much more could be done in terms of educating the population about HIV/AIDS. It is significant for education programs that more than 95 percent of respondents felt it would be acceptable to use the media (radio, television, and newspapers) to provide HIV/AIDS educational messages to the public. Thus, although Turkmenistan is not in the grip of the AIDS epidemic that has struck many parts of the world, greater effort in the area of HIV/AIDS education would seem to be appropriate.

REFERENCES

Academy of Preventive Medicine (APM) [Kazakhstan] and Macro International Inc. (MI). 2000. *Kazakhstan Demographic and Health Survey 1999*. Calverton, Maryland USA: APM and MI.

Church, M. and E. Koutanev. 1995. *Health sector indicators available through government institutions in the Central Asian Region of the former Soviet Union.* Almaty, Kazakhstan: Zdrav/Reform, Abt Associates, Inc.

Institute of Obstetrics and Gynecology (IOG) [Uzbekistan] and Macro International Inc. (MI). 1997. *Uzbekistan Demographic and Health Survey, 1996.* Calverton, Maryland: IOG and MI.

Fauci, A., and H.C. Lane. 2000. Human immunodeficiency virus (HIV) disease: AIDS and related disorders. In *Harrison's principles of internal medicine,* 14th Edition (cd-ROM version). New York: McGraw-Hill.

Martorell, R. and J.P. Habicht. 1986. Growth in early childhood in developing countries. In *Human growth: A comprehensive treatise,* Vol. 3, eds. F. Falkner and J.M. Tanner. New York: Plenum Press. 241-262.

Ministry of Health and Medical Industry (MOHMI) [Turkmenistan]. 1999. *The National Programme on AIDS/STIs Prevention in Turkmenistan for 1999-2003.* MOHMI document 09.09.99 N337, Ashgabad, Turkmenistan: MOHMI.

Research Institute of Obstetrics and Pediatrics (RIOP) [Kyrgyz Republic] and Macro International Inc. (MI). 1998. *Kyrgyz Republic Demographic and Health Survey 1997*. Calverton, Maryland USA: RIOP and MI.

Sharmanov, A. 1998. Anemia in Central Asia: Demographic and health survey experience. *Food and Nutrition Bulletin* 19(4):307-317.

Sharmanov, A. 2000. *Anemia testing manual for population-based surveys*. Calverton, Maryland: Macro International Inc.

Stoltzfus, R.J., and M. Dreyfuss. 1998. *Guidelines for the use of iron supplements to prevent and treat iron deficiency anemia*. The International Nutritional Anemia Consultative Group (INACG), the World Health Organization (WHO) and the United Nations Children's Fund (UNICEF). Washington, D.C., USA: INACG, WHO, and UNICEF.

United Nations Development Programme (UNDP) [Turkmenistan] and National Institute of Statistics and Forecasting [Turkmenistan]. 1998. *Living conditions in Turkmenistan.* Ashgabad, Turkmenistan: UNDP.

United Nations. 1962. *1961 Demographic yearbook*. New York: United Nations.

United Nations. 1982. *Non-sampling errors in household surveys: Sources, assessment and control.* National Household Survey Capability Programme. New York: United Nations.

World Health Organization (WHO). 1993. *International classification of diseases and related health problems, tenth revision*. Geneva, Switzerland: WHO.

SAMPLE DESIGN

APPENDIX A

A. Aliaga

A.1 SAMPLE DESIGN

The sample for the 2000 TDHS was designed to allow statistical analysis at the national level, for urban and rural areas, and for the six regions of the country (Ashgabad City, Akhal, Balkan, Dashoguz, Lebap, and Mary).

The sample design was specified in terms of a target number of households in the six regions of Turkmenistan. The overall target number of households was set at 6,800. This number was allocated to the regions as follows: 800 to Ashgabad City, 1,000 to each of 4 regions (Akhal, Balkan, Lebap and Mary) and 2,000 to the remaining region (Dashoguz), for which more intensive analysis was desired (see Table A.1).

The six regions of the country were further stratified into urban areas (cities, towns and small settlements) and rural areas (villages). The sampling frame consisted of the list of standard segments. Each standard segment was created on the basis of contiguous blocks that have clear boundaries—coinciding to the extent possible with census supervisor areas—and have between 200 and 500 households according to measures of size estimated by projection from to the 1995 Census data.

Table A.1 Sample allocation

Distribution of standard segments in the DHS sample by region and urban-rural residence, Turkmenistan 2000

Region	Target number of households	Number of selected standard segments	Number of urban standard segments	Number of rural standard segments
Ashgabad	800	34	34	0
Akhal	1000	35	11	24
Balkan	1000	35	27	8
Dashoguz	2000	57	22	35
Lebap	1000	35	15	20
Mary	1000	35	9	26
Total	6800	231	118	113

A.2 Sample Selection

The sample was designed as a two-stage probability sample. Within regions the sample was to be self-weighting. The first stage involved the selection of standard segments (PSUs) by systematic sampling with probability proportional to size. This resulted in the selection of 231 standard segments:118 in urban areas and 113 in rural areas. A household listing operation was conducted in each selected standard segment. In the second stage, households were selected with probability proportional to the inverse of the first stage selection probability. On average, the number of households selected per standard segment was 28.

Since the sample for each of the six survey regions was self-weighting, the sampling fraction for each region was an important design parameter. The sampling fractions were estimated with projected census figures. The weighting factors for the six survey regions are inversely proportional to the sampling fractions.

A.3 Sample Implementation

Implementation of the sample design resulted in the selection of 6,850 households. The data on household membership and age collected in the Household Questionnaire identified 8,250 women eligible for the Women's Questionnaire (i.e., women age 15-49 who were usual household members or who stayed in the household the night before the interviewer's visit) (Table A.2).

From the 6,850 selected households, 6,391 were identified as current households and household interviews were completed in 6,302. This yields a household response rate of 98.6 percent. Of the 8,250 women who were eligible respondents, a total of 7,919 were interviewed. This yields an eligible woman response rate of 96.0 percent.

The overall response rate (94.7 percent) is the product of the household response rate and the eligible woman response rate. The overall response rate varies by region from 85.6 percent in Ashgabad City to 97.4 percent in the Balkan Region.

A.2 Sample implementation

Percent distribution of households and eligible women in the DHS sample by results of the interview and household, eligible woman, and overall response rates, according to sample domain and urban-rural residence, Turkmenistan 2000

Result of interview and response rate	Region						Residence		Total
	Ashgabad	Akhal	Balkan	Dashoguz	Lebap	Mary	Urban	Rural	
Selected households									
Completed (C)	80.5	89.2	91.8	95.6	94.4	93.9	88.9	95.7	92.0
Household present but no competent respondent at home (HP)	2.1	0.3	0.9	0.1	0.3	0.1	0.8	0.1	0.5
Postponed (P)	0.3	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
Refused (R)	3.3	0.3	0.0	0.2	0.2	0.3	0.8	0.2	0.6
Dwelling not found (DNF)	0.4	0.9	0.1	0.0	0.0	0.0	0.2	0.2	0.2
Household absent (HA)	8.6	4.8	4.0	2.3	2.7	3.5	5.5	1.9	3.9
Dwelling vacant/address not a dwelling (DV)	4.4	4.2	2.8	1.6	1.8	2.0	3.5	1.5	2.5
Dwelling destroyed (DD)	0.5	0.2	0.2	0.1	0.6	0.0	0.3	0.2	0.2
Other (O)	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.1	0.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of households	780	956	992	2,032	1,040	1,050	3,688	3,162	6,850
Household response rate (HRR)[1]	93.0	98.3	98.9	99.7	99.5	99.5	97.9	99.4	98.6
Eligible women									
Completed (EWC)	92.0	93.8	98.4	96.9	96.8	95.2	96.3	95.7	96.0
Not at home (EWNH)	4.6	5.4	0.6	2.1	2.0	3.4	2.3	3.1	2.7
Postponed (EWP)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Refused (EWR)	2.2	0.1	0.0	0.2	0.2	0.7	0.5	0.2	0.4
Partly completed (EWPC)	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0
Incapacitated	0.8	0.8	1.0	0.8	0.9	0.7	0.8	0.8	0.8
Other	0.5	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	636	1,153	1,016	2,925	1,305	1,215	3,836	4,414	8,250
Eligible woman response rate (EWRR)[2]	92.0	93.8	98.4	96.9	96.8	95.2	96.3	95.7	96.0
Overall response rate (ORR)[3]	85.6	92.1	97.4	96.6	96.3	94.7	94.3	95.2	94.7

Note: The household response rate is calculated for completed households as a proportion of completed, no competent respondent, refused, and dwelling not found. The eligible woman response rate is calculated for completed interviews as a proportion of completed, not at home, postponed, refused, partially completed, incapacitated and "other." The overall response rate is the product of the household and eligible woman response rates.

[1] Using the number of households falling into specific response categories, the household response rate (HRR) is calculated as:

$$\frac{C}{C + HP + P + R + DNF} * 100$$

[2] Using the number of eligible women falling into specific response categories, the eligible woman response rate (EWRR) is calculated as:

$$\frac{EWC}{EWC + EWNH + EWR + EWI + EWO} * 100$$

[3] The overall response rate (ORR) is calculated as: $ORR = (HRR * EWRR) \div 100$

ESTIMATES OF SAMPLING ERRORS

APPENDIX B

The estimates from a sample survey are affected by two types of errors: 1) nonsampling errors and 2) sampling errors. Nonsampling errors are the results of mistakes made in implementing data collection and data processing, such as failure to locate and interview the correct household, misunderstanding of the questions on the part of either the interviewer or the respondent, and data entry errors. Although numerous efforts were made during the implementation of the TDHS 2000 to minimize this type of error, nonsampling errors are impossible to avoid and difficult to evaluate statistically.

Sampling errors, on the other hand, can be evaluated statistically. The sample of respondents selected in the TDHS 2000 is only one of many samples that could have been selected from the same population, using the same design and expected size. Each of these samples would yield results that differ somewhat from the results of the actual sample selected. Sampling errors are a measure of the variability between all possible samples. Although the degree of variability is not known exactly, it can be estimated from the survey results.

A sampling error is usually measured in terms of the *standard error* for a particular statistic (mean, percentage, etc.), which is the square root of the variance. The standard error can be used to calculate confidence intervals within which the true value for the population can reasonably be assumed to fall. For example, for any given statistic calculated from a sample survey, the value of that statistic will fall within a range of plus or minus two times the standard error of that statistic in 95 percent of all possible samples of identical size and design.

If the sample of respondents had been selected as a simple random sample, it would have been possible to use straightforward formulas for calculating sampling errors. However, the 2000 Turkmenistan DHS sample is the result of a two-stage stratified design, and consequently, it was necessary to use more complex formulae. The computer software used to calculate sampling errors for the TDHS 2000 is the ISSA Sampling Error Module (SAMPERR). This module used the Taylor linearization method of variance estimation for survey estimates that are means or proportions. The Jackknife repeated replication method is used for variance estimation of more complex statistics such as fertility and mortality rates.

The Taylor linearization method treats any percentage or average as a ratio estimate, $r = y/x$, where y represents the total sample value for variable y, and x represents the total number of cases in the group or subgroup under consideration. The variance of r is computed using the formula given below, with the standard error being the square root of the variance:

$$var(r) = \frac{1-f}{x^2} \sum_{h=1}^{H} \left[\frac{m_h}{m_h - 1} \left(\sum_{i=1}^{m_h} z_{hi}^2 - \frac{z_h^2}{m_h} \right) \right]$$

in which

$$z_{hi} = y_{hi} - r \cdot x_{hi} \text{ , and } z_h = y_h - r \cdot x_h$$

where h represents the stratum that varies from 1 to H,
m_h is the total number of clusters selected in the h^{th} stratum,
y_{hi} is the sum of the weighted values of variable y in the i^{th} cluster in the h^{th} stratum,
x_{hi} is the sum of the weighted number of cases in the i^{th} cluster in the h^{th} stratum, and
f is the overall sampling fraction, which is so small that it is ignored.

The Jackknife repeated replication method derives estimates of complex rates from each of several replications of the parent sample and calculates standard errors for these estimates using simple formulae. Each replication considers *all but one* cluster in the calculation of the estimates. Pseudoindependent replications are thus created. In the TDHS 2000, there were 231 non-empty clusters. Hence, 231 replications were created. The variance of a rate r is calculated as follows:

$$SE^2(R) = var(r) = \frac{1}{k(k-1)} \sum_{i=1}^{k} (r_i - r)^2$$

in which

$$r_i = kr - (k-1) r_{(i)}$$

where r is the estimate computed from the full sample of 231 clusters,
$r_{(i)}$ is the estimate computed from the reduced sample of 230 clusters (i^{th} cluster excluded), and
k is the total number of clusters.

In addition to the standard error, SAMPERR computes the design effect (DEFT) for each estimate, which is defined as the ratio between the standard error using the given sample design and the standard error that would result if a simple random sample had been used. A DEFT value of 1.0 indicates that the sample design is as efficient as a simple random sample, while a value greater than 1.0 indicates the increase in the sampling error due to the use of a more complex and less statistically efficient design. SAMPERR also computes the relative error and confidence limits for the estimates.

Sampling errors for the TDHS 2000 are calculated for selected variables considered to be of primary interest. One set of results for women is presented in this appendix for the country as a whole, for urban and rural areas, for each of the six domains: Ashgabad City, Akhal, Balkan, Dashoguz, Lebap, and Mary regions. For each variable, the type of statistic (mean, proportion, or rate) and the base population are given in Table B.1. Tables B.2 to B.10 present the value of the statistic (R), its standard error (SE), the number of unweighted (N) and weighted (WN) cases, the design effect, the relative standard error (SE/R), and the 95 percent confidence limits (R±2SE), for each variable. The DEFT is considered undefined when the standard error considering simple random sample is zero (when the estimate is close to 0 or 1).

In general, the relative standard error for most estimates for the country as a whole is small, except for estimates of very small proportions. There are some differentials in the relative standard error for the estimates of subpopulations. For example, for the variable *using any contraceptive method,* the relative standard errors as a percentage of the estimated mean for the whole country, for urban areas, and for rural areas are 1.1 percent, 1.6 percent, and 1.5 percent, respectively.

The confidence interval (e.g., as calculated for the variable *using any method* can be interpreted as follows: the overall national sample proportion is 0.618 and its standard error is 0.007. Therefore, to obtain the 95 percent confidence limits, one adds and subtracts twice the standard error to the sample estimate, i.e., $0.618 \pm 2(0.007)$. There is a high probability (95 percent) that the *true* proportion of all women 15-49 using a contraceptive method is between 60.4 and 63.2 percent.

Table B.1 List of selected variables for sampling errors, Turkmenistan 2000

Variable	Estimate	Base Population
Urban resident	Proportion	All women 15-49
Primary/secondary education	Proportion	All women 15-49
Secondary-special education	Proportion	All women 15-49
Never in union	Proportion	All women 15-49
Currently in union	Proportion	All women 15-49
Ever in union before 20	Proportion	All women 15-49
Sex before 18	Proportion	All women 15-49
Children ever born	Mean	All women 15-49
Children ever born to women over 40	Mean	All women 40-49
Children surviving	Mean	All women 15-49
Knowing any method	Proportion	Currently married women 15-49
Knowing any modern method	Proportion	Currently married women 15-49
Ever used any method	Proportion	Currently married women 15-49
Using any method	Proportion	Currently married women 15-49
Using any modern method	Proportion	Currently married women 15-49
Using pill	Proportion	Currently married women 15-49
Using IUD	Proportion	Currently married women 15-49
Using condom	Proportion	Currently married women 15-49
Using female sterilization	Proportion	Currently married women 15-49
Currently using abstinence	Proportion	Currently married women 15-49
Using withdrawal	Proportion	Currently married women 15-49
Using LAM	Proportion	All women 15-49
Public source user	Proportion	User modern method
Desires no more children	Proportion	Currently married women 15-49
Wants to delay child at least 2 years	Proportion	Currently married women 15-49
Ideal number of children	Mean	All women 15-49
BMI < 18.5	Proportion	All women 15-49
BMI between 18.5 and 30.0	Proportion	All women 15-49
BMI > 30.0	Proportion	All women 15-49
Women's weight-for-height (< -2 SD)	Proportion	All women 15-49
Women with severe anemia	Proportion	All women 15-49
Women with moderate anemia	Proportion	All women 15-49
Women with mild anemia	Proportion	All women 15-49
Mother received medical care at birth	Proportion	Birth in last 5 years
Had diarrhea in the last 2 weeks	Proportion	Children under 5
Treated with ORS packets	Proportion	Children under 5 with diarrhea in last 2 weeks
Sought medical treatment	Proportion	Children under 5 with diarrhea in last 2 weeks
Received BCG vaccination	Proportion	Children 12-23 months
Received DPT vaccination (3 doses)	Proportion	Children 12-23 months
Received polio vaccination (3 doses)	Proportion	Children 12-23 months
Received measles vaccination	Proportion	Children 12-23 months
Fully immunized	Proportion	Children 12-23 months
Children's weight-for-height (< -2 SD)	Proportion	Children under 5 who were measured
Children's height-for-age (< -2 SD)	Proportion	Children under 5 who were measured
Children's weight-for-age (< -2 SD)	Proportion	Children under 5 who were measured
Children with severe anemia	Proportion	Children under 5 who were tested
Children with moderate anemia	Proportion	Children under 5 who were tested
Children with mild anemia	Proportion	Children under 5 who were tested
Total fertility rate (3 years)	Rate	Woman-years of exposure to childbearing
Neonatal mortality rate	Rate	Number of births
Infant mortality rate	Rate	Number of births
Child mortality rate	Rate	Number of births
Under-five mortality rate	Rate	Number of births
Postneonatal mortality rate	Rate	Number of births
Total abortion rate (3 years)	Rate	Woman-years of exposure to childbearing

[1]Five years for the total rate

Table B.2 Sampling errors for women: Total sample, Turkmenistan 2000

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence intervals: R-2SE	Confidence intervals: R+2SE
Urban resident	0.466	0.013	7,919	7,919	2.371	0.029	0.439	0.493
Primary/secondary education	0.732	0.008	7,919	7,919	1.604	0.011	0.717	0.748
Secondary-special education	0.268	0.008	7,919	7,919	1.604	0.030	0.252	0.283
Never in union	0.324	0.007	7,919	7,919	1.267	0.021	0.310	0.337
Currently in union	0.618	0.006	7,919	7,919	1.133	0.010	0.605	0.630
Ever in union before 20	0.292	0.008	6,330	6,345	1.323	0.026	0.277	0.308
Sex before 18	0.079	0.005	6,330	6,345	1.378	0.059	0.069	0.088
Children ever born	2.122	0.027	7,919	7,919	1.057	0.013	2.068	2.176
Children ever born to women over 40	4.842	0.073	1,473	1,513	1.218	0.015	4.695	4.989
Children surviving	1.896	0.024	7,919	7,919	1.068	0.013	1.848	1.944
Knowing any method	0.993	0.001	4,829	4,892	1.216	0.001	0.991	0.996
Knowing any modern method	0.993	0.001	4,829	4,892	1.211	0.001	0.990	0.996
Ever used any method	0.891	0.004	4,829	4,892	0.982	0.005	0.883	0.900
Using any method	0.618	0.007	4,829	4,892	0.985	0.011	0.604	0.632
Using any modern method	0.531	0.007	4,829	4,892	1.014	0.014	0.516	0.545
Using pill	0.012	0.002	4,829	4,892	1.164	0.150	0.009	0.016
Using IUD	0.390	0.007	4,829	4,892	1.035	0.019	0.376	0.405
Using condom	0.020	0.003	4,829	4,892	1.260	0.125	0.015	0.026
Using female sterilization	0.018	0.002	4,829	4,892	1.215	0.128	0.014	0.023
Currently using abstinence	0.021	0.002	4,829	4,892	1.038	0.102	0.017	0.025
Using withdrawal	0.053	0.004	4,829	4,892	1.086	0.066	0.046	0.061
Using LAM	0.049	0.003	7,919	7,919	1.093	0.054	0.044	0.055
Public source user	0.841	0.008	2,653	2,678	1.105	0.009	0.826	0.857
Desires no more children	0.532	0.009	4,829	4,892	1.242	0.017	0.514	0.550
Wants to delay child at least 2 years	0.171	0.006	4,829	4,892	1.135	0.036	0.159	0.184
Ideal number of children	3.341	0.022	7,357	7,449	1.306	0.007	3.296	3.386
BMI < 18.5	0.099	0.004	7,340	7,310	1.165	0.041	0.091	0.107
BMI between 18.5 and 30.0	0.799	0.006	7,340	7,310	1.195	0.007	0.788	0.811
BMI > 30.0	0.102	0.004	7,340	7,310	1.238	0.043	0.094	0.111
Women's weight-for-height (< -2 SD)	0.050	0.003	7,328	7,298	1.188	0.060	0.044	0.056
Women with severe anemia	0.011	0.001	7,765	7,714	1.141	0.124	0.008	0.013
Women with moderate anemia	0.084	0.004	7,765	7,714	1.368	0.051	0.075	0.092
Women with mild anemia	0.378	0.008	7,765	7,714	1.439	0.021	0.362	0.394
Mother received medical care at birth	0.972	0.004	3,624	3,583	1.136	0.004	0.964	0.980
Had diarrhea in the last 2 weeks	0.032	0.004	3,342	3,292	1.138	0.112	0.025	0.039
Treated with ORS packets	0.759	0.046	96	105	1.098	0.061	0.666	0.851
Sought medical treatment	0.385	0.057	96	105	1.167	0.149	0.271	0.499
Received BCG vaccination	0.933	0.013	634	646	1.292	0.014	0.908	0.959
Received DPT vaccination (3 doses)	0.922	0.013	634	646	1.214	0.014	0.896	0.948
Received polio vaccination (3 doses)	0.915	0.013	634	646	1.215	0.015	0.888	0.942
Received measles vaccination	0.875	0.016	634	646	1.186	0.018	0.844	0.906
Fully immunized	0.848	0.017	634	646	1.165	0.019	0.815	0.881
Children's weight-for-height (< -2 SD)	0.057	0.005	2,974	2,928	1.043	0.081	0.048	0.067
Children's height-for-age (< -2 SD)	0.223	0.009	2,974	2,928	1.127	0.040	0.205	0.242
Children's weight-for-age (< -2 SD)	0.120	0.007	2,974	2,928	1.156	0.060	0.106	0.134
Children with severe anemia	0.006	0.002	2,632	2,647	1.150	0.297	0.002	0.009
Children with moderate anemia	0.157	0.009	2,632	2,647	1.182	0.055	0.140	0.175
Children with mild anemia	0.196	0.011	2,632	2,647	1.340	0.054	0.175	0.217
Total fertility rate (3 years)	2.889	0.084	na	22,320	1.466	0.029	2.721	3.058
Neonatal mortality rate (5 years)	33.790	3.322	3,723	3,681	1.040	0.098	27.146	40.435
Infant mortality rate (5 years)	73.874	5.398	3,741	3,696	1.174	0.073	63.078	84.669
Child mortality rate (5 years)	22.019	2.414	3,746	3,706	1.007	0.110	17.192	26.846
Under-five mortality rate (5 years)	94.266	6.140	3,766	3,724	1.238	0.065	81.985	106.547
Postneonatal mortality rate (5 years)	40.083	4.154	3,739	3,693	1.219	0.104	31.775	48.391
Total abortion rate (3 years)	0.847	0.052	na	22,320	1.276	0.062	0.742	0.952

na = Not applicable

Table B.3 Sampling errors for women: Urban sample, Turkmenistan 2000

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence intervals: R-2SE	Confidence intervals: R+2SE
Urban resident	1.000	0.000	3,693	3691	na	0.000	1.000	1.000
Primary/secondary education	0.605	0.013	3,693	3691	1.645	0.022	0.579	0.632
Secondary-special education	0.395	0.013	3,693	3,691	1.645	0.034	0.368	0.421
Never in union	0.286	0.012	3,693	3,691	1.581	0.041	0.263	0.310
Currently in union	0.625	0.010	3,693	3,691	1.249	0.016	0.605	0.645
Ever in union before 20	0.328	0.011	3,018	3,032	1.314	0.034	0.306	0.351
Sex before 18	0.093	0.008	3,018	3,032	1.425	0.081	0.078	0.108
Children ever born	1.992	0.043	3,693	3,691	1.284	0.021	1.906	2.077
Children ever born to women over 40	4.051	0.113	757	790	1.481	0.028	3.824	4.278
Children surviving	1.809	0.038	3,693	3,691	1.297	0.021	1.733	1.885
Knowing any method	0.991	0.003	2,288	2,307	1.257	0.003	0.986	0.996
Knowing any modern method	0.991	0.003	2,288	2,307	1.257	0.003	0.986	0.996
Ever used any method	0.897	0.006	2,288	2,307	1.002	0.007	0.884	0.910
Using any method	0.623	0.010	2,288	2,307	1.014	0.016	0.603	0.644
Using any modern method	0.526	0.012	2,288	2,307	1.121	0.022	0.503	0.549
Using pill	0.020	0.003	2,288	2,307	1.182	0.172	0.013	0.027
Using IUD	0.382	0.011	2,288	2,307	1.118	0.030	0.359	0.404
Using condom	0.034	0.005	2,288	2,307	1.332	0.148	0.024	0.044
Using female sterilization	0.019	0.004	2,288	2,307	1.233	0.183	0.012	0.027
Currently using abstinence	0.032	0.004	2,288	2,307	1.094	0.126	0.024	0.040
Using withdrawal	0.048	0.005	2,288	2,307	1.206	0.112	0.037	0.059
Using LAM	0.036	0.004	3,693	3,691	1.233	0.105	0.028	0.044
Public source user	0.879	0.011	1,282	1,284	1.257	0.013	0.856	0.902
Desires no more children	0.536	0.014	2,288	2,307	1.304	0.025	0.508	0.563
Wants to delay child at least 2 years	0.156	0.009	2,288	2,307	1.232	0.060	0.137	0.174
Ideal number of children	3.149	0.041	3,487	3,536	1.648	0.013	3.068	3.230
BMI < 18.5	0.095	0.007	3,427	3,390	1.377	0.073	0.081	0.108
BMI between 18.5 and 30.0	0.788	0.009	3,427	3,390	1.348	0.012	0.769	0.807
BMI > 30.0	0.118	0.008	3,427	3,390	1.428	0.067	0.102	0.133
Women's weight-for-height (< -2 SD)	0.045	0.004	3,423	3,384	1.148	0.090	0.037	0.053
Women with severe anemia	0.011	0.002	3,586	3,528	1.250	0.195	0.007	0.016
Women with moderate anemia	0.076	0.005	3,586	3,528	1.228	0.071	0.065	0.087
Women with mild anemia	0.367	0.012	3,586	3,528	1.512	0.033	0.343	0.392
Mother received medical care at birth	0.982	0.005	1,470	1,413	1.196	0.005	0.972	0.993
Had diarrhea in the last 2 weeks	0.047	0.007	1,373	1,310	1.131	0.143	0.034	0.061
Treated with ORS packets	0.706	0.061	60	62	1.037	0.086	0.585	0.827
Sought medical treatment	0.310	0.070	60	62	1.181	0.226	0.170	0.450
Received BCG vaccination	0.890	0.026	277	281	1.377	0.029	0.838	0.941
Received DPT vaccination (3 doses)	0.865	0.027	277	281	1.293	0.031	0.811	0.918
Received polio vaccination (3 doses)	0.861	0.027	277	281	1.291	0.031	0.808	0.915
Received measles vaccination	0.818	0.030	277	281	1.297	0.037	0.757	0.878
Fully immunized	0.801	0.031	277	281	1.278	0.038	0.740	0.863
Children's weight-for-height (< -2 SD)	0.066	0.009	1,176	1,101	1.162	0.136	0.048	0.084
Children's height-for-age (< -2 SD)	0.195	0.014	1,176	1,101	1.139	0.072	0.166	0.223
Children's weight-for-age (< -2 SD)	0.120	0.011	1,176	1,101	1.087	0.092	0.098	0.142
Children with severe anemia	0.003	0.001	1,042	1,005	0.739	0.439	0.000	0.005
Children with moderate anemia	0.178	0.012	1,042	1,005	0.996	0.070	0.153	0.203
Children with mild anemia	0.231	0.016	1,042	1,005	1.188	0.069	0.199	0.263
Total fertility rate (3 years)	2.458	0.116	na	10,444	1.517	0.047	2.226	2.689
Neonatal mortality rate (10 years)	32.213	3.726	3,281	3,204	1.087	0.116	24.761	39.664
Infant mortality rate (10 years)	60.103	6.697	3,282	3,205	1.447	0.111	46.710	73.496
Child mortality rate (10 years)	13.372	2.098	3,287	3,209	1.037	0.157	9.176	17.568
Under-five mortality rate (10 years)	72.671	7.051	3,288	3,209	1.429	0.097	58.569	86.773
Postneonatal mortality rate (10 years)	27.890	4.533	3,282	3,205	1.477	0.163	18.823	36.957
Total abortion rate (3 years)	1.024	0.079	na	10,444	1.249	0.077	0.866	1.182

na = Not applicable

Table B.4 Sampling errors for women: Rural sample, Turkmenistan 2000

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence intervals: R-2SE	Confidence intervals: R+2SE
Urban resident	0.000	0.000	4,226	4,228	na	na	0.000	0.000
Primary/secondary education	0.843	0.010	4,226	4,228	1.708	0.011	0.824	0.863
Secondary-special education	0.157	0.010	4,226	4,228	1.708	0.061	0.137	0.176
Never in union	0.356	0.008	4,226	4,228	1.045	0.022	0.341	0.372
Currently in union	0.611	0.008	4,226	4,228	1.032	0.013	0.596	0.627
Ever in union before 20	0.260	0.010	3,312	3,313	1.320	0.039	0.240	0.280
Sex before 18	0.065	0.006	3,312	3,313	1.320	0.087	0.054	0.077
Children ever born	2.236	0.035	4,226	4,228	0.927	0.016	2.166	2.306
Children ever born to women over 40	5.707	0.086	716	723	1.037	0.015	5.536	5.878
Children surviving	1.972	0.030	4,226	4,228	0.921	0.015	1.911	2.033
Knowing any method	0.996	0.001	2,541	2,585	1.139	0.001	0.993	0.999
Knowing any modern method	0.995	0.002	2,541	2,585	1.134	0.002	0.992	0.998
Ever used any method	0.886	0.006	2,541	2,585	0.958	0.007	0.874	0.898
Using any method	0.614	0.009	2,541	2,585	0.962	0.015	0.595	0.632
Using any modern method	0.535	0.009	2,541	2,585	0.904	0.017	0.517	0.553
Using pill	0.005	0.002	2,541	2,585	1.268	0.351	0.002	0.009
Using IUD	0.398	0.009	2,541	2,585	0.959	0.023	0.379	0.416
Using condom	0.008	0.002	2,541	2,585	1.141	0.247	0.004	0.012
Using female sterilization	0.017	0.003	2,541	2,585	1.195	0.178	0.011	0.024
Currently using abstinence	0.011	0.002	2,541	2,585	1.008	0.190	0.007	0.015
Using withdrawal	0.058	0.005	2,541	2,585	0.999	0.080	0.049	0.067
Using LAM	0.061	0.004	4,226	4,228	0.982	0.059	0.054	0.068
Public source user	0.806	0.011	1,371	1,393	0.989	0.013	0.785	0.827
Desires no more children	0.529	0.012	2,541	2,585	1.182	0.022	0.505	0.552
Wants to delay child at least 2 years	0.186	0.008	2,541	2,585	1.076	0.045	0.169	0.202
Ideal number of children	3.515	0.023	3,870	3,912	0.976	0.007	3.469	3.561
BMI < 18.5	0.103	0.005	3,913	3,920	0.966	0.046	0.093	0.112
BMI between 18.5 and 30.0	0.809	0.006	3,913	3,920	1.028	0.008	0.796	0.822
BMI > 30.0	0.089	0.004	3,913	3,920	0.988	0.051	0.080	0.098
Women's weight-for-height (< -2 SD)	0.054	0.004	3,905	3,914	1.207	0.081	0.045	0.063
Women with severe anemia	0.010	0.002	4,179	4,186	1.034	0.157	0.007	0.014
Women with moderate anemia	0.090	0.006	4,179	4,186	1.449	0.071	0.077	0.103
Women with mild anemia	0.387	0.010	4,179	4,186	1.369	0.027	0.366	0.408
Mother received medical care at birth	0.966	0.006	2,154	2,171	1.122	0.006	0.954	0.977
Had diarrhea in the last 2 weeks	0.022	0.004	1,969	1,982	1.130	0.175	0.014	0.030
Treated with ORS packets	0.834	0.069	36	43	1.208	0.083	0.696	0.971
Sought medical treatment	0.492	0.086	36	43	1.094	0.175	0.320	0.665
Received BCG vaccination	0.967	0.010	357	365	1.082	0.011	0.946	0.987
Received DPT vaccination (3 doses)	0.966	0.010	357	365	1.029	0.010	0.947	0.986
Received polio vaccination (3 doses)	0.956	0.011	357	365	1.058	0.012	0.934	0.979
Received measles vaccination	0.920	0.015	357	365	1.050	0.016	0.890	0.950
Fully immunized	0.885	0.018	357	365	1.047	0.020	0.849	0.920
Children's weight-for-height (< -2 SD)	0.052	0.005	1,798	1,827	0.941	0.097	0.042	0.062
Children's height-for-age (< -2 SD)	0.241	0.012	1,798	1,827	1.130	0.049	0.217	0.264
Children's weight-for-age (< -2 SD)	0.120	0.009	1798	1,827	1.195	0.079	0.101	0.139
Children with severe anemia	0.007	0.003	1,590	1,642	1.219	0.349	0.002	0.012
Children with moderate anemia	0.145	0.012	1,590	1,642	1.284	0.080	0.121	0.168
Children with mild anemia	0.175	0.014	1,590	1,642	1.427	0.079	0.147	0.202
Total fertility rate (3 years)	3.296	0.112	na	11,876	1.265	0.034	3.072	3.519
Neonatal mortality rate (10 years)	33.406	2.906	4,507	4,491	0.971	0.087	27.595	39.218
Infant mortality rate (10 years)	79.938	4.886	4,511	4,495	1.117	0.061	70.166	89.709
Child mortality rate (10 years)	21.578	2.638	4,517	4,501	1.118	0.122	16.302	26.853
Under-five mortality rate (10 years)	99.791	5.528	4,523	4,507	1.135	0.055	88.735	110.846
Postneonatal mortality rate (10 years)	46.532	3.608	4,509	4,492	1.084	0.078	39.316	53.747
Total abortion rate (3 years)	0.686	0.067	na	11,876	1.283	0.098	0.551	0.820

na = Not applicable

Table B.5 Sampling errors for women: Ashgabad City sample, Turkmenistan 2000

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence intervals: R-2SE	Confidence intervals: R+2SE
Urban resident	1.000	0.000	585	1,038	na	0.000	1.000	1.000
Primary/secondary education	0.517	0.032	585	1,038	1.566	0.063	0.452	0.582
Secondary-special education	0.483	0.032	585	1,038	1.566	0.067	0.418	0.548
Never in union	0.273	0.017	585	1,038	0.904	0.061	0.239	0.306
Currently in union	0.616	0.016	585	1,038	0.817	0.027	0.583	0.648
Ever in union before 20	0.337	0.025	495	882	1.159	0.073	0.288	0.387
Sex before 18	0.096	0.017	495	882	1.265	0.174	0.063	0.130
Children ever born	1.722	0.112	585	1,038	1.591	0.065	1.498	1.947
Children ever born to women over 40	3.254	0.257	127	225	1.538	0.079	2.739	3.768
Children surviving	1.583	0.105	585	1,038	1.644	0.067	1.372	1.793
Knowing any method	0.989	0.006	360	639	1.152	0.006	0.976	1.000
Knowing any modern method	0.989	0.006	360	639	1.152	0.006	0.976	1.000
Ever used any method	0.895	0.015	360	639	0.900	0.016	0.866	0.924
Using any method	0.597	0.022	360	639	0.857	0.037	0.553	0.641
Using any modern method	0.518	0.021	360	639	0.813	0.041	0.475	0.561
Using pill	0.032	0.011	360	639	1.145	0.332	0.011	0.053
Using IUD	0.349	0.016	360	639	0.635	0.046	0.317	0.381
Using condom	0.064	0.016	360	639	1.210	0.244	0.033	0.095
Using female sterilization	0.008	0.005	360	639	1.015	0.582	0.000	0.018
Currently using abstinence	0.043	0.009	360	639	0.855	0.213	0.025	0.061
Using withdrawal	0.031	0.008	360	639	0.915	0.270	0.014	0.048
Using LAM	0.031	0.005	585	1,038	0.763	0.178	0.020	0.041
Public source user	0.879	0.020	201	354	0.858	0.022	0.840	0.919
Desires no more children	0.528	0.022	360	639	0.842	0.042	0.484	0.573
Wants to delay child at least 2 years	0.142	0.020	360	639	1.104	0.143	0.101	0.183
Ideal number of children	2.887	0.108	559	994	1.790	0.037	2.672	3.103
BMI < 18.5	0.071	0.012	513	907	1.078	0.172	0.047	0.096
BMI between 18.5 and 30.0	0.804	0.021	513	907	1.212	0.026	0.761	0.847
BMI > 30.0	0.124	0.021	513	907	1.466	0.172	0.082	0.167
Women's weight-for-height (< -2 SD)	0.033	0.009	512	905	1.103	0.265	0.015	0.050
Women with severe anemia	0.008	0.005	525	928	1.207	0.598	0.000	0.017
Women with moderate anemia	0.050	0.010	525	928	1.020	0.193	0.031	0.070
Women with mild anemia	0.310	0.029	525	928	1.433	0.093	0.252	0.368
Mother received medical care at birth	0.994	0.005	201	356	1.035	0.005	0.984	1.000
Had diarrhea in the last 2 weeks	0.047	0.018	188	332	1.043	0.371	0.012	0.082
Treated with ORS packets	0.646	0.172	9	16	1.014	0.266	0.302	0.990
Sought medical treatment	0.217	0.140	9	16	0.980	0.643	0.000	0.496
Received BCG vaccination	0.752	0.081	43	75	1.223	0.108	0.589	0.914
Received DPT vaccination (3 doses)	0.728	0.082	43	75	1.198	0.113	0.564	0.892
Received polio vaccination (3 doses)	0.728	0.082	43	75	1.194	0.112	0.564	0.892
Received measles vaccination	0.681	0.084	43	75	1.172	0.123	0.513	0.849
Fully immunized	0.657	0.084	43	75	1.143	0.127	0.490	0.824
Children's weight-for-height (< -2 SD)	0.109	0.031	130	228	1.071	0.288	0.046	0.171
Children's height-for-age (< -2 SD)	0.133	0.025	130	228	0.807	0.189	0.083	0.183
Children's weight-for-age (< -2 SD)	0.117	0.031	130	228	1.063	0.264	0.055	0.179
Children with severe anemia	0.000	0.000	113	198	na	na	0.000	0.000
Children with moderate anemia	0.186	0.029	113	198	0.771	0.157	0.127	0.244
Children with mild anemia	0.230	0.036	113	198	0.901	0.156	0.158	0.301
Total fertility rate (3 years)	2.101	0.243	na	2,979	1.307	0.116	1.615	2.587
Neonatal mortality rate (10 years)	33.379	8.270	438	779	0.977	0.248	16.839	49.918
Infant mortality rate (10 years)	47.698	9.304	438	779	0.895	0.195	29.089	66.306
Child mortality rate (10 years)	11.672	4.356	439	781	0.846	0.373	2.960	20.384
Under-five mortality rate (10 years)	58.813	8.158	439	781	0.716	0.139	42.496	75.130
Postneonatal mortality rate (10 years)	14.319	5.738	438	779	0.875	0.401	2.844	25.794
Total abortion rate (3 years)	1.118	0.158	na	2,979	0.819	0.142	0.801	1.434

na = Not applicable

Table B.6 Sampling errors for women: Akhal sample, Turkmenistan 2000

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence intervals: R-2SE	Confidence intervals: R+2SE
Urban resident	0.320	0.023	1,081	1,145	1.621	0.072	0.274	0.366
Primary/secondary education	0.864	0.014	1,081	1,145	1.325	0.016	0.836	0.891
Secondary-special education	0.136	0.014	1,081	1,145	1.325	0.101	0.109	0.164
Never in union	0.348	0.017	1,081	1,145	1.189	0.050	0.314	0.382
Currently in union	0.610	0.015	1,081	1,145	1.026	0.025	0.580	0.640
Ever in union before 20	0.292	0.028	853	905	1.769	0.094	0.237	0.347
Sex before 18	0.094	0.017	853	905	1.654	0.176	0.061	0.127
Children ever born	2.192	0.069	1,081	1,145	0.962	0.032	2.053	2.331
Children ever born to women over 40	5.266	0.156	201	212	0.999	0.030	4.955	5.578
Children surviving	1.939	0.065	1,081	1,145	1.032	0.034	1.809	2.070
Knowing any method	0.996	0.003	660	699	0.989	0.003	0.991	1.000
Knowing any modern method	0.996	0.003	660	699	0.989	0.003	0.991	1.000
Ever used any method	0.903	0.009	660	699	0.821	0.010	0.884	0.922
Using any method	0.663	0.013	660	699	0.704	0.020	0.637	0.689
Using any modern method	0.609	0.014	660	699	0.747	0.023	0.580	0.637
Using pill	0.022	0.005	660	699	0.911	0.239	0.011	0.032
Using IUD	0.435	0.022	660	699	1.123	0.050	0.392	0.479
Using condom	0.034	0.006	660	699	0.792	0.163	0.023	0.046
Using female sterilization	0.026	0.008	660	699	1.267	0.303	0.010	0.041
Currently using abstinence	0.009	0.004	660	699	1.015	0.415	0.002	0.016
Using withdrawal	0.044	0.008	660	699	1.010	0.184	0.028	0.060
Using LAM	0.051	0.006	1,081	1,145	0.942	0.123	0.039	0.064
Public source user	0.857	0.016	404	429	0.935	0.019	0.825	0.890
Desires no more children	0.525	0.015	660	699	0.783	0.029	0.495	0.556
Wants to delay child at least 2 years	0.226	0.012	660	699	0.755	0.054	0.201	0.251
Ideal number of children	3.514	0.042	1,045	1,108	0.877	0.012	3.430	3.599
BMI < 18.5	0.087	0.010	1,005	1,065	1.159	0.118	0.067	0.108
BMI between 18.5 and 30.0	0.808	0.014	1,005	1,065	1.140	0.018	0.780	0.837
BMI > 30.0	0.106	0.010	1,005	1,065	1.033	0.095	0.086	0.126
Women's weight-for-height (< -2 SD)	0.042	0.007	1,002	1,062	1.033	0.156	0.029	0.055
Women with severe anemia	0.010	0.004	1,066	1,130	1.211	0.379	0.002	0.017
Women with moderate anemia	0.064	0.009	1,066	1,130	1.181	0.138	0.046	0.082
Women with mild anemia	0.374	0.018	1,066	1,130	1.239	0.049	0.337	0.411
Mother received medical care at birth	0.927	0.016	480	507	1.037	0.018	0.895	0.960
Had diarrhea in the last 2 weeks	0.021	0.006	441	466	0.942	0.306	0.008	0.034
Treated with ORS packets	0.681	0.192	9	10	1.250	0.282	0.297	1.000
Sought medical treatment	0.316	0.075	9	10	0.489	0.237	0.166	0.467
Received BCG vaccination	0.928	0.024	84	89	0.858	0.026	0.879	0.976
Received DPT vaccination (3 doses)	0.915	0.024	84	89	0.772	0.026	0.867	0.962
Received polio vaccination (3 doses)	0.913	0.022	84	89	0.719	0.024	0.869	0.957
Received measles vaccination	0.778	0.042	84	89	0.919	0.054	0.694	0.861
Fully immunized	0.753	0.040	84	89	0.846	0.053	0.674	0.833
Children's weight-for-height (< -2 SD)	0.053	0.009	408	430	0.792	0.169	0.035	0.072
Children's height-for-age (< -2 SD)	0.240	0.023	408	430	1.013	0.095	0.194	0.285
Children's weight-for-age (< -2 SD)	0.076	0.012	408	430	0.879	0.154	0.052	0.099
Children with severe anemia	0.000	0.000	374	396	na	na	0.000	0.000
Children with moderate anemia	0.102	0.021	374	396	1.329	0.201	0.061	0.143
Children with mild anemia	0.208	0.029	374	396	1.380	0.137	0.151	0.265
Total fertility rate (3 years)	2.912	0.212	na	3,230	1.248	0.073	2.488	3.336
Neonatal mortality rate (10 years)	29.908	5.836	1,064	1,127	0.983	0.195	18.235	41.580
Infant mortality rate (10 years)	74.395	8.401	1,066	1,129	0.998	0.113	57.592	91.198
Child mortality rate (10 years)	9.730	3.201	1,064	1,127	1.055	0.329	3.328	16.131
Under-five mortality rate (10 years)	83.401	8.600	1,067	1,130	0.966	0.103	66.202	100.600
Postneonatal mortality rate (10 years)	44.487	6.372	1,065	1,128	1.018	0.143	31.742	57.232
Total abortion rate (3 years)	0.481	0.117	na	3,230	1.276	0.244	0.247	0.715

na = Not applicable

Table B.7 Sampling errors for women: Balkan sample, Turkmenistan 2000

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence intervals: R-2SE	Confidence intervals: R+2SE
Urban resident	0.796	0.015	1,000	709	1.147	0.018	0.766	0.825
Primary/secondary education	0.736	0.022	1,000	709	1.548	0.029	0.693	0.779
Secondary-special education	0.264	0.022	1,000	709	1.548	0.082	0.221	0.307
Never in union	0.333	0.021	1,000	709	1.407	0.063	0.291	0.375
Currently in union	0.598	0.017	1,000	709	1.116	0.029	0.563	0.633
Ever in union before 20	0.231	0.019	821	581	1.275	0.081	0.194	0.269
Sex before 18	0.064	0.010	821	581	1.112	0.148	0.045	0.083
Children ever born	2.024	0.078	1,000	709	1.098	0.039	1.868	2.181
Children ever born to women over 40	4.819	0.235	207	147	1.458	0.049	4.349	5.289
Children surviving	1.849	0.063	1,000	709	0.980	0.034	1.723	1.974
Knowing any method	0.981	0.007	595	424	1.199	0.007	0.967	0.994
Knowing any modern method	0.981	0.007	595	424	1.199	0.007	0.967	0.994
Ever used any method	0.860	0.015	595	424	1.055	0.017	0.830	0.890
Using any method	0.611	0.023	595	424	1.138	0.037	0.566	0.657
Using any modern method	0.487	0.020	595	424	0.968	0.041	0.448	0.527
Using pill	0.003	0.002	595	424	0.929	0.697	0.000	0.007
Using IUD	0.372	0.023	595	424	1.138	0.061	0.327	0.417
Using condom	0.018	0.006	595	424	1.013	0.307	0.007	0.029
Using female sterilization	0.017	0.003	595	424	0.627	0.197	0.010	0.023
Currently using abstinence	0.020	0.006	595	424	1.054	0.306	0.008	0.032
Using withdrawal	0.053	0.012	595	424	1.297	0.224	0.029	0.077
Using LAM	0.040	0.010	1,000	709	1.545	0.240	0.021	0.059
Public source user	0.861	0.029	306	216	1.471	0.034	0.802	0.919
Desires no more children	0.454	0.023	595	424	1.102	0.050	0.409	0.499
Wants to delay child at least 2 years	0.149	0.014	595	424	0.935	0.092	0.122	0.177
Ideal number of children	3.434	0.065	965	684	1.228	0.019	3.305	3.563
BMI < 18.5	0.135	0.014	950	672	1.305	0.107	0.106	0.163
BMI between 18.5 and 30.0	0.746	0.013	950	672	0.891	0.017	0.721	0.771
BMI > 30.0	0.120	0.013	950	672	1.224	0.108	0.094	0.146
Women's weight-for-height (< -2 SD)	0.075	0.009	949	672	1.062	0.121	0.057	0.093
Women with severe anemia	0.018	0.005	995	705	1.153	0.273	0.008	0.027
Women with moderate anemia	0.128	0.012	995	705	1.147	0.095	0.104	0.153
Women with mild anemia	0.449	0.019	995	705	1.209	0.042	0.411	0.487
Mother received medical care at birth	0.961	0.012	386	277	1.059	0.012	0.938	0.985
Had diarrhea in the last 2 weeks	0.032	0.009	362	259	1.023	0.295	0.013	0.051
Treated with ORS packets	0.772	0.105	12	8	0.855	0.136	0.563	0.982
Sought medical treatment	0.307	0.147	12	8	1.086	0.477	0.014	0.600
Received BCG vaccination	0.873	0.046	78	55	1.212	0.052	0.782	0.965
Received DPT vaccination (3 doses)	0.849	0.047	78	55	1.084	0.055	0.756	0.942
Received polio vaccination (3 doses)	0.856	0.045	78	55	1.132	0.053	0.766	0.946
Received measles vaccination	0.807	0.050	78	55	1.063	0.062	0.707	0.906
Fully immunized	0.781	0.057	78	55	1.176	0.073	0.666	0.895
Children's weight-for-height (< -2 SD)	0.038	0.013	343	247	1.281	0.346	0.012	0.064
Children's height-for-age (< -2 SD)	0.143	0.020	343	247	1.054	0.139	0.104	0.183
Children's weight-for-age (< -2 SD)	0.116	0.021	343	247	1.244	0.183	0.073	0.158
Children with severe anemia	0.013	0.007	322	233	1.067	0.515	0.000	0.026
Children with moderate anemia	0.246	0.027	322	233	1.071	0.110	0.192	0.300
Children with mild anemia	0.252	0.029	322	233	1.195	0.116	0.194	0.310
Total fertility rate (3 years)	2.681	0.213	na	2,020	1.398	0.079	2.255	3.107
Neonatal mortality rate (10 years)	29.971	5.496	869	625	0.944	0.183	18.978	40.964
Infant mortality rate (10 years)	50.907	8.040	870	626	1.064	0.158	34.828	66.986
Child mortality rate (10 years)	12.197	4.307	870	626	1.227	0.353	3.584	20.811
Under-five mortality rate (10 years)	62.484	8.004	871	626	0.994	0.128	46.476	78.492
Postneonatal mortality rate (10 years)	20.936	4.865	870	626	0.968	0.232	11.206	30.667
Total abortion rate (3 years)	0.754	0.134	na	2,020	1.333	0.178	0.485	1.022

na = Not applicable

Table B.8 Sampling errors for women: Dashoguz Region sample, Turkmenistan 2000

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence intervals: R-2SE	Confidence intervals: R+2SE
Urban resident	0.328	0.031	2,833	1,628	3.526	0.095	0.266	0.390
Primary/secondary education	0.797	0.010	2,833	1,628	1.340	0.013	0.777	0.818
Secondary-special education	0.203	0.010	2,833	1,628	1.340	0.050	0.182	0.223
Never in union	0.372	0.015	2,833	1,628	1.629	0.040	0.342	0.402
Currently in union	0.584	0.012	2,833	1,628	1.275	0.020	0.560	0.607
Ever in union before 20	0.285	0.012	2,244	1,293	1.259	0.042	0.261	0.309
Sex before 18	0.086	0.007	2,244	1,293	1.250	0.086	0.072	0.101
Children ever born	2.206	0.050	2,833	1,628	1.035	0.023	2.106	2.305
Children ever born to women over 40	5.774	0.152	481	283	1.320	0.026	5.470	6.078
Children surviving	1.946	0.045	2,833	1,628	1.068	0.023	1.857	2.035
Knowing any method	0.992	0.002	1,656	950	1.152	0.003	0.987	0.997
Knowing any modern method	0.992	0.002	1,656	950	1.152	0.003	0.987	0.997
Ever used any method	0.903	0.008	1,656	950	1.154	0.009	0.886	0.920
Using any method	0.558	0.014	1,656	950	1.134	0.025	0.530	0.586
Using any modern method	0.548	0.014	1,656	950	1.152	0.026	0.520	0.577
Using pill	0.005	0.002	1,656	950	1.138	0.386	0.001	0.009
Using IUD	0.405	0.014	1,656	950	1.183	0.035	0.377	0.434
Using condom	0.005	0.001	1,656	950	0.733	0.267	0.002	0.007
Using female sterilization	0.011	0.003	1,656	950	1.068	0.251	0.005	0.016
Currently using abstinence	0.003	0.001	1,656	950	0.946	0.434	0.000	0.005
Using withdrawal	0.007	0.002	1,656	950	1.201	0.361	0.002	0.011
Using LAM	0.069	0.005	2,833	1,628	1.008	0.069	0.060	0.079
Public source user	0.786	0.014	925	533	1.011	0.017	0.759	0.813
Desires no more children	0.531	0.015	1,656	950	1.198	0.028	0.502	0.561
Wants to delay child at least 2 years	0.154	0.011	1,656	950	1.191	0.069	0.133	0.175
Ideal number of children	3.475	0.033	2,476	1,427	1.087	0.010	3.408	3.542
BMI < 18.5	0.105	0.007	2,624	1,510	1.181	0.067	0.090	0.119
BMI between 18.5 and 30.0	0.813	0.009	2,624	1,510	1.157	0.011	0.795	0.830
BMI > 30.0	0.083	0.009	2,624	1,510	1.594	0.103	0.066	0.100
Women's weight-for-height (< -2 SD)	0.058	0.004	2,618	1,506	0.980	0.077	0.049	0.067
Women with severe anemia	0.018	0.003	2,792	1,606	1.084	0.154	0.012	0.023
Women with moderate anemia	0.105	0.008	2,792	1,606	1.307	0.072	0.090	0.120
Women with mild anemia	0.401	0.011	2,792	1,606	1.238	0.029	0.378	0.424
Mother received medical care at birth	0.971	0.008	1,384	801	1.342	0.008	0.955	0.987
Had diarrhea in the last 2 weeks	0.015	0.004	1,275	735	1.084	0.249	0.007	0.022
Treated with ORS packets	0.814	0.078	22	11	0.864	0.096	0.658	0.970
Sought medical treatment	0.596	0.126	22	11	1.104	0.211	0.344	0.847
Received BCG vaccination	0.989	0.007	214	126	1.029	0.007	0.974	1.000
Received DPT vaccination (3 doses)	0.984	0.008	214	126	0.878	0.008	0.969	0.999
Received polio vaccination (3 doses)	0.965	0.012	214	126	0.967	0.012	0.941	0.989
Received measles vaccination	0.918	0.025	214	126	1.334	0.027	0.868	0.967
Fully immunized	0.899	0.025	214	126	1.233	0.028	0.849	0.949
Children's weight-for-height (< -2 SD)	0.050	0.006	1,093	635	0.962	0.127	0.038	0.063
Children's height-for-age (< -2 SD)	0.272	0.016	1,093	635	1.134	0.058	0.241	0.304
Children's weight-for-age (< -2 SD)	0.160	0.015	1,093	635	1.263	0.092	0.131	0.190
Children with severe anemia	0.014	0.003	895	526	0.894	0.252	0.007	0.020
Children with moderate anemia	0.238	0.016	895	526	1.121	0.069	0.205	0.271
Children with mild anemia	0.268	0.017	895	526	1.126	0.062	0.235	0.301
Total fertility rate (3 years)	3.137	0.112	na	4,574	1.185	0.036	2.912	3.361
Neonatal mortality rate (10 years)	29.522	3.331	2,932	1,707	0.980	0.113	22.859	36.185
Infant mortality rate (10 years)	80.402	6.896	2,934	1,708	1.233	0.086	66.610	94.194
Child mortality rate (10 years)	18.772	3.115	2,942	1,713	1.218	0.166	12.543	25.002
Under-five mortality rate (10 years)	97.665	7.560	2,944	1,714	1.262	0.077	82.545	112.785
Postneonatal mortality rate (10 years)	50.880	5.454	2,934	1,708	1.211	0.107	39.971	61.788
Total abortion rate (3 years)	0.599	0.064	na	4,574	1.161	0.107	0.471	0.727

na = Not applicable

Table B.9 Sampling errors for women: Lebap Region sample, Turkmenistan 2000

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence intervals: R-2SE	Confidence intervals: R+2SE
Urban resident	0.443	0.048	1,263	1,607	3.429	0.108	0.347	0.539
Primary/secondary education	0.591	0.020	1,263	1,607	1.411	0.033	0.552	0.630
Secondary-special education	0.409	0.020	1,263	1,607	1.411	0.048	0.370	0.448
Never in union	0.299	0.017	1,263	1,607	1.327	0.057	0.265	0.333
Currently in union	0.641	0.014	1,263	1,607	1.049	0.022	0.613	0.669
Ever in union before 20	0.349	0.017	996	1,258	1.157	0.050	0.314	0.384
Sex before 18	0.078	0.009	996	1,258	1.115	0.121	0.059	0.097
Children ever born	2.189	0.052	1,263	1,607	0.828	0.024	2.085	2.293
Children ever born to women over 40	4.780	0.145	234	307	1.061	0.030	4.490	5.070
Children surviving	2.007	0.044	1,263	1,607	0.788	0.022	1.918	2.096
Knowing any method	0.993	0.004	817	1,030	1.285	0.004	0.986	1.000
Knowing any modern method	0.992	0.004	817	1,030	1.243	0.004	0.984	1.000
Ever used any method	0.858	0.008	817	1,030	0.680	0.010	0.842	0.875
Using any method	0.629	0.016	817	1,030	0.940	0.025	0.597	0.661
Using any modern method	0.485	0.017	817	1,030	0.983	0.035	0.451	0.520
Using pill	0.005	0.003	817	1,030	0.989	0.474	0.000	0.010
Using IUD	0.361	0.015	817	1,030	0.876	0.041	0.331	0.390
Using condom	0.015	0.004	817	1,030	0.871	0.244	0.008	0.023
Using female sterilization	0.023	0.005	817	1,030	0.924	0.209	0.014	0.033
Currently using abstinence	0.033	0.005	817	1,030	0.788	0.148	0.023	0.043
Using withdrawal	0.087	0.009	817	1,030	0.942	0.107	0.068	0.106
Using LAM	0.041	0.008	1,263	1,607	1.349	0.183	0.026	0.056
Public source user	0.847	0.026	414	516	1.459	0.030	0.796	0.899
Desires no more children	0.560	0.018	817	1,030	1.058	0.033	0.524	0.597
Wants to delay child at least 2 years	0.212	0.014	817	1,030	0.987	0.067	0.184	0.240
Ideal number of children	3.326	0.057	1,248	1,588	1.376	0.017	3.213	3.440
BMI < 18.5	0.084	0.011	1,173	1,494	1.418	0.137	0.061	0.107
BMI between 18.5 and 30.0	0.811	0.014	1,173	1,494	1.193	0.017	0.784	0.839
BMI > 30.0	0.105	0.006	1,173	1,494	0.710	0.061	0.092	0.117
Women's weight-for-height (< -2 SD)	0.037	0.007	1,173	1,494	1.216	0.182	0.023	0.050
Women with severe anemia	0.009	0.003	1,258	1,601	1.096	0.325	0.003	0.015
Women with moderate anemia	0.064	0.007	1,258	1,601	1.057	0.114	0.049	0.078
Women with mild anemia	0.306	0.015	1,258	1,601	1.142	0.049	0.276	0.335
Mother received medical care at birth	0.998	0.002	590	729	0.932	0.002	0.995	1.000
Had diarrhea in the last 2 weeks	0.032	0.007	560	692	0.932	0.220	0.018	0.045
Treated with ORS packets	0.776	0.086	18	22	0.855	0.111	0.604	0.948
Sought medical treatment	0.356	0.142	18	22	1.232	0.400	0.071	0.641
Received BCG vaccination	0.992	0.008	116	144	0.977	0.008	0.975	1.000
Received DPT vaccination (3 doses)	0.965	0.016	116	144	0.954	0.017	0.932	0.998
Received polio vaccination (3 doses)	0.958	0.018	116	144	0.969	0.019	0.921	0.994
Received measles vaccination	0.975	0.014	116	144	0.950	0.014	0.947	1.000
Fully immunized	0.940	0.022	116	144	0.977	0.023	0.896	0.983
Children's weight-for-height (< -2 SD)	0.036	0.006	539	668	0.723	0.170	0.024	0.048
Children's height-for-age (< -2 SD)	0.219	0.018	539	668	0.955	0.082	0.183	0.256
Children's weight-for-age (< -2 SD)	0.121	0.016	539	668	1.040	0.128	0.090	0.152
Children with severe anemia	0.008	0.006	483	598	1.511	0.775	0.000	0.020
Children with moderate anemia	0.176	0.017	483	598	0.988	0.098	0.141	0.210
Children with mild anemia	0.226	0.028	483	598	1.430	0.125	0.169	0.283
Total fertility rate (3 years)	2.970	0.201	na	4,487	1.340	0.068	2.568	3.373
Neonatal mortality rate (10 years)	20.857	3.887	1,290	1,592	0.950	0.186	13.083	28.632
Infant mortality rate (10 years)	48.584	6.278	1,290	1,592	1.030	0.129	36.028	61.140
Child mortality rate (10 years)	18.885	3.559	1,292	1,594	0.878	0.188	11.768	26.002
Under-five mortality rate (10 years)	66.552	7.130	1,292	1,594	0.942	0.107	52.291	80.812
Postneonatal mortality rate (10 years)	27.727	5.571	1,290	1,592	1.180	0.201	16.586	38.869
Total abortion rate (3 years)	1.158	0.128	na	4,487	1.158	0.111	0.901	1.414

na = Not applicable

Table B.10 Sampling errors for women: Mary Region sample, Turkmenistan 2000

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence intervals: R-2SE	Confidence intervals: R+2SE
Urban resident	0.265	0.030	1,157	1,791	2.312	0.113	0.205	0.325
Primary/secondary education	0.840	0.014	1,157	1,791	1.322	0.017	0.812	0.869
Secondary-special education	0.160	0.014	1,157	1,791	1.322	0.089	0.131	0.188
Never in union	0.312	0.013	1,157	1,791	0.974	0.042	0.286	0.339
Currently in union	0.642	0.016	1,157	1,791	1.114	0.024	0.611	0.674
Ever in union before 20	0.247	0.012	921	1,427	0.860	0.050	0.222	0.271
Sex before 18	0.057	0.009	921	1,427	1.200	0.160	0.039	0.076
Children ever born	2.212	0.058	1,157	1,791	0.895	0.026	2.095	2.328
Children ever born to women over 40	4.917	0.138	223	340	0.994	0.028	4.641	5.194
Children surviving	1.924	0.050	1,157	1,791	0.892	0.026	1.825	2.024
Knowing any method	1.000	0.000	741	1,150	na	0.000	1.000	1.000
Knowing any modern method	1.000	0.000	741	1,150	na	0.000	1.000	1.000
Ever used any method	0.914	0.010	741	1,150	0.996	0.011	0.893	0.934
Using any method	0.645	0.016	741	1,150	0.886	0.024	0.614	0.676
Using any modern method	0.533	0.015	741	1,150	0.830	0.029	0.503	0.564
Using pill	0.011	0.003	741	1,150	0.874	0.304	0.004	0.018
Using IUD	0.407	0.016	741	1,150	0.912	0.040	0.374	0.440
Using condom	0.006	0.004	741	1,150	1.194	0.545	0.000	0.013
Using female sterilization	0.022	0.007	741	1,150	1.220	0.301	0.009	0.035
Currently using abstinence	0.020	0.005	741	1,150	0.947	0.243	0.010	0.030
Using withdrawal	0.081	0.009	741	1,150	0.909	0.113	0.063	0.099
Using LAM	0.052	0.006	1,157	1,791	0.862	0.108	0.041	0.063
Public source user	0.844	0.015	403	629	0.826	0.018	0.815	0.874
Desires no more children	0.542	0.027	741	1,150	1.464	0.049	0.488	0.596
Wants to delay child at least 2 years	0.141	0.016	741	1,150	1.227	0.111	0.109	0.172
Ideal number of children	3.358	0.034	1,064	1,647	0.876	0.010	3.291	3.426
BMI < 18.5	0.115	0.007	1,075	1,662	0.738	0.063	0.101	0.129
BMI between 18.5 and 30.0	0.790	0.012	1,075	1,662	0.982	0.015	0.765	0.814
BMI > 30.0	0.096	0.008	1,075	1,662	0.936	0.088	0.079	0.113
Women's weight-for-height (< -2 SD)	0.059	0.008	1,074	1,660	1.157	0.141	0.042	0.075
Women with severe anemia	0.006	0.002	1,129	1,744	1.023	0.396	0.001	0.011
Women with moderate anemia	0.095	0.013	1,129	1,744	1.503	0.138	0.068	0.121
Women with mild anemia	0.434	0.019	1,129	1,744	1.304	0.044	0.395	0.472
Mother received medical care at birth	0.972	0.010	583	914	1.193	0.011	0.951	0.992
Had diarrhea in the last 2 weeks	0.048	0.010	516	808	0.988	0.198	0.029	0.067
Treated with ORS packets	0.795	0.069	26	39	0.852	0.087	0.657	0.934
Sought medical treatment	0.445	0.098	26	39	0.946	0.221	0.249	0.642
Received BCG vaccination	0.946	0.024	99	157	1.069	0.025	0.898	0.994
Received DPT vaccination (3 doses)	0.956	0.021	99	157	1.060	0.022	0.914	0.999
Received polio vaccination (3 doses)	0.947	0.024	99	157	1.058	0.025	0.899	0.994
Received measles vaccination	0.923	0.030	99	157	1.114	0.032	0.864	0.982
Fully immunized	0.893	0.034	99	157	1.100	0.038	0.825	0.960
Children's weight-for-height (< -2 SD)	0.076	0.011	461	720	0.861	0.144	0.054	0.098
Children's height-for-age (< -2 SD)	0.231	0.023	461	720	1.170	0.100	0.184	0.277
Children's weight-for-age (< -2 SD)	0.112	0.016	461	720	1.083	0.145	0.079	0.144
Children with severe anemia	0.000	0.000	445	697	na	na	0.000	0.000
Children with moderate anemia	0.074	0.018	445	697	1.374	0.240	0.038	0.109
Children with mild anemia	0.081	0.017	445	697	1.339	0.214	0.047	0.116
Total fertility rate (3 years)	3.088	0.187	na	5,029	1.384	0.061	2.713	3.462
Neonatal mortality rate (10 years)	48.908	5.420	1,195	1,865	0.734	0.111	38.069	59.748
Infant mortality rate (10 years)	98.570	10.213	1,195	1,865	1.056	0.104	78.144	118.997
Child mortality rate (10 years)	26.764	5.114	1,197	1,868	0.996	0.191	16.536	36.992
Under-five mortality rate (10 years)	122.696	11.290	1,198	1,870	1.082	0.092	100.116	145.275
Postneonatal mortality rate (10 years)	49.662	7.155	1,194	1,864	1.118	0.144	35.352	63.972
Total abortion rate (3 years)	0.941	0.129	na	5,029	1.112	0.137	0.683	1.200

na = Not applicable

DATA QUALITY TABLES

APPENDIX C

Table C.1 Household age distribution

Single-year age distribution of the de facto household population by sex (weighted), Turkmenistan 2000

	Males		Females			Males		Females	
Age	Number	Percent	Number	Percent	Age	Number	Percent	Number	Percent
0	382	2.6	342	2.2	37	184	1.2	174	1.1
1	301	2.0	347	2.2	38	182	1.2	208	1.3
2	343	2.3	310	2.0	39	191	1.3	212	1.3
3	366	2.5	345	2.2	40	196	1.3	157	1.0
4	348	2.3	347	2.2	41	154	1.0	177	1.1
5	360	2.4	371	2.3	42	175	1.2	151	1.0
6	410	2.7	408	2.6	43	141	0.9	189	1.2
7	364	2.4	369	2.3	44	124	0.8	178	1.1
8	393	2.6	360	2.3	45	136	0.9	150	0.9
9	396	2.7	386	2.4	46	132	0.9	145	0.9
10	422	2.8	400	2.5	47	125	0.8	146	0.9
11	362	2.4	366	2.3	48	114	0.8	140	0.9
12	387	2.6	406	2.6	49	129	0.9	102	0.6
13	447	3.0	382	2.4	50	140	0.9	188	1.2
14	351	2.4	411	2.6	51	77	0.5	107	0.7
15	329	2.2	326	2.1	52	104	0.7	124	0.8
16	380	2.5	336	2.1	53	92	0.6	112	0.7
17	344	2.3	326	2.0	54	68	0.5	72	0.5
18	287	1.9	328	2.1	55	37	0.2	61	0.4
19	187	1.3	332	2.1	56	38	0.3	40	0.2
20	188	1.3	305	1.9	57	52	0.4	41	0.3
21	275	1.8	321	2.0	58	73	0.5	97	0.6
22	290	1.9	289	1.8	59	78	0.5	80	0.5
23	282	1.9	339	2.1	60	93	0.6	111	0.7
24	292	2.0	322	2.0	61	61	0.4	75	0.5
25	309	2.1	258	1.6	62	85	0.6	98	0.6
26	260	1.7	267	1.7	63	93	0.6	87	0.5
27	268	1.8	252	1.6	64	57	0.4	89	0.6
28	262	1.8	238	1.5	65	49	0.3	54	0.3
29	213	1.4	243	1.5	66	46	0.3	63	0.4
30	232	1.6	231	1.5	67	60	0.4	69	0.4
31	230	1.5	247	1.6	68	60	0.4	66	0.4
32	213	1.4	185	1.2	69	48	0.3	60	0.4
33	193	1.3	192	1.2	70+	359	2.4	580	3.7
34	199	1.3	210	1.3	Don't know/ missing	3	0.0	2	0.0
35	167	1.1	207	1.3					
36	157	1.0	179	1.1					
					Total	14,946	100.0	15,885	100.0

Note: The de facto population includes all residents and nonresidents (visitors) who slept in the household the night before the interview.

Table C.2 Age distribution of eligible and interviewed women

Percent distribution of the de facto household population of women age 10-54, and of interviewed women age 15-49, and percentage of eligible women who were interviewed (weighted) by five-year groups, Turkmenistan 2000

Age	Household population of women age 10-54		Interviewed women age 15-49		Percentage of eligible women interviewed (weighted)
	Number	Percent	Number	Percent	
10-14	1,965	na	na	na	na
15-19	1,647	20.4	1,554	20.2	94.4
20-24	1,577	19.6	1,517	19.7	96.2
25-29	1,257	15.6	1,206	15.7	95.9
30-34	1,064	13.2	1,026	13.3	96.4
25-39	979	12.2	941	12.2	96.1
40-44	852	10.6	811	10.5	95.2
45-49	683	8.5	645	8.4	94.5
50-54	603	na	na	na	na
15-49	8,059	na	7,700	na	95.5

Note: The de facto population includes all residents and nonresidents (visitors) who slept in the household the night before the interview. Weights for both the household population of women and interviewed women are the household weights. Classification by age is based on the age reported in the household schedule.
na = Not applicable

Table C.3 Completeness of reporting

Percentage of observations missing information for selected demographic and health questions, Turkmenistan 2000

Subject	Reference group	Percentage missing information	Number of cases
Birth date	Births in the past 15 years		
Month only		0.22	11,312
Month and year		0.00	11,312
Age at death	Deaths among births in past 15 years	0.07	1,006
Age at/date of first union[1]	Ever-married women age 15-49	0.07	5,356
Respondent's education	All women age 15-49	0.00	7,919
Anthropometry	Living children age 0-59 months	2.47	3,494
Height		6.84	3,292
Weight		6.74	3,292
Height or weight		7.47	3,292
Diarrhea in last 2 weeks	Living children age 0-59 months	0.36	3,292
Anemia			
Children	Living children age 6-59 months	10.32	2,936
Women	All women age 15-49	0.00	7,719

[1] Both year and age missing

C.4 Births by calendar years

Distribution of births by calendar years for living (L), dead (D), and all (T) children, according to reporting completeness, sex ratio at birth, and ratio of births, Turkmenistan 2000

	Number of births			Percentage with complete birth date[1]			Sex ratio at birth[2]			Calendar year ratio[3]			Male			Female		
Year	(L)	(D)	(T)	(L)	(D)	(T)	(L)	(D)	(T)	(L)	(D)	(T)	(L)	(D)	(T)	(L)	(D)	(T)
2000	436	17	453	100.0	100.0	100.0	120.1	61.1	117.0	na	na	na	238	7	245	198	11	209
1999	667	54	721	100.0	100.0	100.0	87.6	141.3	90.8	123.5	163.7	125.9	312	32	343	355	22	378
1998	644	49	692	100.0	100.0	100.0	103.8	163.8	107.1	99.1	78.7	97.3	328	30	358	316	18	334
1997	632	70	702	100.0	100.0	100.0	111.3	152.0	114.8	96.8	116.3	98.4	333	42	375	299	28	327
1996	663	71	734	100.0	100.0	100.0	107.1	100.5	106.5	98.6	91.8	97.9	343	36	378	320	35	355
1995	713	85	798	100.0	100.0	100.0	88.5	197.5	96.2	101.5	121.8	103.3	335	57	391	378	29	407
1994	742	69	811	99.8	100.0	99.8	104.4	112.7	105.0	100.3	80.8	98.3	379	37	416	363	32	396
1993	767	85	852	100.0	97.7	99.8	96.9	169.6	102.3	107.9	113.5	108.4	377	54	431	390	32	421
1992	680	82	761	99.9	98.7	99.8	103.6	94.8	102.7	93.3	116.1	95.3	346	40	386	334	42	376
1991	690	55	745	99.8	100.0	99.9	101.4	177.2	105.6	na	na	na	347	35	383	343	20	362
1996-2000	3,041	261	3,302	100.0	100.0	100.0	104.3	127.4	106.0	na	na	na	1,553	146	1,699	1,489	115	1,603
1991-1995	3,591	376	3,968	99.9	99.2	99.8	98.7	143.5	102.3	na	na	na	1,784	222	2,006	1,807	155	1,962
1986-1990	3,469	343	3,811	99.8	97.2	99.6	105.8	135.4	108.2	na	na	na	1,783	197	1,980	1,685	146	1,831
1981-1985	2,542	362	2,904	99.7	98.5	99.6	103.0	122.2	105.2	na	na	na	1,290	199	1,489	1,252	163	1,415
< 1981	2,373	446	2,819	99.7	99.0	99.6	103.0	123.6	106.0	na	na	na	1,204	247	1,451	1,169	200	1,369
All	15,016	1,789	16,804	99.8	98.7	99.7	102.9	130.1	105.5	na	na	na	7,614	1,011	8,625	7,402	777	8,179

na = Not applicable

[1]Both year and month of birth given

[2]$(B_m/B_f)*100$, where B_m and B_f are the numbers of male and female births, respectively

[3]$[2B_x/(B_{x-1}+B_{x+1})]*100$, where B_x is the number births in calendar year x

Table C.5 Reporting of age at death in days

Distribution of reported deaths under 1 month of age by age at death in days and the percentage of neonatal deaths reported to occur at ages 0-6 days, for five-year periods preceding the survey, Turkmenistan 2000

Age at death (in days)	Number of years preceding survey				Total 0-19
	0-4	5-9	10-14	15-19	
0	12	11	18	8	50
1	23	22	26	20	92
2	16	13	4	13	45
3	17	19	18	13	67
4	4	10	4	9	27
5	6	4	3	7	19
6	4	0	2	2	7
7	13	9	4	9	35
8	1	0	2	0	2
9	2	1	2	1	6
10	6	7	1	4	18
11	0	0	4	1	5
12	0	3	2	1	6
13	0	1	3	1	5
14	0	1	0	0	1
15	6	3	5	2	16
16	2	1	0	1	4
17	2	2	0	2	6
18	0	2	2	0	3
19	0	1	0	0	1
20	5	9	2	4	19
22	2	2	0	0	3
23	1	0	0	0	1
24	1	1	0	0	2
25	2	4	0	0	5
27	0	1	1	1	3
28	1	2	1	1	4
31+	0	1	1	2	4
Total 0-30[1]	123	128	101	100	452
Percent early neonatal[2]	66.2	61.9	73.5	72.1	67.9

[1] Includes cases for which age at death (in exact days) is not known. Total may not equal column sum due to rounding.
[2] (0-6 days/0-30 days) * 100

Table C.6 Reporting of age at death in months

Distribution of reported deaths under 2 years of age by age at death in months and the percentage of infant deaths reported to occur at ages under one month, for five-year periods preceding the survey, Turkmenistan 2000

Age at deaths (in months)	Number of years preceding the survey				Total
	0-4	5-9	10-14	15-19	0-19
<1[1]	123	128	101	100	452
1	8	18	21	22	69
2	17	30	25	14	86
3	23	24	19	24	90
4	11	14	31	25	81
5	17	19	11	22	69
6	18	8	17	32	75
7	11	12	21	16	60
8	8	14	8	12	42
9	5	8	11	13	37
10	1	3	6	4	13
11	11	7	9	7	35
12	5	4	5	3	17
13	3	1	1	1	6
14	4	2	4	0	10
15	1	1	0	1	2
16	0	0	1	1	2
18	1	3	2	1	8
19	0	0	0	1	1
20	0	0	1	0	1
24+	0	0	0	1	1
1 Year	22	35	18	21	96
Total 0-11[2]	252	285	281	292	1,110
Percent neonatal[3]	48.8	44.8	36.0	34.2	40.7

[1] Includes deaths under 1 month reported in days
[2] Includes cases for which age at death in exact months is not known
[3] (under 1 month/under 1 year) * 100

QUESTIONNAIRES

APPENDIX D

2000 TURKMENISTAN DEMOGRAPHIC AND HEALTH SURVEY
HOUSEHOLD QUESTIONNAIRE

CLINICAL RESEARCH CENTER FOR MATERNAL AND CHILD HEALTH
MINISTRY OF HEALTH AND MEDICAL INDUSTRY OF TURKMENISTAN

IDENTIFICATION1	
PLACE NAME _____	
NAME OF HOUSEHOLD HEAD _____	
CLUSTER NUMBER	☐☐☐
HOUSEHOLD NUMBER	☐☐☐
LARGE CITY/SMALL CITY/TOWN/COUNTRYSIDE (LARGE CITY=1, SMALL CITY=2, TOWN=3, COUNTRYSIDE=4)	☐
URBAN/RURAL (URBAN=1, RURAL=2)	☐
HOUSEHOLD ELIGIBLE FOR WOMEN'S INTERVIEW, ANTHROPOMETRY AND ANEMIA TESTING (YES = 1, NO = 2) . . .	☐

INTERVIEWER VISITS

	1	2	3	FINAL VISIT
DATE	_____	_____	_____	DAY ☐☐ MONTH ☐☐ YEAR 2000 NAME ☐☐ RESULT ☐
INTERVIEWER'S NAME	_____	_____	_____	
RESULT*	_____	_____	_____	
NEXT VISIT: DATE	_____	_____		TOTAL NO. OF VISITS +)), * * .)))-
TIME	_____	_____		

*RESULT CODES:
1 COMPLETED
2 NO HOUSEHOLD MEMBER AT HOME OR NO COMPETENT RESPONDENT AT HOME AT TIME OF VISIT
3 ENTIRE HOUSEHOLD ABSENT FOR EXTENDED PERIOD OF TIME
4 POSTPONED
5 REFUSED
6 DWELLING VACANT OR ADDRESS NOT A DWELLING
7 DWELLING DESTROYED
8 DWELLING NOT FOUND
9 OTHER _____ (SPECIFY)

TOTAL PERSONS IN HOUSEHOLD	+)))0)), * * * .)))2)))-
TOTAL ELIGIBLE WOMEN	+)))0)), * * * .)))2)))-
TOTAL ELIGIBLE MEN	+)))0)), * * * .)))2)))-
LINE NO. OF RESP. TO HOUSEHOLD SCHEDULE	+)))0)), * * * .)))2)))-

SUPERVISOR	FIELD EDITOR	OFFICE EDITOR	KEYED BY
NAME _____ +)))0)), * * * DATE _____ .)))2)))-	NAME _____ +)))0)), * * * DATE _____ .)))2)))-	+)))0)), * * * .)))2)))-	+)))0)), * * * .)))2)))-

HOUSEHOLD SCHEDULE

Now we would like some information about the people who usually live in your household or who are staying with you now.

LINE NO.	USUAL RESIDENTS AND VISITORS	RELATIONSHIP TO HEAD OF HOUSEHOLD	SEX	RESIDENCE		AGE	ELIGIBILITY
	Please give me the names of the persons who usually live in your household and guests of the household who stayed here last night, starting with the head of the household.	What is the relationship of (NAME) to the head of the household?*	Is (NAME) male or female?	Does (NAME) usually live here?	Did (NAME) stay here last night?	How old is (NAME)?	CIRCLE LINE NUMBER OF ALL WOMEN AGE 15-49
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
			M F	YES NO	YES NO	IN YEARS	
1		+)))0)))), * * * .)))2)))-	1 2	1 2	1 2	+)))0)))), * * * .)))2)))-	1
2		+)))0)))), * * * .)))2)))-	1 2	1 2	1 2	+)))0)))), * * * .)))2)))-	2
3		+)))0)))), * * * .)))2)))-	1 2	1 2	1 2	+)))0)))), * * * .)))2)))-	3
4		+)))0)))), * * * .)))2)))-	1 2	1 2	1 2	+)))0)))), * * * .)))2)))-	4
5		+)))0)))), * * * .)))2)))-	1 2	1 2	1 2	+)))0)))), * * * .)))2)))-	5
6		+)))0)))), * * * .)))2)))-	1 2	1 2	1 2	+)))0)))), * * * .)))2)))-	6
7		+)))0)))), * * * .)))2)))-	1 2	1 2	1 2	+)))0)))), * * * .)))2)))-	7
8		+)))0)))), * * * .)))2)))-	1 2	1 2	1 2	+)))0)))), * * * .)))2)))-	8
9		+)))0)))), * * * .)))2)))-	1 2	1 2	1 2	+)))0)))), * * * .)))2)))-	9
10		+)))0)))), * * * .)))2)))-	1 2	1 2	1 2	+)))0)))), * * * .)))2)))-	10

* CODES FOR Q.3
RELATIONSHIP TO HEAD OF HOUSEHOLD:

01 = HEAD
02 = WIFE OR HUSBAND
03 = SON OR DAUGHTER
04 = SON-IN-LAW OR DAUGHTER-IN-LAW
05 = GRANDCHILD
06 = PARENT
07 = PARENT-IN-LAW
08 = BROTHER OR SISTER
10 = OTHER RELATIVE
11 = ADOPTED/FOSTER/ STEPCHILD
12 = NOT RELATED
98 = DON'T KNOW

LINE NO.	PARENTAL SURVIVORSHIP AND RESIDENCE FOR PERSONS LESS THAN 15 YEARS OLD**				EDUCATION					
	Is (NAME)'s natural mother alive?	IF ALIVE	Is (NAME)'s natural father alive?	IF ALIVE	IF AGE 6 YEARS OR OLDER		IF AGE 6-24 YEARS			
		Does (NAME)'s natural mother live in this household? IF YES: What is her name? RECORD MOTHER'S LINE NUMBER		Does (NAME)'s natural father live in this household? IF YES: What is his name? RECORD FATHER'S LINE NUMBER	Has (NAME) ever attended school?	What is the highest level of school (NAME) has attended?*** What is the highest grade (NAME) completed at that level?***	During the school year ended in May 2000, did (NAME) attend school at any time?	During that school year, what level and grade [was] (NAME) attending?	During the previous school year ended in May 1999, did (NAME) attend school at any time?	During that school year, what level and grade did (NAME) attend?
	(10)	(11)	(12)	(13)	(14)	(15)	(17)	(18)	(19)	(20)
	YES NO DK		YES NO DK		YES NO	LEVEL GRADE	YES NO	LEVEL GRADE	YES NO	LEVEL GRADE
1	1 2 8 GO TO 12		1 2 8 GO TO 14		1 2 NEXT LINE		1 2 GO TO 19		1 2 NEXT LINE	
2	1 2 8 GO TO 12		1 2 8 GO TO 14		1 2 NEXT LINE		1 2 GO TO 19		1 2 NEXT LINE	
3	1 2 8 GO TO 12		1 2 8 GO TO 14		1 2 NEXT LINE		1 2 GO TO 19		1 2 NEXT LINE	
4	1 2 8 GO TO 12		1 2 8 GO TO 14		1 2 NEXT LINE		1 2 GO TO 19		1 2 NEXT LINE	
5	1 2 8 GO TO 12		1 2 8 GO TO 14		1 2 NEXT LINE		1 2 GO TO 19		1 2 NEXT LINE	
6	1 2 8 GO TO 12		1 2 8 GO TO 14		1 2 NEXT LINE		1 2 GO TO 19		1 2 NEXT LINE	
7	1 2 8 GO TO 12		1 2 8 GO TO 14		1 2 NEXT LINE		1 2 GO TO 19		1 2 NEXT LINE	
8	1 2 8 GO TO 12		1 2 8 GO TO 14		1 2 NEXT LINE		1 2 GO TO 19		1 2 NEXT LINE	
9	1 2 8 GO TO 12		1 2 8 GO TO 14		1 2 NEXT LINE		1 2 GO TO 19		1 2 NEXT LINE	
10	1 2 8 GO TO 12		1 2 8 GO TO 14		1 2 NEXT LINE		1 2 GO TO 19		1 2 NEXT LINE	

** Q.10 THROUGH Q.13
THESE QUESTIONS REFER TO THE BIOLOGICAL PARENTS OF THE CHILD.
IN Q.11 AND Q.13, RECORD '00' IF PARENT NOT LISTED IN HOUSEHOLD SCHEDULE.

***CODES FOR Qs. 15, 18 AND 20
EDUCATION LEVEL:
1 = PRIMARY/SECONDARY
2 = SECONDARY SPECIAL
3 = HIGHER
8 = DON'T KNOW

EDUCATION GRADE:
00 = LESS THAN 1 YEAR COMPLETED
98 = DON'T KNOW

LINE NO.	USUAL RESIDENTS AND VISITORS	RELATIONSHIP TO HEAD OF HOUSEHOLD	SEX	RESIDENCE		AGE	ELIGIBILITY
	Please give me the names of the persons who usually live in your household and guests of the household who stayed here last night, starting with the head of the household.	What is the relationship of (NAME) to the head of the household?*	Is (NAME) male or female?	Does (NAME) usually live here?	Did (NAME) stay here last night?	How old is (NAME)?	CIRCLE LINE NUMBER OF ALL WOMEN AGE 15-49
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
			M F	YES NO	YES NO	IN YEARS	
11		+)))0))) * * * .)))2)))-	1 2	1 2	1 2	+)))0))) * * * .)))2)))-	11
12		+)))0))) * * * .)))2)))-	1 2	1 2	1 2	+)))0))) * * * .)))2)))-	12
13		+)))0))) * * * .)))2)))-	1 2	1 2	1 2	+)))0))) * * * .)))2)))-	13
14		+)))0))) * * * .)))2)))-	1 2	1 2	1 2	+)))0))) * * * .)))2)))-	14
15		+)))0))) * * * .)))2)))-	1 2	1 2	1 2	+)))0))) * * * .)))2)))-	15
16		+)))0))) * * * .)))2)))-	1 2	1 2	1 2	+)))0))) * * * .)))2)))-	16
17		+)))0))) * * * .)))2)))-	1 2	1 2	1 2	+)))0))) * * * .)))2)))-	17
18		+)))0))) * * * .)))2)))-	1 2	1 2	1 2	+)))0))) * * * .)))2)))-	18
19		+)))0))) * * * .)))2)))-	1 2	1 2	1 2	+)))0))) * * * .)))2)))-	19
20		+)))0))) * * * .)))2)))-	1 2	1 2	1 2	+)))0))) * * * .)))2)))-	20

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***CODES FOR Qs. 15, 18 AND 20
EDUCATION LEVEL:
1 = PRIMARY
2 = SECONDARY
3 = HIGHER
8 = DON'T KNOW

EDUCATION GRADE:
00 = LESS THAN 1 YEAR COMPLETED
98 = DON'T KNOW

LINE NO.	PARENTAL SURVIVORSHIP AND RESIDENCE FOR PERSONS LESS THAN 15 YEARS OLD**				EDUCATION					
	Is (NAME)'s natural mother alive?	IF ALIVE	Is (NAME)'s natural father alive?	IF ALIVE	IF AGE 6 YEARS OR OLDER		IF AGE 6-24 YEARS			
		Does (NAME)'s natural mother live in this household? IF YES: What is her name? RECORD MOTHER'S LINE NUMBER		Does (NAME)'s natural father live in this household? IF YES: What is his name? RECORD FATHER'S LINE NUMBER	Has (NAME) ever attended school?	What is the highest level of school (NAME) has attended?*** What is the highest grade (NAME) completed at that level?***	During the school year ended in May 2000, did (NAME) attend school at any time?	During that school year, what level and grade [was] (NAME) attending?	During the previous school year ended in May 1999, did (NAME) attend school at any time?	During that school year, what level and grade did (NAME) attend?
	(10)	(11)	(12)	(13)	(14)	(15)	(17)	(18)	(19)	(20)
	YES NO DK		YES NO DK		YES NO	LEVEL GRADE	YES NO	LEVEL GRADE	YES NO	LEVEL GRADE
11	1 2 8		1 2 8		1 2 NEXT LINE ◄-		1 2 GO TO◄- 19		1 2 NEXT ◄- LINE	
12	1 2 8		1 2 8		1 2 NEXT LINE ◄-		1 2 GO TO◄- 19		1 2 NEXT ◄- LINE	
13	1 2 8		1 2 8		1 2 NEXT LINE ◄-		1 2 GO TO◄- 19		1 2 NEXT ◄- LINE	
14	1 2 8		1 2 8		1 2 NEXT LINE ◄-		1 2 GO TO◄- 19		1 2 NEXT ◄- LINE	
15	1 2 8		1 2 8		1 2 NEXT LINE ◄-		1 2 GO TO◄- 19		1 2 NEXT ◄- LINE	
16	1 2 8		1 2 8		1 2 NEXT LINE ◄-		1 2 GO TO◄- 19		1 2 NEXT ◄- LINE	
17	1 2 8		1 2 8		1 2 NEXT LINE ◄-		1 2 GO TO◄- 19		1 2 NEXT ◄- LINE	
18	1 2 8		1 2 8		1 2 NEXT LINE ◄-		1 2 GO TO◄- 19		1 2 NEXT ◄- LINE	
19	1 2 8		1 2 8		1 2 NEXT LINE ◄-		1 2 GO TO◄- 19		1 2 NEXT ◄- LINE	
20	1 2 8		1 2 8		1 2 NEXT LINE ◄-		1 2 GO TO◄- 19		1 2 NEXT ◄- LINE	

TICK HERE IF CONTINUATION SHEET USED

Just to make sure that I have a complete listing:

1)	Are there any other persons such as small children or infants that we have not listed?	YES	▸	ENTER EACH IN TABLE	NO
2)	In addition, are there any other people who may not be members of your family, such as domestic servants, lodgers or friends who usually live here?	YES	▸	ENTER EACH IN TABLE	NO
3)	Are there any guests or temporary visitors staying here, or anyone else who slept here last night, who have not been listed?	YES	▸	ENTER EACH IN TABLE	NO

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
21	What is the main source of drinking water for members of your household?[1]	PIPED WATER PIPED INTO DWELLING ..... 11 PIPED INTO YARD/PLOT ..... 12 PUBLIC TAP ..... 13 WATER FROM OPEN WELL OPEN WELL IN DWELLING ..... 21 OPEN WELL IN YARD/PLOT ..... 22 OPEN PUBLIC WELL ..... 23 TANKER TRUCK ..... 61 BOTTLED WATER ..... 71 OTHER _____ 96 (SPECIFY)	))▸ 23))▸ 23))▸ 23))▸ 23))▸ 23
22	How long does it take you to go there, get water, and come back?	+)))0)))0)))), MINUTES ..... * * * * .)))2)))2)))- ON PREMISES 996	
23	What kind of toilet facility do most members of your household use?	FLUSH TOILET ..... 11 PIT TOILET/LATRINE ..... 21 NO FACILITY ..... 31 OTHER _____ 96 (SPECIFY)	))▸ 25
24	Do you share this facility with other households?	YES ..... 1 NO 2	
25	Does your household have: Electricity? A radio? A television? A telephone? A refrigerator?	YES NO ELECTRICITY ..... 1 2 RADIO ..... 1 2 TELEVISION ..... 1 2 TELEPHONE ..... 1 2 REFRIGERATOR 1 2	
26	What type of fuel does your household mainly use for cooking?	ELECTRICITY ..... 01 LPG/NATURAL GAS ..... 02 BIOGAS ..... 03 KEROSENE ..... 04 COAL, LIGNITE ..... 05 CHARCOAL ..... 06 FIREWOOD, STRAW ..... 07 TEZEK ..... 08 OTHER _____ 96 (SPECIFY)	
27	MAIN MATERIAL OF THE FLOOR. RECORD OBSERVATION.	NATURAL FLOOR EARTH/SAND ..... 11 RUDIMENTARY FLOOR WOOD PLANKS ..... 21 FINISHED FLOOR PARQUET OR POLISHED WOOD ..... 31 LYNOLEUM ..... 32 CEMENT ..... 34 CARPET ..... 35 OTHER _____ 96 (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
28	Does any member of your household own: A bicycle? A motorcycle or motor scooter? A car or truck?	YES NO BICYCLE ..... 1 2 MOTORCYCLE/SCOOTER ..... 1 2 CAR/TRUCK 1 2	
33	Does your household have any place which is used for hand washing?	YES ..... 1 NO 2	)) ▸ 35
34	ASK TO SEE THE PLACE USED MOST OFTEN AND OBSERVE IF THE FOLLOWING ITEMS ARE PRESENT.	YES NO WATER/TAP ..... 1 2 SOAP, WASH OR OTHER CLEANSING AGENT ..... 1 2 BASIN 1 2	
34A	Ask respondent to bring the package of salt and note: Type of package _____ (Name of producer)	PLASTIC ..... 1 PAPER ..... 2 NO PACKAGE ..... 3 NO SALT 4	)) ▸ 35)) ▸ 35
34B	Salt iodized or not iodized	IODIZED SALT ..... 1 NOT IODIZED SALT ..... 2 NOT WRITTEN 3	
35	ASK RESPONDENT FOR A TEASPOONFUL OF SALT. TEST SALT FOR IODINE. RECORD PPM (PARTS PER MILLION).	0 PPM (NO IODINE) ..... 1 7 PPM ..... 2 15 PPM ..... 3 30 PPM ..... 4 75 PPM 5	
35A	Where do you usually keep your salt?	IN THE CLOSED PACKAGE/AWAY FROM PLACE OF COOKING/ IN THE DARK PLACE ..... 1 IN THE OPENED PACKAGE/NEAR TO PLACE OF COOKING/ IN THE LIGHT 2	
35B	Do you know, that it is necessary to include into ration iodized salt to reduce risk of getting the number of deceases ?	YES ..... 1 NO 2	
36	Does anybody in your household own dacha, or have access to a garden from which you obtain fruits and vegetables during the growing season?	YES ..... 1 NO ..... 2 OTHER _____ 6 (SPECIFY)	
37	Does anybody in your household have animal husbandry?	YES ..... 1 NO ..... 2 OTHER _____ 6 (SPECIFY)	

2000 TURKMENISTAN DEMOGRAPHIC AND HEALTH SURVEY
INDIVIDUAL WOMEN'S QUESTIONNAIRE

CLINICAL RESEARCH CENTER FOR MATERNAL AND CHILD HEALTH
MINISTRY OF HEALTH AND MEDICAL INDUSTRY OF TURKMENISTAN

IDENTIFICATION

PLACE NAME

NAME OF HOUSEHOLD HEAD

CLUSTER NUMBER . . . . . [ ][ ][ ]

HOUSEHOLD NUMBER . . . . . [ ][ ][ ]

LARGE CITY/SMALL CITY/TOWN/COUNTRYSIDE (LARGE CITY=1, SMALL CITY=2, TOWN=3, COUNTRYSIDE=4) . . . . . [ ]

URBAN/RURAL (URBAN=1, RURAL=2) . . . . . [ ]

NAME AND LINE NUMBER OF WOMAN_____ [ ][ ]

INTERVIEWER VISITS

	1	2	3	FINAL VISIT
DATE				DAY [ ][ ] MONTH [ ][ ] YEAR 2000
INTERVIEWER'S NAME				NAME [ ][ ]
RESULT*				RESULT [ ][ ]
NEXT VISIT: DATE				TOTAL NO. OF VISITS [ ]
TIME				

* RESULT CODES:

1 COMPLETED
2 NOT AT HOME
3 POSTPONED
4 REFUSED
5 PARTLY COMPLETED
6 INCAPACITATED
7 OTHER _____ (SPECIFY)

	TURKMEN	RUSSIAN	OTHER
1. LANGUAGE OF INTERVIEW	1	2	3
2. NATIVE LANGUAGE OF RESPONDENT	1	2	3
	YES	NO	
3. WHETHER TRANSLATOR USED	1	2	

SUPERVISOR	FIELD EDITOR	OFFICE EDITOR	KEYED BY
NAME _____ [ ][ ]	NAME _____ [ ][ ]	[ ][ ]	[ ][ ]
DATE _____	DATE _____		

SECTION 1A. RESPONDENT'S BACKGROUND

INFORMED CONSENT

Hello. My name is_____ and I am working with the National Clinical Research Center for Maternal and Child Health of Turkmenistan. We are conducting a national survey about the health of women and children. We would very much appreciate your participation in this survey. I would like to ask you about your health (and the health of your children). This information will help the government of Turkmenistan to plan health services. The survey usually takes between 20 and 45 minutes to complete. Whatever information you provide will be kept strictly confidential and will not be shown to other persons.

Participation in this survey is voluntary and you can choose not to answer any individual question or all of the questions. However, we hope that you will participate in this survey since your views are important.[1]

At this time, do you want to ask me anything about the survey?
May I begin the interview now?

Signature of interviewer: _____ Date: _____2000

RESPONDENT AGREES TO BE INTERVIEWED. 1 ▾ RESPONDENT DOES NOT AGREE TO BE INTERVIEWED. 2 –▸END

NO.	QUESTION AND FILTERS	CODING CATEGORIES	SKIP
101	RECORD THE TIME.	HOUR . . . . . ☐☐ MINUTES . . . . . ☐☐	
102	First I would like to ask some questions about you and your household. For most of the time until you were 12 years old, did you live in a city, in a town, or in the countryside?	CITY . . . . . 1 TOWN . . . . . 2 COUNTRYSIDE 3	
103	How long have you been living continuously in (NAME OF CURRENT PLACE OF RESIDENCE)? IF LESS THAN ONE YEAR, RECORD '00' YEARS.	YEARS . . . . . ☐☐ ALWAYS . . . . . 95 VISITOR 96	▸105
104	Just before you moved here, did you live in a city, in a town, or in the countryside?	CITY . . . . . 1 TOWN . . . . . 2 COUNTRYSIDE 3	
105	In what month and year were you born?	MONTH . . . . . ☐☐ DON'T KNOW MONTH . . . . . 98 YEAR . . . . . ☐☐☐☐ DON'T KNOW YEAR 9998	

NO.	QUESTION AND FILTERS	CODING CATEGORIES	SKIP
106	How old were you at your last birthday? COMPARE AND CORRECT 105 AND/OR 106 IF INCONSISTENT.	AGE IN COMPLETED YEARS . . . . . [ ][ ]	
107	Have you ever attended school?	YES . . . . . 1 NO 2	—▸110
108	What is the highest level of school you attended: primary, secondary, secondary-special or higher?	PRIMARY/SECONDARY . . . . . 1 SECONDARY-SPECIAL . . . . . 2 HIGHER 3	
109	What is the highest (grade/form/year) you completed at that level?	GRADE . . . . . [ ][ ]	
110	Do you read a newspaper or magazine almost every day, at least once a week, less than once a week or not at all?	ALMOST EVERY DAY . . . . . 1 AT LEAST ONCE A WEEK . . . . . 2 LESS THAN ONCE A WEEK . . . . . 3 NOT AT ALL 4	
111	Do you listen to the radio almost every day, at least once a week, less than once a week or not at all?	ALMOST EVERY DAY . . . . . 1 AT LEAST ONCE A WEEK . . . . . 2 LESS THAN ONCE A WEEK . . . . . 3 NOT AT ALL 4	
112	Do you watch television almost every day, at least once a week, less than once a week or not at all?	ALMOST EVERY DAY . . . . . 1 AT LEAST ONCE A WEEK . . . . . 2 LESS THAN ONCE A WEEK . . . . . 3 NOT AT ALL 4	
113	What is your religion: Are you Muslim, Christian,, another religion, or do you not practice any religion?	MUSLIM . . . . . 1 CHRISTIAN . . . . . 2 OTHER _____ 6 (SPECIFY) NOT RELIGIOUS . . . . . 7 DON`T KNOW 8	
114	What is your nationality? Are you Turkmen? Russian? Kazakh? Uzbek? Other?	TURKMEN . . . . . 1 RUSSIAN . . . . . 2 KAZAKH . . . . . 3 UZBEK . . . . . 4 OTHER_____ 6 (SPECIFY) DON`T KNOW 8	
114À	Before proceeding further with the questionnaire, let me measure your blood pressure and pulse on the left hand. MEASURE THE BLOOD PRESSURE AND PULSE AND RECORD THE RESULTS	BLOOD PRESSURE: SYSTOLIC [ ][ ][ ] DIASTOLIC [ ][ ][ ] PULSE [ ][ ][ ]	
114B	Before proceeding further with the questionnaire, let me measure your blood pressure and pulse on the right hand. MEASURE THE BLOOD PRESSURE AND PULSE AND RECORD THE RESULTS.	BLOOD PRESSURE: SYSTOLIC [ ][ ][ ] DIASTOLIC [ ][ ][ ] PULSE [ ][ ][ ]	

SECTION 1B. ACCESS TO HEALTH CARE AND HEALTH STATUS

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
115	The next questions are about places people go for their health problems. Is there a place that you usually go to when you are sick or need advice about your health?	YES . . . . . 1 NO . . . . . 2 →118 OTHER_____6 →119 DON'T KNOW . . . . . 8 →119	
116	What kind of place is it - a Rural or Urban Health House, a Women Counseling Center, Hospital, or some other place? _____ (RECORD NAME OF FACILITY)	RHH/UHH . . . . . 1 WCC . . . . . 2 HOSPITAL . . . . . 3 OTHER _____6 DON'T KNOW 8	
117	Do you have a choice of changing place you usually go to for health care?	YES . . . . . 1 NO . . . . . 2 →119 DON'T KNOW 8	
118	What is the reason why you do not have a usual source of care?	NO SOURCE IS AVAILABLE . . . . . 1 NO REASON TO HAVE BECAUSE SELDOM OR NEVER SICK . . . . . 2 RECENTLY MOVED INTO THE AREA . . . . . 3 OTHER_____6 DON'T KNOW 8	
119	During the past 12 months did you visit a doctor because of an illness or for preventive health care, including visits for prenatal care?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW . . . . . 8 →123	
120	In what month and year was your most recent visit to a doctor for health care?	MONTH . . . . . ☐☐ YEAR . . . . . ☐☐☐☐ DON'T KNOW YEAR 9998	
121	At that visit, was the doctor you saw a family doctor, who treats a variety of illnesses and gives preventive care, or was he or she a specialist who mainly treats just one type of problem?	FAMILY DOCTOR. . . . . 1 SPECIALIST . . . . . 2 OTHER_____6 DON'T KNOW 8	
122	Was this visit in (MONTH OF VISIT) to the place you usually go to when you are sick or need advice about your health?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
123	During the past 12 months has a doctor or nurse visited you at home for a health check?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW . . . . . 8 →125	
123A	Who has visited: doctor, or nurse or someone else?	DOCTOR . . . . . 1 NURSE . . . . . 2 OTHER_____6 →125 DON'T KNOW 8	
124	At that visit, was the doctor you saw a family doctor, who treats a variety of illnesses and gives preventive care, or was he or she a specialist who mainly treats just one type of problem?	FAMILY DOCTOR. . . . . 1 SPECIALIST . . . . . 2 OTHER_____6 DON'T KNOW 8	
125	During the past 12 months, about how much did you spend out-of-pocket for medical care: less than 100 000 manat, more than 100 000 manat or did not spend any money?	NO SPENDING. . . . . 1 → 126 LESS THAN 100 000 MANAT. . . . . 2 MORE THAN 100 000 MANAT. . . . . 4 DON'T KNOW . . . . . 8 → 126	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
125A	Did you spend this money for medications, medical service, treatment or other?	MEDICATIONS. . . . . A MEDICAL SERVICE. . . . . B TREATMENT. . . . . C OTHER. . . . . X DON'T KNOW. . . . . Z	
126	Are you aware of a new Presidential health reform program which promotes primary health care and particularly family group practices?	YES . . . . . 1 NO 2	
127	Now I would like to ask you about your own health. Has a doctor or nurse or staff member at a clinic or at hospital told you that you have any of the following conditions?		
128	Anemia?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→130
129	When was the first time that you were told you had anemia?	IN THE LAST 12 MONTHS . . . . . 1 MORE THAN A YEAR AGO 2	
130	Hypertention or high blood pressure?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→132
131	When was the first time that you were told you had high blood pressure?	IN THE LAST 12 MONTHS . . . . . 1 MORE THAN A YEAR AGO 2	
132	Diabetes or blood sugar?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→134
133	When was the first time that you were told you had diabetes?	IN THE LAST 12 MONTHS . . . . . 1 MORE THAN A YEAR AGO 2	
134	Kidney diseases, such as pyelonephritis or glomerulonephritis?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→136
135	When was the first time that you were told you had diabetes?	IN THE LAST 12 MONTHS . . . . . 1 MORE THAN A YEAR AGO 2	
136	Hepatitis or Botkin's Disease?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→138
137	When was the first time that you were told you had hepatitis?	IN THE LAST 12 MONTHS . . . . . 1 MORE THAN A YEAR AGO 2	
138	Are currently taking any tablets for prevention and treatment of anemia?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 143
139	Have you been given or have you bought any iron tablets for prevention and treatment of anemia in the past?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→142
140	When was the last time you took iron tablets for prevention and treatment of anemia	MONTH . . . . . ☐☐ YEAR . . . . . ☐☐☐☐ DON'T KNOW 9998	
140A	Was it during your last pregnancy?	YES . . . . . 1 NO 2	→ 142
141	When you were taking the tablets last time, for how many days did you take them?	DAYS . . . . . ☐☐☐ DON'T KNOW 998	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
142	Are you currently taking any medicine, injections or other drug treatment regularly?	YES . . . . . 1 NO 2	→144 →146
143	Are you currently taking regularly any medicine, injections or other drug treatment other than tablets which you are taking for prevention and treatment of anemia?	YES . . . . . 1 NO 2	 →146
144	Do you know what the medication is for? IF YES, against what disease?	DISEASE [ ][ ][ ] [ ][ ][ ] [ ][ ][ ] [ ][ ][ ] [ ][ ][ ]	
145	Can you show me the package of medication which you are taking? IF SHOWS, RECORD THE NAMES OF MEDICATIONS	[ ][ ][ ] [ ][ ][ ] [ ][ ][ ] [ ][ ][ ] [ ][ ][ ] DOES NOT SHOW 9 9 8	
146	Have you heard of illness called tuberculosis?	YES . . . . . 1 NO 2	 → 156
147	Did you know that tuberculosis can be completely cured with proper medication?	YES . . . . . 1 NO 2	
148	Have you or has anyone in your family ever had tuberculosis?	YES . . . . . 1 NO 2	
149	Other than your family, is there anyone with whom you have frequent contact (neighbors, colleagues, or close friends) who has ever had tuberculosis?	YES . . . . . 1 NO 2	
150	What signs or symptoms would lead you think that a person has tuberculosis?	COUGHING . . . . . A COUGHING WITH SPUTUM . . . . . B COUGHING MORE THAN 3 WEEKS . . . . . C FEVER . . . . . D BLOOD IN SPUTUM . . . . . E LOSS OF APPETITE . . . . . F NIGHTSWEATING . . . . . G PAIN IN A CHEST . . . . . H TIREDNESS/FATIGUE . . . . . I WEIGHT LOSS . . . . . K LETHARGY . . . . . L OTHER _____ X (SPECIFY) DON'T KNOW . . . . . Y	 → 152

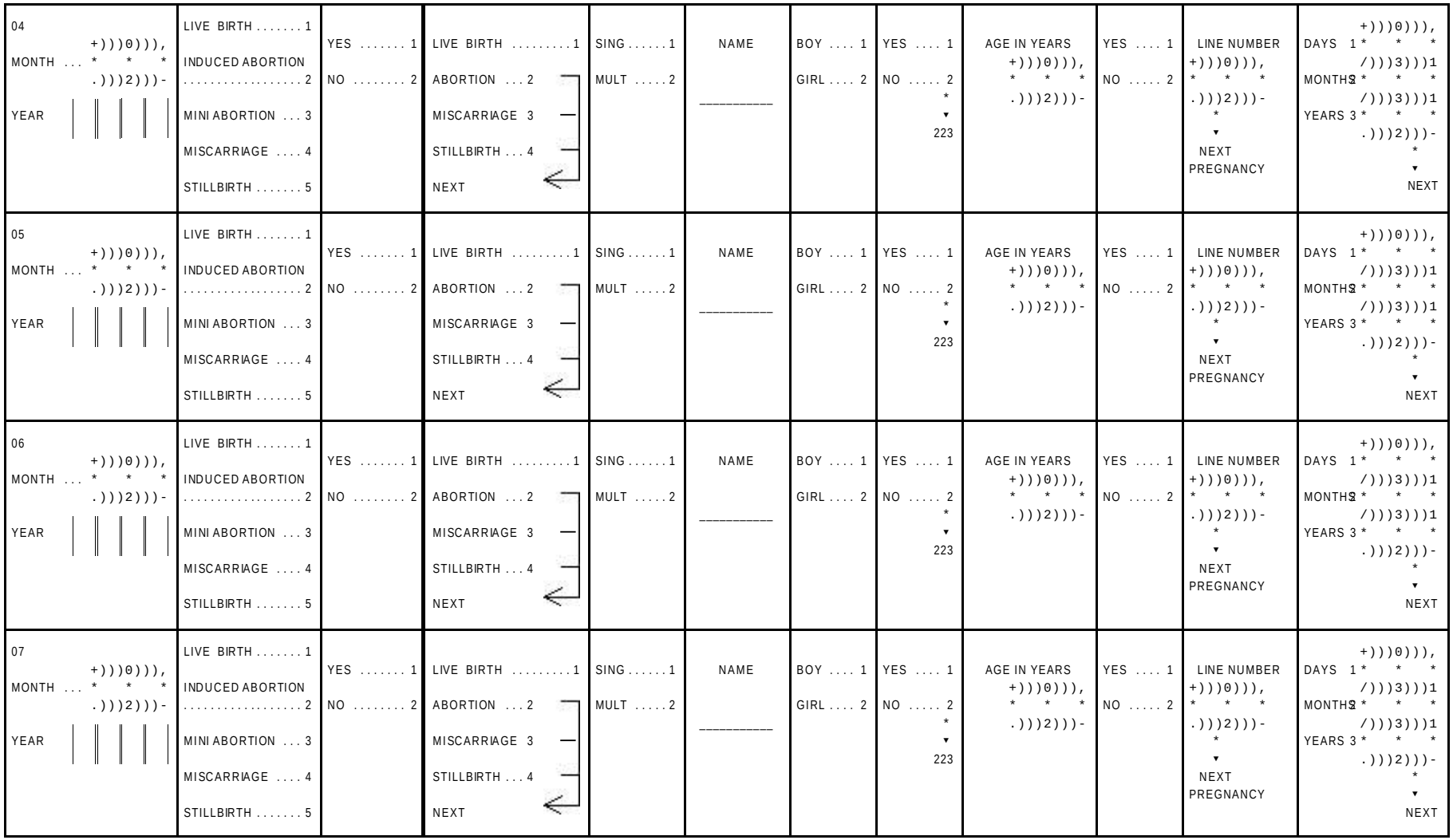
NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
151	What are the symptoms of tuberculosis which would convince you to seek medical assistance?	COUGHING . . . . . A COUGHING WITH SPUTUM . . . . . B COUGHING MORE THAN 3 WEEKS . . . . . C FEVER . . . . . D BLOOD IN SPUTUM . . . . . E LOSS OF APPETITE . . . . . F NIGHTSWEATING . . . . . G PAIN IN A CHEST . . . . . H TIREDNESS/FATIGUE . . . . . I WEIGHT LOSS . . . . . K LETHARGY . . . . . L OTHER _____ X (SPECIFY) DON'T KNOW . . . . . Y	
152	When a person first discovers that he or she has tuberculosis, how should that person be treated initially: hospitalized, treated at home, or both?	HOSPITALIZED . . . . . 1 TREATED AT HOME . . . . . 2 INITIALLY HOSPITALIZED FOLLOWED BY HOME TREATMENT . . . . . 3 OTHER _____ 6 (SPECIFY) DON'T KNOW 8	
153	How does tuberculosis spread from one person to another?	THROUGH THE AIR WHEN COUGHING . . . . . 1 OTHER _____ 6 (SPECIFY) DON'T KNOW 8	
154	Where would you go for help if you thought you or your child had tuberculosis?	PUBLIC SECTOR HOSPITAL . . . . . 11 POLYCLINIC . . . . . 12 FGP . . . . . 13 TB DISPENSARY . . . . . 14 OTHER PUBLIC _____ 16 (SPECIFY) PRIVATE MEDICAL SECTOR PRIVATE. HOSPITAL/CLINIC . . . . . 21 PRIVATE. DOCTOR . . . . . 22 OTHER PRIVATE MEDICAL_____ 26 (SPECIFY) OTHER _____ 96 (SPECIFY) DON'T KNOW 98	

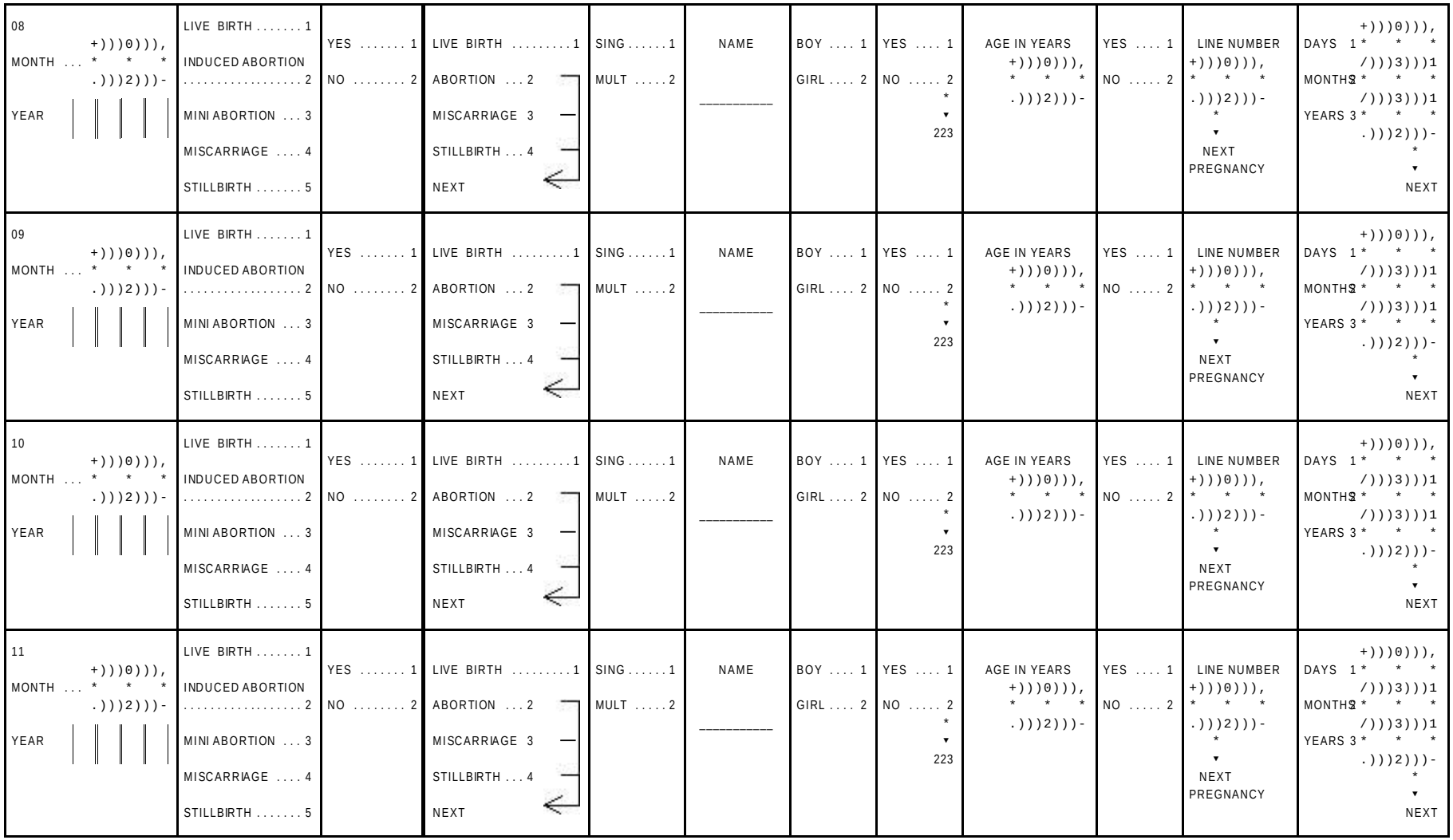
SECTION 2: REPRODUCTION

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
201	Now I would like to ask about all the births you have had during your life. Have you ever given birth?	YES ..... 1 NO 2	▸206
202	Do you have any sons or daughters to whom you have given birth who are now living with you?	YES ..... 1 NO 2	▸204
203	How many sons live with you? And how many daughters live with you? IF NONE, RECORD '00'.	SONS AT HOME ..... DAUGHTERS AT HOME	
204	Do you have any sons or daughters to whom you have given birth who are alive but do not live with you?	YES ..... 1 NO 2	▸206
205	How many sons are alive but do not live with you? And how many daughters are alive but do not live with you? IF NONE, RECORD '00'.	SONS ELSEWHERE ..... DAUGHTERS ELSEWHERE	
206	Have you ever given birth to a boy or girl who was born alive but later died? IF NO, PROBE: Any baby who cried or showed signs of life but survived only a few hours or days?	YES ..... 1 NO 2	▸208
207	How many boys have died? And how many girls have died? IF NONE, RECORD '00'.	BOYS DEAD ..... GIRLS DEAD	
208	SUM ANSWERS TO 203, 205, AND 207, AND ENTER TOTAL. IF NONE, RECORD '00'.	TOTAL	
209	CHECK 208: Just to make sure that I have this right: you have had in TOTAL _____ births during your life. Is that correct? YES / NO ▸ PROBE AND CORRECT 201-208 AS NECESSARY.		
209A	Women sometime have pregnancies which do not result in a live born child. That is, a pregnancy can ended very early by a mini abortion or by an induced abortion, a miscarriage or a stillbirth. In total how many mini abortions, and induced abortions have you had?	TOTAL ABORTIONS	
209B	How many miscarriages?	TOTAL MISCARRIAGES	
209C	How many stillbirths?	TOTAL STILLBIRTHS	
209D	SUM ANSWERS TO 208, 209A, 209B,209C, AND ENTER TOTAL. IF NO PREGNANCIES, RECORD '00'	TOTAL PREGNANCIES	
210	CHECK 209D: ONE OR MORE PREGNANCIES NO PREGNANCIES		▸228

211 Now I want to talk to you about each of your pregnancies, including those which ended in a live birth, an induced abortion, mini abortion, a miscarriage, and a stillbirth. Starting with your last pregnancy, please tell me the following information

212 When did your (last/next-to-last/etc.) pregnancy end? In what month and year?	213 Did this pregnancy end in a live birth, an induced abortion, mini abortion, a miscarriage, or a stillbirth?	214 WAS THERE ANY OTHER PREGNANCY BETWEEN THIS AND THE PREVIOUS PREGNANCY?	215 CHECK 213: RECORD SAME RESPONSE	216 Was this a single or a multiple birth?	217 What name was given to this child?	218 Is (NAME) a boy or girl?	219 Is (NAME) still alive?	220 How old was (NAME) on his/her last birthday? RECORD AGE IN COMPLETED YEARS	221 Is (NAME) living with you?	222 RECORD HOUSEHOLD LINE NUMBER OF CHILD. RECORD '00' IF CHILD NOT LISTED IN HOUSEHOLD	223 How old was (NAME) when he/she died? If '1 YR.', PROBE: How many months old was (NAME)? RECORD DAYS IF LESS THAN 1 MONTH; MONTHS IF LESS THAN TWO YEARS.
01 MONTH ... YEAR	LIVE BIRTH ..... 1 INDUCED ABORTION ..... 2 MINI ABORTION ... 3 MISCARRIAGE .... 4 STILLBIRTH 5		LIVE BIRTH ..... 1 ABORTION ... 2 MISCARRIAGE 3 STILLBIRTH ... 4 NEXT	SING ..... 1 MULT 2	NAME _____	BOY .... 1 GIRL 2	YES .... 1 NO 2 223	AGE IN YEARS	YES .... 1 NO 2	LINE NUMBER NEXT PREGNANCY	DAYS 1 MONTHS 2 YEARS 3 NEXT
02 MONTH ... YEAR	LIVE BIRTH ..... 1 INDUCED ABORTION ..... 2 MINI ABORTION ... 3 MISCARRIAGE .... 4 STILLBIRTH 5	YES ..... 1 NO 2	LIVE BIRTH ..... 1 ABORTION ... 2 MISCARRIAGE 3 STILLBIRTH ... 4 NEXT	SING ..... 1 MULT 2	NAME _____	BOY .... 1 GIRL 2	YES .... 1 NO 2 223	AGE IN YEARS	YES .... 1 NO 2	LINE NUMBER NEXT PREGNANCY	DAYS 1 MONTHS 2 YEARS 3 NEXT
03 MONTH ... YEAR	LIVE BIRTH ..... 1 INDUCED ABORTION ..... 2 MINI ABORTION ... 3 MISCARRIAGE .... 4 STILLBIRTH 5	YES ..... 1 NO 2	LIVE BIRTH ..... 1 ABORTION ... 2 MISCARRIAGE 3 STILLBIRTH ... 4 NEXT	SING ..... 1 MULT 2	NAME _____	BOY .... 1 GIRL 2	YES .... 1 NO 2 223	AGE IN YEARS	YES .... 1 NO 2	LINE NUMBER NEXT PREGNANCY	DAYS 1 MONTHS 2 YEARS 3 NEXT


04
MONTH
YEAR
LIVE BIRTH 1
INDUCED ABORTION 2
MINI ABORTION ... 3
MISCARRIAGE 4
STILLBIRTH 5
YES 1
NO 2
LIVE BIRTH 1
ABORTION ... 2
MISCARRIAGE 3
STILLBIRTH ... 4
NEXT
SING 1
MULT 2
NAME
BOY 1
GIRL 2
YES 1
NO 2
223
AGE IN YEARS
YES 1
NO 2
LINE NUMBER
NEXT PREGNANCY
DAYS 1
MONTHS 2
YEARS 3
NEXT
05
MONTH
YEAR
LIVE BIRTH 1
INDUCED ABORTION 2
MINI ABORTION ... 3
MISCARRIAGE 4
STILLBIRTH 5
YES 1
NO 2
LIVE BIRTH 1
ABORTION ... 2
MISCARRIAGE 3
STILLBIRTH ... 4
NEXT
SING 1
MULT 2
NAME
BOY 1
GIRL 2
YES 1
NO 2
223
AGE IN YEARS
YES 1
NO 2
LINE NUMBER
NEXT PREGNANCY
DAYS 1
MONTHS 2
YEARS 3
NEXT
06
MONTH
YEAR
LIVE BIRTH 1
INDUCED ABORTION 2
MINI ABORTION ... 3
MISCARRIAGE 4
STILLBIRTH 5
YES 1
NO 2
LIVE BIRTH 1
ABORTION ... 2
MISCARRIAGE 3
STILLBIRTH ... 4
NEXT
SING 1
MULT 2
NAME
BOY 1
GIRL 2
YES 1
NO 2
223
AGE IN YEARS
YES 1
NO 2
LINE NUMBER
NEXT PREGNANCY
DAYS 1
MONTHS 2
YEARS 3
NEXT
07
MONTH
YEAR
LIVE BIRTH 1
INDUCED ABORTION 2
MINI ABORTION ... 3
MISCARRIAGE 4
STILLBIRTH 5
YES 1
NO 2
LIVE BIRTH 1
ABORTION ... 2
MISCARRIAGE 3
STILLBIRTH ... 4
NEXT
SING 1
MULT 2
NAME
BOY 1
GIRL 2
YES 1
NO 2
223
AGE IN YEARS
YES 1
NO 2
LINE NUMBER
NEXT PREGNANCY
DAYS 1
MONTHS 2
YEARS 3
NEXT


08
MONTH
YEAR
LIVE BIRTH 1
INDUCED ABORTION 2
MINI ABORTION ... 3
MISCARRIAGE 4
STILLBIRTH 5
YES 1
NO 2
LIVE BIRTH 1
ABORTION ... 2
MISCARRIAGE 3
STILLBIRTH ... 4
NEXT
SING 1
MULT 2
NAME
BOY 1
GIRL 2
YES 1
NO 2
223
AGE IN YEARS
YES 1
NO 2
LINE NUMBER
NEXT PREGNANCY
DAYS 1
MONTHS 2
YEARS 3
NEXT
09
MONTH
YEAR
LIVE BIRTH 1
INDUCED ABORTION 2
MINI ABORTION ... 3
MISCARRIAGE 4
STILLBIRTH 5
YES 1
NO 2
LIVE BIRTH 1
ABORTION ... 2
MISCARRIAGE 3
STILLBIRTH ... 4
NEXT
SING 1
MULT 2
NAME
BOY 1
GIRL 2
YES 1
NO 2
223
AGE IN YEARS
YES 1
NO 2
LINE NUMBER
NEXT PREGNANCY
DAYS 1
MONTHS 2
YEARS 3
NEXT
10
MONTH
YEAR
LIVE BIRTH 1
INDUCED ABORTION 2
MINI ABORTION ... 3
MISCARRIAGE 4
STILLBIRTH 5
YES 1
NO 2
LIVE BIRTH 1
ABORTION ... 2
MISCARRIAGE 3
STILLBIRTH ... 4
NEXT
SING 1
MULT 2
NAME
BOY 1
GIRL 2
YES 1
NO 2
223
AGE IN YEARS
YES 1
NO 2
LINE NUMBER
NEXT PREGNANCY
DAYS 1
MONTHS 2
YEARS 3
NEXT
11
MONTH
YEAR
LIVE BIRTH 1
INDUCED ABORTION 2
MINI ABORTION ... 3
MISCARRIAGE 4
STILLBIRTH 5
YES 1
NO 2
LIVE BIRTH 1
ABORTION ... 2
MISCARRIAGE 3
STILLBIRTH ... 4
NEXT
SING 1
MULT 2
NAME
BOY 1
GIRL 2
YES 1
NO 2
223
AGE IN YEARS
YES 1
NO 2
LINE NUMBER
NEXT PREGNANCY
DAYS 1
MONTHS 2
YEARS 3
NEXT

12 +)))0))), MONTH ... * * * .)))2)))- YEAR | | | | |	LIVE BIRTH ..... 1 INDUCED ABORTION ..... 2 MINI ABORTION ... 3 MISCARRIAGE .... 4 STILLBIRTH 5	YES ..... 1 NO 2	LIVE BIRTH ..... 1 ABORTION ... 2 MISCARRIAGE 3 STILLBIRTH ... 4 NEXT	SING ..... 1 MULT 2	NAME _____	BOY .... 1 GIRL 2	YES .... 1 NO ..... 2 * ▾ 223	AGE IN YEARS +)))0))), * * * .)))2)))-	YES .... 1 NO 2	LINE NUMBER +)))0))), * * * .)))2)))- * ▾ NEXT PREGNANCY	+)))0))), DAYS 1 * * * /)))3)))1 MONTHS 2 * * * /)))3)))1 YEARS 3 * * * .)))2)))- * ▾ NEXT
13 +)))0))), MONTH ... * * * .)))2)))- YEAR | | | | |	LIVE BIRTH ..... 1 INDUCED ABORTION ..... 2 MINI ABORTION ... 3 MISCARRIAGE .... 4 STILLBIRTH 5	YES ..... 1 NO 2	LIVE BIRTH ..... 1 ABORTION ... 2 MISCARRIAGE 3 STILLBIRTH ... 4 NEXT	SING ..... 1 MULT 2	NAME _____	BOY .... 1 GIRL 2	YES .... 1 NO ..... 2 * ▾ 223	AGE IN YEARS +)))0))), * * * .)))2)))-	YES .... 1 NO 2	LINE NUMBER +)))0))), * * * .)))2)))- * ▾ NEXT PREGNANCY	+)))0))), DAYS 1 * * * /)))3)))1 MONTHS 2 * * * /)))3)))1 YEARS 3 * * * .)))2)))- * ▾ NEXT
14 +)))0))), MONTH ... * * * .)))2)))- YEAR | | | | |	LIVE BIRTH ..... 1 INDUCED ABORTION ..... 2 MINI ABORTION ... 3 MISCARRIAGE .... 4 STILLBIRTH 5	YES ..... 1 NO 2	LIVE BIRTH ..... 1 ABORTION ... 2 MISCARRIAGE 3 STILLBIRTH ... 4 NEXT	SING ..... 1 MULT 2	NAME _____	BOY .... 1 GIRL 2	YES .... 1 NO ..... 2 * ▾ 223	AGE IN YEARS +)))0))), * * * .)))2)))-	YES .... 1 NO 2	LINE NUMBER +)))0))), * * * .)))2)))- * ▾ NEXT PREGNANCY	+)))0))), DAYS 1 * * * /)))3)))1 MONTHS 2 * * * /)))3)))1 YEARS 3 * * * .)))2)))- * ▾ NEXT
15 +)))0))), MONTH ... * * * .)))2)))- YEAR | | | | |	LIVE BIRTH ..... 1 INDUCED ABORTION ..... 2 MINI ABORTION ... 3 MISCARRIAGE .... 4 STILLBIRTH 5	YES ..... 1 NO 2	LIVE BIRTH ..... 1 ABORTION ... 2 MISCARRIAGE 3 STILLBIRTH ... 4 NEXT	SING ..... 1 MULT 2	NAME _____	BOY .... 1 GIRL 2	YES .... 1 NO ..... 2 * ▾ 223	AGE IN YEARS +)))0))), * * * .)))2)))-	YES .... 1 NO 2	LINE NUMBER +)))0))), * * * .)))2)))- * ▾ NEXT PREGNANCY	+)))0))), DAYS 1 * * * /)))3)))1 MONTHS 2 * * * /)))3)))1 YEARS 3 * * * .)))2)))- * ▾ NEXT
16 +)))0))), MONTH ... * * * .)))2)))- YEAR | | | | |	LIVE BIRTH ..... 1 INDUCED ABORTION ..... 2 MINI ABORTION ... 3 MISCARRIAGE .... 4 STILLBIRTH 5	YES ..... 1 NO 2	LIVE BIRTH ..... 1 ABORTION ... 2 MISCARRIAGE 3 STILLBIRTH ... 4 NEXT	SING ..... 1 MULT 2	NAME _____	BOY .... 1 GIRL 2	YES .... 1 NO ..... 2 * ▾ 223	AGE IN YEARS +)))0))), * * * .)))2)))-	YES .... 1 NO 2	LINE NUMBER +)))0))), * * * .)))2)))- * ▾ NEXT PREGNANCY	+)))0))), DAYS 1 * * * /)))3)))1 MONTHS 2 * * * /)))3)))1 YEARS 3 * * * .)))2)))- * ▾ NEXT

225	COMPARE 209D WITH NUMBER OF PREGNANCIES IN HISTORY ABOVE AND MARK: NUMBERS ARE SAME +)))), /)))- * ▼ NUMBERS ARE DIFFERENT +)))), .)))2))▸ (PROBE AND RECONCILE) CHECK: FOR EACH PREGNANCY: YEAR OF PREGNANCY ENDED IS RECORDED. FOR EACH LIVING CHILD: CURRENT AGE IS RECORDED. FOR EACH DEAD CHILD: AGE AT DEATH IS RECORDED. FOR AGE AT DEATH 12 MONTHS OR 1 YR.: PROBE TO DETERMINE EXACT NUMBER OF MONTHS.
226	CHECK 212 AND 213, AND ENTER THE NUMBER OF BIRTHS IN JANUARY 1995 OR LATER. IF NONE, RECORD '0'.
227	FOR EACH PREGNANCY THAT ENDED IN JANUARY 1994 OR LATER IN COLUMN 1 OF THE CALENDAR ENTER THE CODE OF THE PREGNANCY OUTCOME IN THE MONTH OF PREGNANCY ENDED: • 'B' FOR LIVE BIRTHS, • 'S' FOR STILLBIRTH , • 'M' FOR MISCARRIAGE, • 'D' INDUCED ABORT BY D&C, • 'V' INDUCED ABORT BY VACUUM ASPIRATION. THEN ASK THE NUMBER OF MONTHS THAT EACH PREGNANCY LASTED. RECORD "P" IN EACH OF THE PRECEDING MONTHS OF CALENDAR ACCORDING TO THE DURATION OF PREGNANCY. (NOTE: THE NUMBER OF 'P's MUST BE ONE LESS THAN THE NUMBER OF MONTHS THAT THE PREGNANCY LASTED.) FINALLY, FOR EACH BIRTH WRITE THE NAME OF THE CHILD TO THE LEFT OF THE 'B' CODE.. FOR EACH ABORTION ASK: WHERE ABORTION WAS PERFORMED AND IN COLUMN 5 ENTER THE CODE FOR THE FACILITY.

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
228	Are you pregnant now?	YES ..... 1 NO ..... 2 UNSURE 8	),)2▸231
229	How many months pregnant are you? RECORD NUMBER OF COMPLETED MONTHS. ENTER 'P's IN COLUMN 1 OF CALENDAR, BEGINNING WITH THE MONTH OF INTERVIEW AND FOR TOTAL NUMBER OF COMPLETED MONTHS.	+)))0)))), MONTHS ..... * * * .)))2)))-	
230	At the time you became pregnant did you want to become pregnant then, did you want to wait until later, or did you not want to have any (more) children at all?	THEN ..... 1 LATER ..... 2 NOT AT ALL 3	
231	When did your last menstrual period start? _____ (DATE, IF GIVEN)	+)))0)))), DAYS AGO ..... 1 * * * /)))3)))1 WEEKS AGO ..... 2 * * * /)))3)))1 MONTHS AGO ..... 3 * * * /)))3)))1 YEARS AGO ..... 4 * * * .)))2)))- IN MENOPAUSE ..... 994 BEFORE LAST BIRTH ..... 995 NEVER MENSTRUATED 996	
232	From one menstrual period to the next, is there a time when a woman is more likely to become pregnant if she has sexual relations?	YES ..... 1 NO ..... 2 DON'T KNOW 8	),)2▸301
233	Is this time just before her period begins, during her period, right after her period has ended, or half way between two periods?	JUST BEFORE HER PERIOD BEGINS ..... 1 DURING HER PERIOD ..... 2 RIGHT AFTER HER PERIOD HAS ENDED ..... 3 HALF WAY BETWEEN PERIODS ..... 4 OTHER _____ 6 (SPECIFY) DON'T KNOW 8	

SECTION 3. CONTRACEPTION

Now I would like to talk about family planning - the various ways or methods that a couple can use to delay or avoid a pregnancy.
CIRCLE CODE 1 IN 301 FOR EACH METHOD MENTIONED SPONTANEOUSLY. THEN PROCEED DOWN COLUMN 301, READING THE NAME AND DESCRIPTION OF EACH METHOD NOT MENTIONED SPONTANEOUSLY. CIRCLE CODE 1 IF METHOD IS RECOGNIZED, AND CODE 2 IF NOT RECOGNIZED. THEN, FOR EACH METHOD WITH CODE 1 CIRCLED IN 301, ASK 302.

301	Which ways or methods have you heard about? FOR METHODS NOT MENTIONED SPONTANEOUSLY, ASK: Have you ever heard of (METHOD)?		302 Have you ever used (METHOD)?
01	FEMALE STERILIZATION Women can have an operation to avoid having any more children.	YES . . . . . 1 NO . . . . . 2 →	Have you ever had an operation to avoid having any more children? YES . . . . . 1 NO 2
02	MALE STERILIZATION Men can have an operation to avoid having any more children.	YES . . . . . 1 NO . . . . . 2 →	Have you ever had a partner who had an operation to avoid having children? YES . . . . . 1 NO 2
03	PILL Women can take a pill to avoid pregnancy.	YES . . . . . 1 NO . . . . . 2 →	YES . . . . . 1 NO 2
04	IUD Women can have a loop or coil placed inside them by a doctor or a nurse.	YES . . . . . 1 NO . . . . . 2 →	YES . . . . . 1 NO 2
05	INJECTIONS Women can have an injection by a doctor or nurse which stops them from becoming pregnant for several months.	YES . . . . . 1 NO . . . . . 2 →	YES . . . . . 1 NO 2
06	IMPLANTS Women can have several small rods placed in their upper arm by a doctor or nurse which can prevent pregnancy for several years.	YES . . . . . 1 NO . . . . . 2 →	YES . . . . . 1 NO 2
07	CONDOM Men can put a rubber sheath on their penis before sexual intercourse.	YES . . . . . 1 NO . . . . . 2 →	YES . . . . . 1 NO 2
08	FEMALE CONDOM Women can place a rubber sheath in their vagina before intercourse	YES . . . . . 1 NO . . . . . 2 →	YES . . . . . 1 NO 2
09	DIAPHRAGM Women can place a diaphragm in their vagina before intercourse.	YES . . . . . 1 NO . . . . . 2 →	YES . . . . . 1 NO 2
10	FOAM AND GELLY Women can place a suppository, jelly or cream in their vagina before intercourse.	YES . . . . . 1 NO . . . . . 2 →	YES . . . . . 1 NO 2
11	LACTATIONAL AMENORRHEA METHOD (LAM) Women can use a specially taught method of pregnancy avoidance to delay the return of the menstrual period by feeding their child nothing but breast milk for up to six months after a birth.	YES . . . . . 1 NO . . . . . 2 →	YES . . . . . 1 NO 2
12	RHYTHM OR PERIODIC ABSTINENCE Every month that a woman is sexually active she can avoid having sexual intercourse on the days of the month she is most likely to get pregnant.	YES . . . . . 1 NO . . . . . 2 →	YES . . . . . 1 NO 2
13	WITHDRAWAL Men can be careful and pull out before climax.	YES . . . . . 1 NO . . . . . 2 →	YES . . . . . 1 NO 2
14	EMERGENCY CONTRACEPTION Women can take pills the day after sexual intercourse to avoid becoming pregnant.	YES . . . . . 1 NO . . . . . 2 →	YES . . . . . 1 NO 2
15	Have you heard of any other ways or methods that women or men can use to avoid pregnancy?	YES . . . . . 1 _____ (SPECIFY) _____ (SPECIFY) NO . . . . . 2 →	YES . . . . . 1 NO . . . . . 2 YES . . . . . 1 NO 2

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
303	CHECK 302: NOT A SINGLE "YES"(NEVER USED) ▼ AT LEAST ONE "YES" (EVER USED)	_____	→307
304	Have you ever used anything or tried in any way to delay or avoid getting pregnant?	YES ..... 1 NO 2	→306
305	ENTER '0' IN COLUMN 1 OF CALENDAR IN EACH BLANK MONTH.		→327
306	What have you used or done? CORRECT 302 AND 303 (AND 301 IF NECESSARY).		
307	Now I would like to ask you about the first time that you did something or used a method to avoid getting pregnant. How many living children did you have at that time, if any? IF NONE, RECORD '00.	NUMBER OF CHILDREN	
308	CHECK 302 (01): WOMAN STERILIZED ▼ WOMAN NOT STERILIZED _____		→309
308A	Was the sterilization done with purpose of medical indications or family planning ?	MEDICAL INDICATIONS ..... 1 FAMILY PLANNING ..... 2 DON`T KNOW 8	→311A
309	CHECK 228: NOT PREGNANT OR UNSURE ▼ PREGNANT _____		→319
310	Are you currently doing something or using any method to delay or avoid getting pregnant?	YES ..... 1 NO 2	→319
311 311A	Which method are you using? CIRCLE 'A' FOR FEMALE STERILIZATION. IF MORE THAN ONE METHOD MENTIONED, FOLLOW SKIP INSTRUCTION FOR HIGHEST METHOD.	FEMALE STERILIZATION ..... A MALE STERILIZATION ..... B PILL ..... C IUD ..... D INJECTIONS ..... E IMPLANTS ..... F CONDOM ..... G FEMALE CONDOM ..... H DIAPHRAGM ..... I FOAM/JELLY ..... J LACT. AMEN. METHOD ..... K PERIODIC ABSTINENCE ..... L WITHDRAWAL ..... M OTHER_____ X (SPECIFY)	→318

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
313	Where did the sterilization take place? IF SOURCE IS HOSPITAL, RURAL OR URBAN HEALTH CLINIC, OR WOMEN`S CONSULTING CENTER, WRITE THE NAME OF THE PLACE. PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE. ____________________ (NAME OF PLACE)	PUBLIC SECTOR HOSPITAL . . . . 11 RURAL OR URBAN HEALTH CLINIC . . . . 12 WOMEN`S CONSULTING CENTER . . . . 13 OTHER PUBLIC ________ 16 (SPECIFY) PRIVATE MEDICAL SECTOR PRV. HOSPITAL/CLINIC . . . . 21 PRV. DOCTOR . . . . 23 OTHER PRIVATE MEDICAL________ 26 (SPECIFY) OTHER________ 96 (SPECIFY) DON'T KNOW 98	
314	Before the sterilization operation, were (you/your husband/your partner) told that you would not be able to have any (more) children?	YES . . . . 1 NO . . . . 2 DON'T KNOW 3	
316	In what month and year was the sterilization perfomred?	MONTH . . . . [ ][ ] YEAR . . . . [ ][ ][ ][ ]	
317	CHECK 316: STERILIZED BEFORE JANUARY 1995 [ ] ▼ ENTER CODE FOR STERILIZATION IN MONTH OF INTERVIEW IN COLUMN 1 OF THE CALENDAR AND EACH MONTH BACK TO JANUARY 1995 THEN SKIP TO ———▸320	STERILIZED IN JANUARY 1995 OR LATER [ ] ▼ ENTER CODE FOR STERILIZATION IN MONTH OF INTERVIEW IN COLUMN 1 OF THE CALENDAR AND IN EACH MONTH BACK TO THE DATE OF THE OPERATION. ENTER METHOD SOURCE CODE IN COLUMN 2 OF CALENDAR IN MONTH OF DATE OF OPERATION. THEN SKIP TO ———▸319	
318	ENTER METHOD CODE FROM 311 IN CURRENT MONTH IN COLUMN 1 OF CALENDAR. THEN DETERMINE WHEN SHE STARTED USING METHOD THIS TIME. ENTER METHOD CODE IN EACH MONTH OF USE. IF CURRENT METHOD STARTED IN JANUARY 1995 OR LATER, ENTER METHOD SOURCE CODE IN COLUMN 2 OF CALENDAR IN THE SAME MONTH THAT USE OF CURRENT METHOD BEGAN. ILLUSTRATIVE QUESTIONS: • When did you start using this method continuously? • How long have you been using this method continuously? • When you started using this method, where did you obtain it?		

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
319	I would like to ask you some questions about the times you or your partner may have used a method to avoid getting pregnant during the last few years. USE CALENDAR TO PROBE FOR EARLIER PERIODS OF USE AND NONUSE, STARTING WITH MOST RECENT USE, BACK TO JANUARY 1995. USE NAMES OF CHILDREN, DATES OF BIRTH, AND PERIODS OF PREGNANCY AS REFERENCE POINTS. **IN COLUMN 1**, ENTER METHOD USE CODE OR '0' FOR NONUSE IN EACH BLANK MONTH. ILLUSTRATIVE QUESTIONS: COLUMN 1: • When was the last time you used a method? Which method was that? • When did you start using that method? How long after the birth of (NAME)? • How long did you use the method then? **IN COLUMN 2**, ENTER METHOD SOURCE CODE IN FIRST MONTH OF EACH USE. ILLUSTRATIVE QUESTIONS: COLUMN 2: • Where did you obtain the method when you started using it? • Where did you get advice on how to use the method [for LAM, rhythm, or withdrawal]? **IN COLUMN 3**, ENTER CODES FOR DISCONTINUATION NEXT TO LAST MONTH OF USE. NUMBER OF CODES IN COLUMN 3 MUST BE SAME AS NUMBER OF INTERRUPTIONS OF METHOD USE IN COLUMN 1. ASK WHY SHE STOPPED USING THE METHOD. IF A PREGNANCY FOLLOWED, ASK WHETHER SHE BECAME PREGNANT UNINTENTIONALLY WHILE USING THE METHOD OR DELIBERATELY STOPPED TO GET PREGNANT. ILLUSTRATIVE QUESTIONS: COLUMN 3: • Why did you stop using the (METHOD)? • Did you become pregnant while using (METHOD), or did you stop to get pregnant, or did you stop for some other reason? IF DELIBERATELY STOPPED TO BECOME PREGNANT, ASK: • How many months did it take you to get pregnant after you stopped using (METHOD)? AND ENTER '0' IN EACH SUCH MONTH IN COLUMN 1.		
320	CHECK 311/311A: CIRCLE METHOD CODE:	NOT ASKED ..... 00 FEMALE STERILIZATION ..... 01 MALE STERILIZATION ..... 02 PILL ..... 03 IUD ..... 04 INJECTIONS ..... 05 IMPLANTS ..... 06 CONDOM ..... 07 FEMALE CONDOM ..... 08 DIAPHRAGM ..... 09 FOAM/JELLY ..... 10 LACTATIONAL AMEN. METHOD ..... 11 PERIODIC ABSTINENCE ..... 12 WITHDRAWAL ..... 13 OTHER METHOD 96	→327 →325 →325 →324 →324 →324 →324 →325 →325 →325
321	CHECK COLUMN 1 OF CALENDAR FOR LENGTH OF USE OF CURRENT METHOD: STARTED USING AFTER JANUARY 1995 ▼ STARTED USING IN JANUARY 1995 OR BEFORE ____		→325
322	You first obtained (CURRENT METHOD) from (SOURCE OF METHOD FROM CALENDAR) on (DATE). At that time, were you told about side effects or problems you might have with the method?	YES ..... 1 NO 2	→324
323	Were you told what to do if you experienced side effects?	YES ..... 1 NO 2	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
324	When you were given the (CURRENT METHOD), were you told about other methods of family planning which you could use?	YES ..... 1 NO 2	
325	CHECK 311/311A: CIRCLE METHOD CODE:	NOT ASKED ..... 00 FEMALE STERILIZATION ..... 01 MALE STERILIZATION ..... 02 PILL ..... 03 IUD ..... 04 INJECTIONS ..... 05 IMPLANTS ..... 06 CONDOM ..... 07 FEMALE CONDOM ..... 08 DIAPHRAGM ..... 09 FOAM/JELLY ..... 10 LACTATIONAL AMEN. METHOD ..... 11 PERIODIC ABSTINENCE ..... 12 WITHDRAWAL ..... 13 OTHER METHOD 96	——▸327 ——▸401 ——▸401 ——▸329 ——▸329 ——▸329 ——▸329
326	Where did you obtain (CURRENT METHOD) the last time? IF SOURCE IS HOSPITAL, RURAL OR URBEN HEALTH CLINIC, OR WOMEN'S CONSULTING CENTER, WRITE THE NAME OF THE PLACE. PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE. _____ (NAME OF PLACE)	PUBLIC SECTOR HOSPITAL ..... 11 RURAL OR URBAN HEALTH CLINIC ..... 12 WOMEN'S CONSULTING CENTER ..... 14 PHARMACY ..... 15 OTHER PUBLIC _____ 16 (SPECIFY) PRIVATE MEDICAL SECTOR PRV. HOSPITAL/CLINIC ..... 21 PHARMACY ..... 22 PRV. DOCTOR ..... 23 OTHER PRIVATE MEDICAL _____ 26 (SPECIFY) OTHER _____ 96 (SPECIFY) DON'T KNOW 98	▸329
327	Do you know of a place where you can obtain a method of family planning?	YES ..... 1 NO 2	——▸329
328	Where is that? IF SOURCE IS HOSPITAL, RURAL OR URBAN HEALTH CLINIC, OR WOMEN'S CONSULTING CENTER, WRITE THE NAME OF THE PLACE. PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE. _____ (NAME OF PLACE)	PUBLIC SECTOR HOSPITAL ..... 11 RURAL OR URBAN HEALTH CLINIC ..... 12 WOMEN'S CONSULTING CENTER ..... 14 PHARMACY ..... 15 OTHER PUBLIC _____ 16 (SPECIFY) PRIVATE MEDICAL SECTOR PRV. HOSPITAL/CLINIC ..... 21 PHARMACY ..... 22 PRV. DOCTOR ..... 23 OTHER PRIVATE MEDICAL _____ 26 (SPECIFY) OTHER _____ 96 (SPECIFY) DON'T KNOW 98	
329	In the last 12 months, were you visited by a field worker who talked to you about family planning?	YES ..... 1 NO 2	
330	In the last 12 months, have you attended a health facility for care for yourself (or your children)?	YES ..... 1 NO 2	——▸341

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
331	Did any staff member at the health facility speak to you about family planning methods?	YES ..... 1 NO 2	
341	How easy is it to get pills? Is it a problem to get them ?	PROBLEM ..... 1 NO PROBLEM ..... 2 DON'T KNOW 8	
342	Do you think that pills are a reliable method of contraception ?	RELIABLE ..... 1 NO RELIABLE ..... 2 DON'T KNOW 8	
343	Are any health problems or side effects with pills that would make you reluctant to use them ?	PROBLEM ..... 1 NO PROBLEM ..... 2 DON'T KNOW 8	
350	Do you approve or disapprove of a woman having an abortion ?	APPROVE ..... 1 DISAPPROVE ..... 2 DEPENDS ON SITUATION ..... 3 DON'T KNOW 8	
351	Would you have an abortion if you unintentionally become pregnant sometimes in the future ?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
352	Would you prefer to use a method in the future or rely on abortion, or do neither ?	PREFER TO USE A METHOD ..... 1 RELY ON ABORTION ..... 2 PREFER TO DO NEITHER ..... 3 DON'T KNOW 8	
353	Before proceeding further with the questionnaire, let me measure your blood pressure and pulse on the left hand. MEASURE THE BLOOD PRESSURE AND PULSE AND RECORD THE RESULTS	BLOOD PRESSURE: SYSTOLIC ☐☐☐ DIASTOLIC ☐☐☐ PULSE ☐☐☐	
353B	Before proceeding further with the questionnaire, let me measure your blood pressure and pulse on the right hand. MEASURE THE BLOOD PRESSURE AND PULSE AND RECORD THE RESULTS	BLOOD PRESSURE: SYSTOLIC ☐☐☐ DIASTOLIC ☐☐☐ PULSE ☐☐☐	

SECTION 4A. PREGNANCY, POSTNATAL CARE AND BREASTFEEDING

401	CHECK 226: ONE OR MORE BIRTHS IN JAN. 1995 OR LATER NO BIRTHS IN JAN. 1995 OR LATER	▸ 486
402	ENTER THE LINE NUMBER, NAME, AND SURVIVAL STATUS OF EACH BIRTH SINCE JANUARY 1994 IN THE TABLE. ASK THE QUESTIONS ABOUT ALL OF THESE BIRTHS. BEGIN WITH THE LAST BIRTH. Now I would like to ask you some questions about the health of all your children born in the last five years, (We will talk about each separately)	

		LAST BIRTH	NEXT-TO-LAST BIRTH	NEXT-TO-NEXT-TO-LAST BIRTH
403	LINE NUMBER FROM 212	LINE NUMBER .	LINE NUMBER	LINE NUMBER ...
404	FROM 217 AND 219	NAME_____ ALIVE DEAD	NAME _____ ALIVE DEAD	NAME _____ ALIVE DEAD
405	At the time you became pregnant with (NAME), did you want to become pregnant then, did you want to wait until later, or did you want no (more) children at all?	THEN ..... 1 (SKIP TO 407) LATER ..... 2 NO MORE ..... 8 (SKIP TO 407)	THEN ..... 1 (SKIP TO 422) LATER ..... 2 NO MORE ..... 8 (SKIP TO 422)	THEN ..... 1 (SKIP TO 422) LATER ..... 2 NO MORE ..... 8 (SKIP TO 422)
406	How much longer would you like to have waited?	MONTHS .. 1 YEARS .... 2 DON'T KNOW 998	MONTHS . 1 YEARS ... 2 DON'T KNOW ..... 998 ALL CATEGORIES SHOULD (SKIP TO 422)	MONTHS .... 1 YEARS ..... 2 DON'T KNOW ..... 998 ALL CATEGORIES SHOULD (SKIP TO 422)
407	Did you see anyone for antenatal care for this pregnancy? IF YES: Whom did you see? Anyone else? PROBE FOR THE TYPE OF PERSON AND RECORD ALL PERSONS SEEN.	HEALTH PROFESSIONAL DOCTOR ..... A NURSE/MIDWIFE ..... C OTHER PERSON TRADITIONAL BIRTH ATTENDANT ..... D OTHER _____ X (SPECIFY) NO ONE ..... Y (SKIP TO 416)		

		LAST BIRTH NAME_____	NEXT-TO-LAST BIRTH NAME _____	NEXT-TO-NEXT-TO-LAST BIRTH NAME_____
408	How many months pregnant were you when you first received antenatal care for this pregnancy?	MONTHS . . . . . | | | DON'T KNOW 98		
409	How many times did you receive antenatal care during this pregnancy?	NO. OF TIMES . . . . . | | | DON'T KNOW 98		
410	CHECK 409: NUMBER OF TIMES RECEIVED ANTENATAL CARE	ONCE (SKIP TO 412) MORE THAN ONCE OR DON'T KNOW		
411	How many months pregnant were you the last time you received antenatal care?	MONTHS . . . . . | | | DON'T KNOW 98		
412	During this pregnancy, were any of the following done at least once? Were you weighed? Was your height measured? Was your blood pressure measured? Did you give a urine sample? Did you give a blood sample?	YES NO WEIGHT . . . . . 1 2 HEIGHT . . . . . 1 2 BLOOD PRESSURE . . . 1 2 URINE SAMPLE . . . . . 1 2 BLOOD SAMPLE 1 2		
413	Were you told about the signs of pregnancy complications?	YES . . . . . 1 NO . . . . . 2 (SKIP TO 416) 1 DON'T KNOW 8		
414	Were you told where to go if you had these problems?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8		
416	During this pregnancy, were you given or did you buy any iron tablets? SHOW TABLET.	YES . . . . . 1 NO . . . . . 2 (SKIP TO 422) 1 DON'T KNOW 8		
417	During the whole pregnancy, for how many days did you take the tablets?	NUMBER OF DAYS . . . . . | | | | DON'T KNOW 998		

		LAST BIRTH NAME____________________	NEXT-TO-LAST BIRTH NAME ________________	NEXT-TO-NEXT-TO-LAST BIRTH NAME__________________
422	When (NAME) was born, was he/she: very large, larger than average, smaller than average, or very small?	VERY LARGE . . . . 1 LARGER THAN AVERAGE . . . . 2 AVERAGE . . . . 3 SMALLER THAN AVERAGE . . . . 4 VERY SMALL . . . . 5 DON'T KNOW 8	VERY LARGE . . . . 1 LARGER THAN AVERAGE . . . . 2 AVERAGE . . . . 3 SMALLER THAN AVERAGE . . . . 4 VERY SMALL . . . . 5 DON'T KNOW 8	VERY LARGE . . . . 1 LARGER THAN AVERAGE . . . . 2 AVERAGE . . . . 3 SMALLER THAN AVERAGE . . . . 4 VERY SMALL . . . . 5 DON'T KNOW 8
423	Was (NAME) weighed at birth?	YES . . . . 1 NO . . . . 2 (SKIP TO 425) 1 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 425) 1 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 425) 1 DON'T KNOW 8
424	How much did (NAME) weigh? RECORD WEIGHT FROM HEALTH CARD, IF AVAILABLE.	GRAMS FROM CARD . . . . . 1 GRAMS FROM RECALL . . . . 2 DON'T KNOW 99998	GRAMS FROM CARD . . . . . 1 GRAMS FROM RECALL . . . . 2 DON'T KNOW 99998	GRAMS FROM CARD . . . . . 1 GRAMS FROM RECALL . . . 2 DON'T KNOW 99998
425	Who assisted with the delivery of (NAME)? Anyone else? PROBE FOR THE TYPE OF PERSON AND RECORD ALL PERSONS ASSISTING.	HEALTH PROFESSIONAL DOCTOR . . . . A NURSE/MIDWIFE . . . . C OTHER PERSON TRADITIONAL BIRTH ATTENDANT . . . . D RELATIVE/FRIEND . . . . . . E OTHER __________________X (SPECIFY) NO ONE . . . . Y	HEALTH PROFESSIONAL DOCTOR . . . . A NURSE/MIDWIFE . . . . C OTHER PERSON TRADITIONAL BIRTH ATTENDANT . . . . D RELATIVE/FRIEND . . . E OTHER ________________ X (SPECIFY) NO ONE . . . . Y	HEALTH PROFESSIONAL DOCTOR . . . . A NURSE/MIDWIFE . . . . . . C OTHER PERSON TRADITIONAL BIRTH ATTENDANT . . . . D RELATIVE/FRIEND . . . . . E OTHER _________________X (SPECIFY) NO ONE . . . . Y
426	Where did you give birth to (NAME)?	HOME YOUR HOME . . . . 11 (SKIP TO 428) 1 OTHER HOME . . . . 12 PUBLIC SECTOR HOSPITAL . . . . 21 DELIVERY HOSPITAL . . 22 RURAL OR URBAN HEALTH CLINIC . . . . . 23 OTHER PUBLIC ________________________26 (SPECIFY) PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/ CLINIC . . . . 31 OTHER PRIVATE MEDICAL ______________________36 (SPECIFY) OTHER _________________96 (SPECIFY) (SKIP TO 428)	HOME YOUR HOME . . . . 11 (SKIP TO 428) 1 OTHER HOME . . . . 12 PUBLIC SECTOR HOSPITAL . . . . 21 DELIVERY HOSPITAL 22 RURAL OR URBAN HEALTH CLINIC . . . 23 OTHER PUBLIC ______________________26 (SPECIFY) PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/ CLINIC . . . . 31 OTHER PRIVATE MEDICAL _____________________36 (SPECIFY) OTHER _______________ 96 (SPECIFY) (SKIP TO 428)	HOME YOUR HOME . . . . 11 (SKIP TO 428) 1 OTHER HOME . . . . 12 PUBLIC SECTOR HOSPITAL . . . . 21 DELIVERY HOSPITAL . 22 RURAL OR URBAN HEALTH CLINIC . . . . 23 OTHER PUBLIC _______________________ 26 (SPECIFY) PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/ CLINIC . . . . 31 OTHER PRIVATE MEDICAL _____________________ 36 (SPECIFY) OTHER ________________ 96 (SPECIFY) (SKIP TO 428)
426A	When you delivered (NAME) how many nights did you stay in the hospital?	NIGHTS	NIGHTS	NIGHTS . . . .
427	Was (NAME) delivered by caesarian section?	YES . . . . 1 (SKIP TO 433) 1 NO 2	YES . . . . 1 (SKIP TO 434) 1 NO 2	YES . . . . 1 (SKIP TO 434) 1 NO 2

		LAST BIRTH NAME_____	NEXT-TO-LAST BIRTH NAME _____	NEXT-TO-NEXT-TO-LAST BIRTH NAME_____
428	After (NAME) was born, did anyone check on your health?	YES . . . . . 1 NO . . . . . 2 (SKIP TO 433)◂)))))))-	YES . . . . . 1 (SKIP TO 434)◂)))))))1 NO 2	YES . . . . . 1 (SKIP TO 434)◂)))))))1 NO 2
429	How many days or weeks after the delivery did the first check take place? RECORD '00' DAYS IF SAME DAY.	DAYS AFTER DELIVERY . . . 1 WEEKS AFTER DELIVERY . . . 2 DON'T KNOW 998		
430	Who checked on your health at that time? PROBE FOR MOST QUALIFIED PERSON.	HEALTH PROFESSIONAL DOCTOR . . . . . 1 NURSE/MIDWIFE . . . . . 3 OTHER PERSON . . . . . 4 TRADITIONAL BIRTH ATTENDANT . . . . . 21 OTHER _____ 6 (SPECIFY)		
431	Where did this first check take place?	HOME YOUR HOME . . . . . 11 OTHER HOME . . . . . 12 PUBLIC SECTOR HOSPITAL . . . . . 21 DELIVERY HOSPITAL . . 22 RURAL OR URBAN HEALTH CLINIC . . . . . 23 WOMEN'S CONSULTING CENTER . . . . . 24 FGP . . . . . 25 OTHER PUBLIC _____26 (SPECIFY) PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/ CLINIC . . . . . 31 OTHER PRIVATE MEDICAL _____ 36 (SPECIFY) OTHER _____96 (SPECIFY)		
433	Has your period returned since the birth of (NAME)?	YES . . . . . 1 (SKIP TO 435)◂)))))))- NO . . . . . 2 (SKIP TO 436)◂)))))))-		
434	Did you period return between the birth of (NAME) and your next pregnancy?		YES . . . . . 1 NO . . . . . 2 (SKIP TO 438)◂)))))))-	YES . . . . . 1 NO . . . . . 2 (SKIP TO 438)◂)))))))-
435	For how many months after the birth of (NAME) did you not have a period?	MONTHS . . . . . | | | DON'T KNOW 98	MONTHS . . . . | | | DON'T KNOW 98	MONTHS . . . . . | | | DON'T KNOW 98

		LAST BIRTH NAME_____	NEXT-TO-LAST BIRTH NAME_____	NEXT-TO-NEXT-TO-LAST BIRTH NAME_____
436	CHECK 228: RESPONDENT PREGNANT?	NOT PREGNANT +)), /))- ▾ PREGNANT OR UNSURE +)), /))- ▾ (SKIP TO 438)		
437	Have you resumed sexual relations since the birth of (NAME)?	YES . . . . . 1 NO . . . . . 2 (SKIP TO 439)◂)))))))-		
438	For how many months after the birth of (NAME) did you not have sexual relations?	MONTHS . . . . . | | | DON'T KNOW 98	MONTHS . . . | | | DON'T KNOW 98	MONTHS . . . . . | | | DON'T KNOW 98
439	Did you ever breastfeed (NAME)?	YES . . . . . 1 NO . . . . . 2 (SKIP TO 444)◂)))))))-	YES . . . . . 1 NO . . . . . 2 (SKIP TO 444)◂)))))))-	YES . . . . . 1 NO . . . . . 2 (SKIP TO 444)◂)))))))-
440	How long after birth did you first put (NAME) to the breast? IF LESS THAN 1 HOUR, RECORD '00' HOURS. IF LESS THAN 24 HOURS, RECORD HOURS. OTHERWISE, RECORD DAYS.	IMMEDIATELY . 000 MINUTES . . . . . 0 | | | HOURS . . . . . 1 | | | DAYS . . . . . 2 | | |	IMMEDIATELY . 000 MINUTES . . . 0 | | | HOURS . . . . . 1 | | | DAYS . . . . . 2 | | |	IMMEDIATELY . 000 MINUTES . . . . 0 | | | HOURS . . . . . 1 | | | DAYS . . . . . 2 | | |
440A	Within the first three days after delivery, before your milk began flowing regularly, was (NAME) given anything to drink other than breast milk?	YES . . . . . 1 NO . . . . . 2 (SKIP TO 441)◂)))))))-	YES . . . . . 1 NO . . . . . 2 (SKIP TO 441)◂)))))))-	YES . . . . . 1 NO . . . . . 2 (SKIP TO 441)◂)))))))-
440B	What was (NAME) given to drink before your milk began flowing regularly? Anything else? RECORD ALL MENTIONED.	MILK (OTHER THAN BREAST MILK) . . . . . A PLAIN WATER . . . . . B SUGAR OR GLUCOSE WATER . . . . . C GRIPE WATER . . . . . D SALT AND SUGAR SOLUTION . . . . . E FRUIT JUICE . . . . . F INFANT FORMULA . . . . . G TEA/INFUSIONS . . . . . H HONEY . . . . . I OTHER_____X (SPECIFY)	MILK (OTHER THAN BREAST MILK) . . . . . A PLAIN WATER . . . . . B SUGAR OR GLUCOSE WATER . . . . . C GRIPE WATER . . . . . D SALT AND SUGAR SOLUTION . . . . . E FRUIT JUICE . . . . . F INFANT FORMULA . . . . G TEA/INFUSIONS . . . . . H HONEY . . . . . I OTHER_____ X (SPECIFY)	MILK (OTHER THAN BREAST MILK) . . . . . A PLAIN WATER . . . . . B SUGAR OR GLUCOSE WATER . . . . . C GRIPE WATER . . . . . D SALT AND SUGAR SOLUTION . . . . . E FRUIT JUICE . . . . . F INFANT FORMULA . . . . . G TEA/INFUSIONS . . . . . H HONEY . . . . . I OTHER _____ X (SPECIFY)
441	CHECK 404: CHILD ALIVE?	ALIVE +)), /))- ▾ DEAD +)), /))- ▾ (SKIP TO 443)	ALIVE +)), /))- ▾ DEAD +)), /))- ▾ (SKIP TO 443)	ALIVE +)), /))- ▾ DEAD +)), /))- ▾ (SKIP TO 443)
442	Are you still breastfeeding (NAME)?	YES . . . . . 1 (SKIP TO 445)◂)))))))- NO 2	YES . . . . . 1 (SKIP TO 445)◂)))))))- NO 2	YES . . . . . 1 (SKIP TO 445)◂)))))))- NO 2

		LAST BIRTH NAME_____	NEXT-TO-LAST BIRTH NAME_____	NEXT-TO-NEXT-TO-LAST BIRTH NAME_____
443	For how many months did you breastfeed (NAME)?	MONTHS . . . . . | | | DON'T KNOW 98	MONTHS . . . . . | | | DON'T KNOW 98	MONTHS . . . . . | | | DON'T KNOW 98
444	CHECK 404: CHILD ALIVE?	ALIVE +)), /))- (SKIP TO 447) DEAD +)), /))- (GO BACK TO 405 IN NEXT COLUMN OR, IF NO MORE BIRTHS, GO TO 451 (SKIP TO 447)	ALIVE +)), /))- (SKIP TO 447) DEAD +)), /))- (GO BACK TO 405 IN NEXT COLUMN OR, IF NO MORE BIRTHS, GO TO 451 (SKIP TO 447)	ALIVE +)), /))- (SKIP TO 447) DEAD +)), /))- (GO BACK TO 405 IN NEXT COLUMN OR, IF NO MORE BIRTHS, GO TO 451 (SKIP TO 447)
445	How many times did you breastfeed last night between sunset and sunrise? IF ANSWER IS NOT NUMERIC, PROBE FOR APPROXIMATE NUMBER.	NUMBER OF NIGHTTIME FEEDINGS . . . . . | | |	NUMBER OF NIGHTTIME FEEDINGS . . . | | |	NUMBER OF NIGHTTIME FEEDINGS . . . . . | | |
446	How many times did you breastfeed during the daylight hours? IF ANSWER IS NOT NUMERIC, PROBE FOR APPROXIMATE NUMBER.	NUMBER OF DAYTIME FEEDINGS . . . . . | | |	NUMBER OF DAYTIME FEEDINGS . . . | | |	NUMBER OF DAYTIME FEEDINGS . . . . . | | |
447	Did (NAME) drink anything from a bottle with a nipple yesterday or last night?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8

448	Now I would like to ask you about the types of foods [NAME] has been fed over the last seven days, including yesterday. How many days during the last seven days was [NAME] given each of the following? FOR EACH ITEM GIVEN AT LEAST ONCE IN LAST SEVEN DAYS, ASK: How many times yesterday or last night was [NAME] given [ITEM]?	LAST 7 DAYS NUMBER OF DAYS	YESTERDAY /LAST NIGHT NUMBER OF TIMES	LAST 7 DAYS NUMBER OF TIMES	YESTERDAY/ LAST NIGHT NUMBER OF TIMES	LAST 7 DAYS NUMBER OF DAYS	YESTERDAY / LAST NIGHT NUMBER OF TIMES
	Plain water?	| |	| |	| |	| |	| |	| |
	Tea?	| |	| |	| |	| |	| |	| |
	Commercially prepared baby formula?	| |	| |	| |	| |	| |	| |
	Any other milk such as tinned, powdered or fresh milk?	| |	| |	| |	| |	| |	| |
	Fruit juice?	| |	| |	| |	| |	| |	| |

		LAST BIRTH NAME_____	NEXT-TO-LAST BIRTH NAME_____	NEXT-TO-NEXT-TO-LAST BIRTH NAME_____
	Any other liquids such as sugar water, tea, coffee? Bread, food made from flour? Any food made from grains [e.g. wheat, porridge, rice]? Pumpkin, squash, red or yellow yams, carrots, or red potatoes? Candies, sweets? Any green leafy vegetables? Any other fruits and vegetables [e.g. applesauce, pears, tomatoes]? Meat, poultry, or eggs? Fish, shellfish and other seafood? Any food made from legumes [e.g. lentils, beans, soybeans, pulses or peanuts]? Cheese, kefir, kumys or yogurt?			
449	How many times was (NAME) fed solid or semi-solid (mashed or pureed) food yesterday or last night? IF 7 OR MORE TIMES, RECORD '7'.	NUMBER OF TIMES . . . . . . DON'T KNOW 8	NUMBER OF TIMES . . . . . . DON'T KNOW 8	NUMBER OF TIMES . . . . . . DON'T KNOW 8
450		GO BACK TO 405 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 451.	GO BACK TO 405 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 451.	GO BACK TO 405 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 451.

SECTION 4B. IMMUNIZATION AND HEALTH

451	ENTER THE NAME AND LINE NUMBER OF EACH LIVING CHILD BORN SINCE JANUARY 1995 IN THE TABLE. ASK THE QUESTIONS ABOUT ALL OF THESE CHILDREN. BEGIN WITH THE YOUNGEST CHILD.			
452	LINE NUMBER FROM 212	LAST BIRTH LINE NUMBER .... ☐☐	NEXT-TO-LAST BIRTH LINE NUMBER .... ☐☐	NEXT-TO- NEXT-TO-LAST BIRTH LINE NUMBER ..... ☐☐
453	FROM 212 AND 219	NAME _____ ALIVE ☐ DEAD ☐ (GO TO 453 IN NEXT COLUMN OR, IF NO MORE BIRTHS, GO TO 481)	NAME _____ ALIVE ☐ DEAD ☐ (GO TO 453 IN NEXT COLUMN OR, IF NO MORE BIRTHS, GO TO 481)	NAME _____ ALIVE ☐ DEAD ☐ (GO TO 453 IN NEXT COLUMN OR, IF NO MORE BIRTHS, GO TO 481)
454	Did (NAME) receive a Vitamin A/polyvitamins dose like this during the last 6 months? SHOW AMPULE/CAPSULE OR TABLETS	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8
455	Do you have a card where (NAME'S) vaccinations are written down? IF YES: May I see it please?	YES, SEEN . . . . . 1 (SKIP TO 457) YES, NOT SEEN . . . . . 2 (SKIP TO 463) NO CARD 3	YES, SEEN . . . . . 1 (SKIP TO 457) YES, NOT SEEN . . . . . 2 (SKIP TO 463) NO CARD 3	YES, SEEN . . . . . 1 (SKIP TO 457) YES, NOT SEEN . . . . . 2 (SKIP TO 463) NO CARD 3
456	Did you ever have a vaccination card for (NAME)?	YES . . . . . 1 (SKIP TO 463) NO 2	YES . . . . . 1 (SKIP TO 463) NO 2	YES . . . . . 1 (SKIP TO 463) NO 2

457	(1) COPY VACCINATION DATE FOR EACH VACCINE FROM THE CARD. (2) WRITE '44 IN 'DAY' COLUMN IF CARD SHOWS THAT A VACCINATION WAS GIVEN, BUT NO DATE IS RECORDED.				
			DAY MONTH YEAR	DAY MONTH YEAR	DAY MONTH YEAR
A	BGG	BCG	BCG	BCG	BCG
B	POLIO 0 (POLIO GIVEN AT BIRTH)	P0	P0	P0	P0
C	POLIO 1	P1	P1	P1	P1
D	POLIO 2	P2	P2	P2	P2
E	POLIO 3	P3	P3	P3	P3
G	DPT 1	D1	D1	D1	D1
H	DPT 2	D2	D2	D2	D2
I	DPT 3	D3	D3	D3	D3
K	DPT 4	D4	D4	D4	D4
L	MEASLES	M	M	M	M
M	PARTUSIS	PER	PER	PER	PER
N	HEPATITIS **B** (B1) VACCINE	HEP 1	HEP 1	HEP 1	HEP 1
O	HEPATITIS **B** (B2) VACCINE	HEP 2	HEP 2	HEP 2	HEP 2
P	HEPATITIS **B** (B3) VACCINE	HEP 3	HEP 3	HEP 3	HEP 3
458	Has (NAME) received any vaccinations that are not recorded on this card, including vaccinations received in a national immunization day campaign? RECORD 'YES' ONLY IF RESPONDENT MENTIONS BCG, POLIO 0-3, DPT 1-3, AND/OR MEASLES VACCINE(S).	YES . . . . . 1 (PROBE FOR VACCINATIONS AND WRITE '66' IN THE CORRESPONDING DAY COLUMN IN 457) NO . . . . . 2 DON'T KNOW 8	YES . . . . . 1 (PROBE FOR VACCINATIONS AND WRITE '66' IN THE CORRESPONDING DAY COLUMN IN 457) NO . . . . . 2 DON'T KNOW 8	YES . . . . . 1 (PROBE FOR VACCINATIONS AND WRITE '66' IN THE CORRESPONDING DAY COLUMN IN 457) NO . . . . . 2 DON'T KNOW 8	
463	Has (NAME) been ill with a fever at any time in the last 2 weeks?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
464	Has (NAME) had an illness with a cough at any time in the last 2 weeks?	YES . . . . . 1 NO . . . . . 2 (SKIP TO 466) DON'T KNOW 8	YES . . . . . 1 NO . . . . . 2 (SKIP TO 466) DON'T KNOW 8	YES . . . . . 1 NO . . . . . 2 (SKIP TO 466) DON'T KNOW 8	
465	When (NAME) had an illness with a cough, did he/she breathe faster than usual with short, fast breaths?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	

466	CHECK 463 AND 464: FEVER OR COUGH?	"YES" IN 463 OR 464 →	NO OR DK → (SKIP TO 472)	"YES" IN 463 OR 464 →	NO OR DK → (SKIP TO 472)	"YES" IN 463 OR 464 →	NO OR DK → (SKIP TO 472)
467	Did you seek advice or treatment for the illness?	YES . . . . . 1 NO . . . . . 2 (SKIP TO 472)		YES . . . . . 1 NO . . . . . 2 (SKIP TO 472)		YES . . . . . 1 NO . . . . . 2 (SKIP TO 472)	
467A	What signs or symptoms led you to seek advice or treatment?	WHEN HE/SHE: HAS BLOCKED NOSE . . . . . A HAS TROUBLE SLEEPING/EATING . . . B HAS A FEVER . . . . . C IS BREATHING FAST . . . D IS ILL FOR A LONG TIME . . . . . E OTHER _____ X (SPECIFY) DON'T KNOW . . . . . Z		WHEN HE/SHE: HAS BLOCKED NOSE . . . . . A HAS TROUBLE SLEEPING/EATING . . . . B HAS A FEVER . . . . . C IS BREATHING FAST . . . . D IS ILL FOR A LONG TIME . . . . . E OTHER _____ X (SPECIFY) DON'T KNOW . . . . . Z		WHEN HE/SHE: HAS BLOCKED NOSE . . . . . A HAS TROUBLE SLEEPING/EATING . . . . . B HAS A FEVER . . . . . C IS BREATHING FAST . . . . . D IS ILL FOR A LONG TIME . . . . . E OTHER _____ X (SPECIFY) DON'T KNOW . . . . . Z
468	Where did you seek advice or treatment? Anywhere else? RECORD ALL MENTIONED.	PUBLIC SECTOR HOSPITAL . . . . . A RURAL/URBAN HEALTH CLINIC . . . . B PHARMACY . . . . . E OTHER PUBLIC _____ F (SPECIFY) PRIVATE MEDICAL SECTOR PVT. HOSPITAL/ CLINIC . . . . . G PHARMACY . . . . . H PVT. DOCTOR . . . . . I OTHER PVT. MEDICAL _____ J (SPECIFY)		PUBLIC SECTOR HOSPITAL . . . . . A RURAL/URBAN HEALTH CLINIC . . . . . B PHARMACY . . . . . E OTHER PUBLIC _____ F (SPECIFY) PRIVATE MEDICALSECTOR PVT. HOSPITAL/ CLINIC . . . . . G PHARMACY . . . . . H PVT. DOCTOR . . . . . I OTHER PVT. MEDICAL _____ J (SPECIFY) OTHER SOURCE TRAD. PRACTITIONER . . . . . K OTHER _____ X (SPECIFY)		PUBLIC SECTOR HOSPITAL . . . . . A RURAL/URBAN HEALTH CLINIC . . . . . B PHARMACY . . . . . E OTHER PUBLIC _____ F (SPECIFY) PRIVATE MEDICAL SECTOR PVT. HOSPITAL/ CLINIC . . . . . G PHARMACY . . . . . H PVT. DOCTOR . . . . . I OTHER PVT. MEDICAL _____ J (SPECIFY) OTHER SOURCE TRAD. PRACTITIONER . . . K OTHER _____ X (SPECIFY)
472	Has (NAME) had diarrhea in the last 2 weeks?	YES . . . . . 1 NO . . . . . 2 (SKIP TO 480) DON'T KNOW 8		YES . . . . . 1 NO . . . . . 2 (SKIP TO 480) DON'T KNOW 8		YES . . . . . 1 NO . . . . . 2 (SKIP TO 480) DON'T KNOW 8	
473	When (NAME) had diarrhea, was he/she given less than usual to drink, about the same amount, or more than usual to drink?	LESS . . . . . 1 SAME . . . . . 2 MORE . . . . . 3 DON'T KNOW 8		LESS . . . . . 1 SAME . . . . . 2 MORE . . . . . 3 DON'T KNOW 8		LESS . . . . . 1 SAME . . . . . 2 MORE . . . . . 3 DON'T KNOW 8	
474	Was he/she given less than usual to eat, about the same amount, or more than usual to eat?	LESS . . . . . 1 SAME . . . . . 2 MORE . . . . . 3 DON'T KNOW 8		LESS . . . . . 1 SAME . . . . . 2 MORE . . . . . 3 DON'T KNOW 8		LESS . . . . . 1 SAME . . . . . 2 MORE . . . . . 3 DON'T KNOW 8	

475	Was he/she given any of the following to drink: A fluid, made from a special packet called REHYDRON? Water? Milk or Infant formula? Soup? Kefir, airan? Coca cola/Pepsi Cola/ Sprite/Fanta? Other fluids?	YES NO DK REHYDRON . . . . . 1 2 8 WATER . . . . . 1 2 8 MILK/INFANT FORMULA . . . . . 1 2 8 SOUP . . . . . 1 2 8 KEFIR/AIRAN . . . . . 1 2 8 SOFT DRINK . . . . . 1 2 8 OTHER FLUIDS . . . 1 2 8	YES NO DK REHYDRON . . . . . 1 2 8 WATER . . . . . 1 2 8 MILK/INFANT FORMULA . . . . . 1 2 8 SOUP . . . . . 1 2 8 KEFIR/AIRAN . . . . . 1 2 8 SOFT DRINK . . . . . 1 2 8 OTHER FLUIDS . . . 1 2 8	YES NO DK REHYDRON . . . . . 1 2 8 WATER . . . . . 1 2 8 MILK/INFANT FORMULA . . . . . 1 2 8 SOUP . . . . . 1 2 8 KEFIR/AIRAN . . . . . 1 2 8 SOFT DRINK . . . . . 1 2 8 OTHER FLUIDS 1 2 8
476	Was anything (else) given to treat the diarrhea?	YES . . . . . 1 NO . . . . . 2 (SKIP TO 478) DON'T KNOW 8	YES . . . . . 1 NO . . . . . 2 (SKIP TO 478) DON'T KNOW 8	YES . . . . . 1 NO . . . . . 2 (SKIP TO 478) DON'T KNOW 8
477	What was given to treat the diarrhea? Anything else? RECORD ALL MENTIONED	PILL OR SYRUP . . . . . A INJECTION . . . . . B (I.V.) INTRAVENOUS . . . . C HOME REMEDIES/ HERBAL MEDICINE . . . D OTHER _____ X (SPECIFY)	PILL OR SYRUP . . . . . A INJECTION . . . . . B (I.V.) INTRAVENOUS . . . . . C HOME REMEDIES/ HERBAL MEDICINE . . . . D OTHER_____ X (SPECIFY)	PILL OR SYRUP . . . . . A INJECTION . . . . . B (I.V.) INTRAVENOUS . . . . . C HOME REMEDIES/ HERBAL MEDICINE . . . . . D OTHER_____ X (SPECIFY)
478	Did you seek advice or treatment for the diarrhea?	YES . . . . . 1 NO . . . . . 2 (SKIP TO 480)	YES . . . . . 1 NO . . . . . 2 (SKIP TO 480)	YES . . . . . 1 NO . . . . . 2 (SKIP TO 480)
479	Where did you seek advice or treatment? Anywhere else? RECORD ALL MENTIONED.	PUBLIC SECTOR HOSPITAL . . . . . A RURAL/URBAN HEALTH CLINIC . . . . B PHARMACY . . . . . E OTHER PUBLIC_____ F (SPECIFY) PRIVATE MEDICAL SECTOR PVT. HOSPITAL/ CLINIC . . . . . G PHARMACY . . . . . H PVT. DOCTOR . . . . . I OTHER PVT. MEDICAL _____J (SPECIFY) OTHER SOURCE TRAD. PRACTITIONER . . . K OTHER _____X (SPECIFY)	PUBLIC SECTOR HOSPITAL . . . . . A RURAL/URBAN HEALTH CLINIC . . . . B PHARMACY . . . . . E OTHER PUBLIC_____ F (SPECIFY) PRIVATE MEDICAL SECTOR PVT. HOSPITAL/ CLINIC . . . . . G PHARMACY . . . . . H PVT. DOCTOR . . . . . I OTHER PVT. MEDICAL _____J (SPECIFY) OTHER SOURCE TRAD. PRACTITIONER . . . K OTHER _____ X (SPECIFY)	PUBLIC SECTOR HOSPITAL . . . . . A RURAL/URBAN HEALTH CLINIC . . . . . B PHARMACY . . . . . E OTHER PUBLIC_____ F (SPECIFY) PRIVATE MEDICAL SECTOR PVT. HOSPITAL/ CLINIC . . . . . G PHARMACY . . . . . H PVT. DOCTOR . . . . . I OTHER PVT. MEDICAL _____J (SPECIFY) OTHER SOURCE TRAD. PRACTITIONER . . . . K OTHER _____ X (SPECIFY)
480		GO BACK TO 453 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 481.	GO BACK TO 453 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 481.	GO BACK TO 453 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 481.

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
481	CHECK 453, ALL COLUMNS: NUMBER OF LIVING CHILDREN BORN SINCE JANUARY 1994 ONE OR MORE NONE		))▸486
482	The last time you fed your children, did you wash your hands immediately before feeding them?	YES . . . . . 1 NO 2	
483	The last time you had to clean (your child/one of your children) after (he/she) defecated, did you wash your hands immediately afterwards?	YES . . . . . 1 NO . . . . . 2 CHILD DO HIM/HERSELF 3	
485	CHECK 475, ALL COLUMNS: NO CHILD RECEIVED ORS FROM PACKET ANY CHILD RECEIVED ORS FROM PACKET		))▸487
486	Have you ever heard of a special product called [REHYDRON] you can get for the treatment of diarrhea?	YES . . . . . 1 NO 2	
487	CHECK 221: HAS ONE OR MORE CHILDREN LIVING WITH HER HAS NO CHILDREN LIVING WITH HER		))▸489
488	When (your child/one of your children) is seriously ill, can you decide by yourself whether the child should be taken for medical treatment?	YES . . . . . 1 NO 2	
489	Have you washed hands before cooking food for your family?	YES . . . . . 1 NO . . . . . 2 NEVER COOK 3	

SECTION 5. MARRIAGE AND SEXUAL ACTIVITY

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
501	Are you currently married or living with a man?	YES, CURRENTLY MARRIED . . . . 1 YES, LIVING WITH A MAN . . . . 2 NO, NOT IN UNION 3	1, 2 ▸505
502	Have you ever been married or lived with a man?	YES, FORMERLY MARRIED . . . . 1 YES, LIVED WITH A MAN . . . . 2 NO 3	1 ▸504 2 ▸509
503	ENTER '0' IN COLUMN 4 OF CALENDAR IN THE MONTH OF INTERVIEW, AND IN EACH MONTH BACK TO JANUARY 199		▸516
504	What is your marital status now: are you widowed, divorced, or separated?	WIDOWED . . . . 1 DIVORCED . . . . 2 SEPARATED 3	1, 2, 3 ▸509
505	Is your husband/partner living with you now or is he staying elsewhere?	LIVING WITH HER . . . . 1 STAYING ELSEWHERE 2	
506	RECORD THE HUSBAND'S LINE NUMBER FROM THE HOUSEHOLD QUESTIONNAIRE. IF HE IS NOT LISTED IN THE HOUSEHOLD, RECORD '00'.	[ ][ ]	
509	Have you been married or lived with a man only once, or more than once?	ONCE . . . . 1 MORE THAN ONCE 2	
510	CHECK 509: MARRIED/LIVED WITH A MAN ONLY ONCE ▾ In what month and year did you start living with your husband/partner? MARRIED/LIVED WITH A MAN MORE THAN ONLY ONCE ▾ Now we will talk about your first husband/partner. In what month and year did you start living with him?	MONTH . . . . [ ][ ] DON'T KNOW MONTH . . . . 98 YEAR . . . . [ ][ ][ ][ ] DON'T KNOW YEAR 9988	▸512
511	How old were you when you started living with him?	AGE . . . . [ ][ ]	
512	DETERMINE MONTHS MARRIED OR LIVING WITH A MAN SINCE JANUARY 1994. ENTER 'X' IN COLUMN 4 OF CALENDAR FOR EACH MONTH MARRIED OR LIVING WITH A MAN, AND ENTER '0' FOR EACH MONTH NOT MARRIED/NOT LIVING WITH A MAN, SINCE JANUARY 1994. FOR WOMEN WITH MORE THAN ONE UNION: PROBE FOR DATE WHEN CURRENT UNION STARTED AND, IF APPROPRIATE, FOR STARTING AND TERMINATION DATES OF ANY PREVIOUS UNIONS. FOR WOMEN NOT CURRENTLY IN UNION: PROBE FOR DATE WHEN LAST UNION STARTED AND FOR TERMINATION DATE AND, IF APPROPRIATE, FOR THE STARTING AND TERMINATION DATES OF ANY PREVIOUS UNIONS.		
513	CHECK 501: CURRENTLY MARRIED OR LIVING WITH A MAN [ ] ▾ NOT CURRENTLY MARRIED AND NOT CURRENTLY LIVING WITH A MAN [ ]		▸516
514	CHECK 311/311A: ANY CODE CIRCLED [ ] ▾ NOT ASKED (NO CODE CIRCLED) [ ]		▸516

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
515	You have told me that you are using contraception. Would you say that using contraception is mainly your decision, mainly your husband's/partner's decision or did you both decide together?	RESPONDENT ..... 1 HUSBAND/PARTNER ..... 2 JOINT DECISION ..... 3 OTHER_____ 6 (SPECIFY)	
516	Now I need to ask you some questions about sexual activity in order to gain a better understanding of some family life issues. How old were you when you first had sexual intercourse (if ever)?	NEVER ..... 00 +)))0)))), AGE IN YEARS ..... * * * .)))2)))- FIRST TIME WHEN MARRIED 96	))▸526
517	When was the last time you had sexual intercourse?	+)))0)))), DAYS AGO ..... 1 * * * /)))3)))1 WEEKS AGO ..... 2 * * * /)))3)))1 MONTHS AGO ..... 3 * * * /)))3)))1 YEARS AGO ..... 4 * * * .)))2)))-	))▸526
518	The last time you had sexual intercourse, was a condom used?	YES ..... 1 NO ..... 2 DON'T KNOW/NOT SURE 8	
519	What is your relationship to the man with whom you last had sex?	SPOUSE ..... 1 GIRL FRIEND/FIANCEE ..... 2 OTHER FRIEND ..... 3 CASUAL ACQUAINTANCE ..... 4 RELATIVE ..... 5 OTHER _____ 6 (SPECIFY)	))▸521
520	For how long have you had a sexual relationship with this man?	+)))0)))), DAYS ..... 1 * * * /)))3)))1 WEEKS ..... 2 * * * /)))3)))1 MONTHS ..... 3 * * * /)))3)))1 YEARS ..... 4 * * * .)))2)))-	
521	Have you had sex with anyone else in the last 12 months?	YES ..... 1 NO 2	))▸526
522	The last time you had sexual intercourse with this other man, was a condom used?	YES ..... 1 NO ..... 2 DON'T KNOW/NOT SURE 8	
523	What is your relationship to this man?	SPOUSE ..... 1 GIRL FRIEND/FIANCEE ..... 2 OTHER FRIEND ..... 3 CASUAL ACQUAINTANCE ..... 4 RELATIVE ..... 5 OTHER _____ 6 (SPECIFY)	))▸525
524	For how long have you had a sexual relationship with this man?	+)))0)))), DAYS ..... 1 * * * /)))3)))1 WEEKS ..... 2 * * * /)))3)))1 MONTHS ..... 3 * * * /)))3)))1 YEARS ..... 4 * * * .)))2)))-	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
525	Altogether, with how many different men have you had sex in the last 12 months?	+)))0))) NUMBER OF PARTNERS .. * * * .)))2)))-	
526	Do you know of a place where one can get condoms?	YES ..... 1 NO 2	))▸529
527	Where is that? IF SOURCE IS POLYCLINIC, FGP, FAP, WOMEN`S CONSULTING CENTER (WCC), WRITE THE NAME OF THE PLACE. PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE. _____ (NAME OF PLACE)	PUBLIC SECTOR HOSPITAL ..... 11 WCC ..... 12 URBAN/RUARAL HEALTH CLINIC .. 13 PHARMACY ..... 14 OTHER PUBLIC _____ 16 (SPECIFY) PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC ..... 20 PHARMACY ..... 21 PVT. DOCTOR ..... 22 OTHER PVT. MEDICAL_____ 26 (SPECIFY) OTHER SOURCE SHOP ..... 30 RELIGIOUS ORGANIZATION ..... 31 FRIENDS/RELATIVES ..... 32 OTHER _____ 36 (SPECIFY)	
528	If you wanted to, could you yourself get a condom?	YES ..... 1 NO ..... 2 DON'T KNOW/UNSURE 8	
529	Do you know of a place where one can get female condoms?	YES ..... 1 NO 2	))▸601
530	Where is that? IF SOURCE IS POLYCLINIC, FGP, FAP, WOMEN`S CONSULTING CENTER (WCC0, WRITE THE NAME OF THE PLACE. PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE. _____ (NAME OF PLACE)	PUBLIC SECTOR HOSPITAL ..... 11 WCC ..... 12 URBAN/RUARAL HEALTH CLINIC .. 13 PHARMACY ..... 14 OTHER PUBLIC _____ 16 (SPECIFY) PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC ..... 20 PHARMACY ..... 21 PVT. DOCTOR ..... 22 OTHER PVT. MEDICAL _____ 26 (SPECIFY) OTHER SOURCE SHOP ..... 30 RELIGIOUS ORGANIZATION ..... 31 FRIENDS/RELATIVES ..... 32 OTHER _____ 36 (SPECIFY)	
531	If you wanted to, could you yourself get a female condom?	YES ..... 1 NO ..... 2 DON'T KNOW/UNSURE 8	

SECTION 6. FERTILITY PREFERENCES

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
601	CHECK 311/311A: NEITHER STERILIZED HE OR SHE STERILIZED		▸614
602	CHECK 228: NOT PREGNANT OR UNSURE: Now I have some questions about the future. Would you like to have (a/another) child, or would you prefer not to have any (more) children? PREGNANT: Now I have some questions about the future. After the child you are expecting now, would you like to have another child, or would you prefer not to have any more children?	HAVE (A/ANOTHER) CHILD . . . . . 1 NO MORE/NONE . . . . . 2 SAYS SHE CAN'T GET PREGNANT 3 UNDECIDED/DON'T KNOW 8	 ▸604 ▸609 ▸608
603	CHECK 226: NOT PREGNANT OR UNSURE: How long would you like to wait from now before the birth of (a/another) child? PREGNANT: After the birth of the child you are expecting now, how long would you like wait before the birth of another child?	MONTHS . . . . . 1 YEARS . . . . . 2 SOON/NOW . . . . . 993 SAYS SHE CAN'T GET PREGNANT 994 AFTER MARRIAGE . . . . . 995 OTHER_____ 996 (SPECIFY) DON'T KNOW 998	 ▸609
604	CHECK 228: NOT PREGNANT OR UNSURE PREGNANT		▸610
605	CHECK 310: USING A METHOD? NOT ASKED NOT CURRENTLY USING CURRENTLY USING		▸608
606	CHECK 603: NOT ASKED 24 OR MORE MONTHS OR 02 OR MORE YEARS 00-23 MONTHS OR 00-01 YEAR		▸610

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
607	CHECK 602: WANTS A/ANOTHER CHILD You have said that you do not want (a/another) child soon, but you are not using any method to avoid pregnancy. Can you tell me why? WANTS NO (MORE) CHILDREN You have said that you do not want any (more) children, but you are not using any method to avoid pregnancy. Can you tell me why?	NOT MARRIED . . . . . A FERTILITY-RELATED REASONS NOT HAVING SEX . . . . . B INFREQUENT SEX . . . . . C MENOPAUSAL/HYSTERECTOMY. D SUBFECUND/INFECUND . . . . . E POSTPARTUM AMENORRHEIC . . F BREASTFEEDING . . . . . G FATALISTIC . . . . . H OPPOSITION TO USE RESPONDENT OPPOSED . . . . . I HUSBAND OPPOSED . . . . . J OTHERS OPPOSED . . . . . K RELIGIOUS PROHIBITION . . . . . L LACK OF KNOWLEDGE KNOWS NO METHOD . . . . . M KNOWS NO SOURCE . . . . . N METHOD-RELATED REASONS HEALTH CONCERNS . . . . . O FEAR OF SIDE EFFECTS . . . . . P LACK OF ACCESS/TOO FAR . . . . Q COST TOO MUCH . . . . . R INCONVENIENT TO USE . . . . . S INTERFERES WITH BODY'S NATURAL PROCESSES . . . . . T OTHER _____ X (SPECIFY) DON'T KNOW . . . . . Z	
608	In the next few weeks, if you discovered that you were pregnant, would that be a big problem, a small problem, or no problem for you?	BIG PROBLEM . . . . . 1 SMALL PROBLEM . . . . . 2 NO PROBLEM . . . . . 3 SAYS SHE CAN'T GET PREGNANT 4	
609	CHECK 310: USING A METHOD? NOT ASKED NOT CURRENTLY USING CURRENTLY USING		
610	Do you think you will use a method to delay or avoid pregnancy at any time in the future?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	▸612

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
611	Which method would you prefer to use?	FEMALE STERILIZATION . . . . . 01 MALE STERILIZATION . . . . . 02 PILL . . . . . 03 IUD . . . . . 04 INJECTIONS . . . . . 05 IMPLANTS . . . . . 06 CONDOM . . . . . 07 FEMALE CONDOM . . . . . 08 DIAPHRAGM . . . . . 09 FOAM/JELLY . . . . . 10 LACT. AMEN. METHOD . . . . . 11 PERIODIC ABSTINENCE . . . . . 12 WITHDRAWAL . . . . . 13 OTHER_____ 96 (SPECIFY) UNSURE 98	), * * * * * * /▸614 * * * * * * *)-
612	What is the main reason that you think you will not use a method at any time in the future?	NOT CURRENTLY MARRIED . . . . 11 FERTILITY-RELATED REASONS INFREQUENT SEX . . . . . 22 MENOPAUSAL/HYSTERECTOMY 23 SUBFECUND/INFECUND . . . . . 24 WANTS AS MANY CHILDREN AS POSSIBLE . . . . . 26 OPPOSITION TO USE RESPONDENT OPPOSED . . . . . 31 HUSBAND OPPOSED . . . . . 32 OTHERS OPPOSED . . . . . 33 RELIGIOUS PROHIBITION . . . . . 34 LACK OF KNOWLEDGE KNOWS NO METHOD . . . . . 41 KNOWS NO SOURCE . . . . . 42 METHOD-RELATED REASONS HEALTH CONCERNS . . . . . 51 FEAR OF SIDE EFFECTS . . . . . 52 LACK OF ACCESS/TOO FAR . . . 53 COST TOO MUCH . . . . . 54 INCONVENIENT TO USE . . . . . 55 INTERFERES WITH BODY'S NORMAL PROCESSES . . . . . 56 OTHER_____ 96 (SPECIFY) DON'T KNOW 98	), * * * * * * * * * * /▸614 * * * * * * * * * * *)-
613	Would you ever use a method if you were married?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
614	CHECK 219: HAS LIVING CHILDREN +)), /))- ▾ If you could go back to the time you did not have any children and could choose exactly the number of children to have in your whole life, how many would that be? NO LIVING CHILDREN +)), /))- ▾ If you could choose exactly the number of children to have in your whole life, how many would that be? PROBE FOR A NUMERIC RESPONSE.	+)))0))), NUMBER . . . . . * * * .)))2)))- OTHER _____ 96 (SPECIFY)	))▸616

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
615	How many of these children would you like to be boys, how many would you like to be girls and for how many would it not matter?	BOYS NUMBER . . . . . * OTHER _____ 96 (SPECIFY) GIRLS NUMBER . . . . . * OTHER _____ 96 (SPECIFY) EITHER NUMBER . . . . . * OTHER _____ 96 (SPECIFY)	
616	Would you say that you approve or disapprove of couples using a method to avoid getting pregnant?	APPROVE . . . . . 1 DISAPPROVE . . . . . 2 DON'T KNOW/UNSURE 8	
617	In the last few months have you heard about family planning: On the radio? On the television? In a newspaper or magazine?	YES NO RADIO . . . . . 1 2 TELEVISION . . . . . 1 2 NEWSPAPER OR MAGAZINE . 1 2	
619	In the last few months, have you discussed the practice of family planning with your friends, neighbors, or relatives?	YES . . . . . 1 NO 2	▸621
620	With whom? Anyone else? RECORD ALL MENTIONED.	HUSBAND/PARTNER . . . . . A MOTHER . . . . . B FATHER . . . . . C SISTER(S) . . . . . D BROTHER(S) . . . . . E DAUGHTER . . . . . F SON . . . . . G MOTHER-IN-LAW . . . . . H FRIENDS/NEIGHBORS . . . . . I OTHER _____ X (SPECIFY)	
621	CHECK 501: YES, CURRENTLY MARRIED YES, LIVING WITH A MAN NO, NOT IN UNION		▸625
622	Now I want to ask you about your husband's/partner's views on family planning. Do you think that your husband/partner approves or disapproves of couples using a method to avoid pregnancy?	APPROVES . . . . . 1 DISAPPROVES . . . . . 2 DON'T KNOW 8	
623	How often have you talked to your husband/partner about family planning in the past year?	NEVER . . . . . 1 ONCE OR TWICE . . . . . 2 MORE OFTEN 3	
624	Do you think your husband/partner wants the same number of children that you want, or does he want more or fewer than you want?	SAME NUMBER . . . . . 1 MORE CHILDREN . . . . . 2 FEWER CHILDREN . . . . . 3 DON'T KNOW 8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES				SKIP
625	Husbands and wives do not always agree on everything. Please tell me if you think a wife is justified in refusing to have sex with her husband when:		YES	NO	DK	
	She is tired or not in the mood?	TIRED/MOOD	1	2	8	
	She has recently given birth?	RECENT BIRTH	1	2	8	
	She knows he has sex with other women?[1]	OTHER WOMEN	1	2	8	
	She knows he has the AIDS virus?	HAS THE AIDS VIRUS . . .	1	2	8	

SECTION 7. HUSBAND'S BACKGROUND AND WOMAN'S WORK

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
701	CHECK 501 AND 502: CURRENTLY MARRIED/ LIVING WITH A MAN +)))), /)))- ▾	FORMERLY MARRIED +)))), .)))2))))))))))))))))))))))))))))))	))▸703
		NEVER MARRIED AND NEVER LIVED WITH A MAN +)))), .)))2))))))))))))))))))))))))))))))	))▸707
702	How old was your husband/partner on his last birthday?	+)))0)))), AGE IN COMPLETED YEARS . . . . . * * * .)))2)))-	
703	Did your (last) husband/partner ever attend school?	YES . . . . . 1 NO 2	))▸706
704	What was the highest level of school he attended: primary, secondary, secondary-special, or higher?	PRIMARY/SECONDARY . . . . . 1 SECONDARY-SPECIAL . . . . . 2 HIGHER . . . . . 3 DON'T KNOW 8	))▸706
705	What was the highest (grade/form/year) he completed at that level?	+)))0)))), GRADE . . . . . * * * .)))2)))- DON'T KNOW 98	
706	CHECK 701: CURRENTLY MARRIED/ LIVING WITH A MAN +)))), /)))- ▾ What is your husband's/partner's occupation? That is, what kind of work does he mainly do?	FORMERLY MARRIED/ LIVED WITH A MAN +)))), /)))- ▼ What was your (last) husband's/ partner's occupation? That is, what kind of work did he mainly do?	+)))0)))), * * * _____ .)))2)))- _____ _____ _____ _____	
707	Aside from your own housework, are you currently working?	YES . . . . . 1 NO 2	))▸710
708	As you know, some women take up jobs for which they are paid in cash or kind. Others sell things, have a small business or work on the family farm or in the family business. Are you currently doing any of these things or any other work?	YES . . . . . 1 NO 2	))▸710
709	Have you done any work in the last 12 months?	YES . . . . . 1 NO 2	))▸719

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
710	What is your occupation, that is, what kind of work do you mainly do?	_____	
711	CHECK 710: WORKS IN AGRICULTURE DOES NOT WORK IN AGRICULTURE		▸713
712	Do you work mainly on your own land or on family land, or do you rent land or do you work on someone else's land?	OWN LAND . . . . . 1 FAMILY LAND . . . . . 2 RENTED LAND . . . . . 3 SOMEONE ELSE'S LAND 4	
713	Do you do this work for a member of your family, for someone else, or are you self-employed?	FOR FAMILY MEMBER . . . . . 1 FOR SOMEONE ELSE . . . . . 2 SELF-EMPLOYED 3	
714	Do you usually work throughout the year, or do you work seasonally, or only once in a while?	THROUGHOUT THE YEAR . . . . . 1 SEASONALLY/PART OF THE YEAR . . . . . 2 ONCE IN A WHILE 3	
715	Are you paid in cash or kind for this work or are you not paid at all?	CASH ONLY . . . . . 1 CASH AND KIND . . . . . 2 IN KIND ONLY . . . . . 3 NOT PAID 4	▸718
716	Who mainly decides how the money you earn will be used?	RESPONDENT . . . . . 1 HUSBAND/PARTNER . . . . . 2 RESPONDENT AND HUSBAND/PARTNER JOINTLY . . . . . 3 SOMEONE ELSE . . . . . 4 RESPONDENT AND SOMEONE ELSE JOINTLY 5	
717	On average, how much of your household's expenditures do your earnings pay for: almost none, less than half, about half, more than half, or all?	ALMOST NONE . . . . . 1 LESS THAN HALF . . . . . 2 ABOUT HALF . . . . . 3 MORE THAN HALF . . . . . 4 ALL . . . . . 5 NONE, HER INCOME IS ALL SAVED. 6	
718	Do you usually work at home or away from home?	HOME . . . . . 1 AWAY 2	
719	Who in your family usually has the final say on the following decisions:	RESPONDENT = 1 HUSBAND/PARTNER = 2 RESP. & HUSBAND/PARTNER JOINTLY = 3 SOMEONE ELSE = 4 RESPONDENT & SOMEONE ELSE JOINTLY = 5	
	Your own health?	1 2 3 4 5	
	Large household purchases?	1 2 3 4 5	
	Daily household purchases?	1 2 3 4 5	
	Visits to family, friends, or relatives?	1 2 3 4 5	
	What food should be cooked each day?	1 2 3 4 5	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
720	PRESENCE OF OTHERS AT THIS POINT (PRESENT AND LISTENING, PRESENT BUT NOT LISTENING OR NOT PRESENT)	PRES/ LISTEN. / PRES/ NOT LISTEN. / NOT PRS CHILDREN <10 . . . . 1 2 3 HUSBAND . . . . . 1 2 3 OTHER MALES . . . . 1 2 3 OTHER FEMALES . . 1 2 3	
721	Sometimes a husband is annoyed or angered by things which his wife does. In your opinion, is a husband justified in hitting or beating his wife in the following situations: If she goes out without telling him? If she neglects the children? If she argues with him? If she refuses sex with him? If she burns the food?	YES / NO / DK GOES OUT . . . . . 1 2 8 NEGL. CHILDREN . . 1 2 8 ARGUES . . . . . 1 2 8 REFUSES SEX . . . . . 1 2 8 BURNS FOOD 1 2 8	
722	Have you ever been beaten by your husband?	YES . . . . . 1 NO . . . . . 2 REFUSED TO ANSWER . . . . . 3 DOESN'T REMEMBER 8	
723	Is your husband your relative?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	)) ▸801)) ▸801
724	How close is he to you: cousin or other ?	COUSIN . . . . . 1 OTHER RELATIVE . . . . . 2 DON'T KNOW 8	

SECTION 8A: AIDS AND OTHER SEXUALLY TRANSMITTED DISEASES

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
801	Now I would like to talk about something else. Have you ever heard of an illness called AIDS?	YES . . . . . 1 NO 2	))▸818
802	Is there anything a person can do to avoid getting AIDS or the virus that causes AIDS?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	),)2▸810
803	What can a person do? Anything else? RECORD ALL MENTIONED.	ABSTAIN FROM SEX . . . . . A USE CONDOMS . . . . . B LIMIT SEX TO ONE PARTNER/STAY FAITHFUL TO ONE PARTNER . . . . . C LIMIT NUMBER OF SEXUAL PARTNERS . . . . . D AVOID SEX WITH PROSTITUTES . . . . . E AVOID SEX WITH PERSONS WHO HAVE MANY PARTNERS . . . . . F AVOID SEX WITH HOMOSEXUALS . . . . . G AVOID SEX WITH PERSONS WHO INJECT DRUGS INTRAVENOUSLY . . . . . H AVOID BLOOD TRANSFUSIONS . . . . . I AVOID INJECTIONS . . . . . J AVOID KISSING . . . . . K AVOID MOSQUITO BITES . . . . . L SEEK PROTECTION FROM TRADITIONAL HEALER . . . . . M AVOID SHARING RAZORS, BLADES . . . . . N OTHER _____ W (SPECIFY) OTHER _____ X (SPECIFY) DON'T KNOW . . . . . Z	
804	Is it possible to avoid AIDS by having only one not infected sexual partner who doesn't have other sexual partners?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
805	Is it possible to get AIDS through mosquito bite?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
806	Is it possible to avoid AIDS using condom during every sexual intercourse?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
807	Can a person get AIDS through eating together with sick person?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
808	Is it possible to prevent AIDS by abstain from sexual intercourses at all?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
810	Is it possible for a healthy-looking person to have the AIDS virus?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
811	Do you know someone personally who has the virus that causes AIDS or someone who died from AIDS?	YES . . . . . 1 NO 2	
812	Can the virus that causes AIDS be transmitted from a mother to a child?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	),)2▸814

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
813	When can the virus that causes AIDS be transmitted from a mother to a child? Can it be transmitted… During pregnancy? During delivery? During breastfeeding?	YES NO DK 1 2 8 1 2 8 1 2 8	
814	CHECK 501: CURRENTLY MARRIED/ LIVING WITH A MAN NOT CURRENTLY MARRIED/ NOT LIVING WITH A MAN		▸815A
815	Have you ever talked about ways to prevent getting the virus that causes AIDS with (your husband/the man you are living with)?	YES . . . . . 1 NO 2	
815A	In your opinion, is it acceptable or unacceptable for AIDS to be discussed: On the radio? On the TV? In newspapers?	ACCEPT. UNACCEPT. DK/NOTSURE 1 2 8 1 2 8 1 2 8	
816	If a person learns that he/she is infected with the virus that causes AIDS, should the person be allowed to keep this fact private or should this information be available to the community?	CAN BE KEPT PRIVATE . . . . . 1 AVAILABLE TO COMMUNITY . . . . . 2 DK/NOT SURE 8	
817	If a relative of yours became sick with the virus that causes AIDS, would you be willing to care for her or him in your own household?	YES . . . . . 1 NO . . . . . 2 DK/NOT SURE/DEPENDS 8	
817b	Should persons with the AIDS virus who works with other persons such as in a shop, office, or farm be allowed to continue their work or not?	CAN CONTINUE WORK . . . . . 1 SHOULD NOT CONTINUE WORK . . . . . 2 DK/NOT SURE/DEPENDS 8	
817c	Should children aged 12-14 be taught about using a condom to avoid AIDS?	YES . . . . . 1 NO . . . . . 2 DK/NOT SURE/DEPENDS 8	
817d	Have you ever been tested to see if you have the AIDS virus?	YES . . . . . 1 NO 2	▸ 817gx
817e	Would you want to be tested for the AIDS virus?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW/UNSURE 3	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
817f	Do you know a place where you could go to get an AIDS test?	YES . . . . . 1 NO 2	))▸818
817g 817gx	Where can you go for the test? Where did you go for the test? IF SOURCE IS HOSPITAL, HEALTH CENTER, OR CLINIC, WRITE THE NAME OF THE PLACE. PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE. _____ (NAME OF PLACE)	PUBLIC SECTOR HOSPITAL . . . . . 11 STD CLINIC . . . . . 12 URBAN/RURAL CLINIC . . . . . 13 ANONYMOUS SECTORS . . . . . 14 OTHER PUBLIC . . . . . 16 _____ (SPECIFY) PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC . . . . . 21 PHARMACY . . . . . 22 PRIVATE DOCTOR . . . . . 23 OTHER PRIVATE MEDICAL _____ 26 (SPECIFY) OTHER SOURCE SHOP . . . . . 31 CHURCH . . . . . 32 FRIENDS/RELATIVES . . . . . 33 OTHER _____ 96 (SPECIFY)	
818	(Apart from AIDS), have you heard about (other) infections that can be transmitted through sexual contact?	YES . . . . . 1 NO 2	))▸831
818A	Have you ever heard about these diseases?	SYPHILIS . . . . . A TRYPANOSOMIASIS . . . . . B GONORHEYA . . . . . C BACTERICAL VAGINOSIS . . . . . D HLAMIDOSIS . . . . . E GENITAL HERPES . . . . . F OTHER . . . . . X DON'T KNOW . . . . . Z	
819	In a man, what signs and symptoms would lead you to think that he has such an infection? Any others? RECORD ALL MENTIONED.	ABDOMINAL PAIN . . . . . A GENITAL DISCHARGE/DRIPPING . . . . . B FOUL SMELLING DISCHARGE . . . . . C BURNING PAIN ON URINATION . . . . . D REDNESS/INFLAMMATION IN GENITAL AREA E SWELLING IN GENITAL AREA . . . . . F GENITAL SORES/ULCERS . . . . . G GENITAL WARTS . . . . . H BLOOD IN URINE . . . . . I LOSS OF WEIGHT . . . . . J IMPOTENCE . . . . . K NO SYMPTOMS . . . . . L OTHER _____ W (SPECIFY) OTHER _____ X (SPECIFY) DON'T KNOW . . . . . Z	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
820	How do you think, what symptoms represent weather a woman is been infected or not?	ABDOMINAL PAIN . . . . . A GENITAL DISCHARGE/DRIPPING . . . . . B FOUL SMELLING DISCHARGE . . . . . C BURNING PAIN ON URINATION . . . . . D REDNESS/INFLAMMATION IN GENITAL AREA E SWELLING IN GENITAL AREA . . . . . F GENITAL SORES/ULCERS . . . . . G GENITAL WARTS . . . . . H BLOOD IN URINE . . . . . I LOSS OF WEIGHT . . . . . J NO SYMPTOMS . . . . . K OTHER _____ W (SPECIFY) OTHER_____ X (SPECIFY) DON'T KNOW . . . . . Z	
822	During the last 12 months, have you had a sexually-transmitted disease?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	),)2▸831
823	Now I would like to ask you some questions about your health in the last 12 months. Sometimes, women experience a genital discharge. During the last 12 months, have you had a genital discharge?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
824	Sometimes, women experience a genital sore or ulcer. During the last 12 months, have you had a genital sore or ulcer?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
825	CHECK 822, 823, and 824: HAS HAD AN INFECTION +)))), /)))- ▾	HAS NOT HAD AN INFECTION +)))), .)))2))))))))))))))))))))))))))))))))))))	))▸831
826	The last time you had (INFECTION FROM 822/823/824), did you seek any kind of advice or treatment?	YES . . . . . 1 NO 2	))▸828
827	The last time you had (INFECTION FROM 822/823/824) did you do any of the following? Did you…	**YES** **NO** Seek advice from a health worker in a clinic or hospital? 1 2 Seek advice or medicine from a traditional healer? 1 2 Seek advice or buy medicines in a shop or pharmacy? 1 2 Ask for advice from friends or relatives? 1 2	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
828	When you had (INFECTION FROM 822/823/824), did you inform the persons with whom you were having sex?	YES . . . . . 1 NO . . . . . 2 SOME/ NOT ALL 3	
829	When you had (INFECTION FROM 822/823/824) did you do something to avoid infecting your sexual partner(s)?	YES . . . . . 1 NO . . . . . 2 PARTNER ALREADY INFECTED 3	))),))2▸831
830	What did you do to avoid infecting your partner? Did you.... Stop having sex? Used a condom when having sex? Take medicine?	**YES** **NO** 1 2 1 2 1 2	

SECTION 8B. LIFESTYLE

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
831	Following questions will concern about you nutrition and you habits as well.		
832	How do you think about yourself, are you normal weight or stout?	THIN . . . . . 1 NORMAL WEIGHT . . . . . 2 STOUT . . . . . 3 DON'T KNOW 6	
833	Do you usually eat food with moderate salt, very salty, or without salt at all?	VERY SALTY . . . . . 1 MODERATE SALT . . . . . 2 WITHOUT SALT AT ALL . . . . . 3 DON'T KNOW 6	
834	Do add salt into food before eating?	NEVER ADD . . . . . 1 YES BUT FIRSTLY TASTE IT . . . . . 2 ALWAYS ADD . . . . . 3 DON'T KNOW 6	
835	Have you ever smoked cigarettes, cigarettes with hardboard holder, or other?	YES . . . . . 1 NO 2	))▸118
836	Have you smoked at least 100 cigarettes or other for the whole life?	YES . . . . . 1 NO 2	
837	Do you smoke daily, from time to time, or not at all?	DAILY . . . . . 1 FROM TIME TO TIME . . . . . 2 NOT AT ALL 3	
838	Did you smoke daily in the past?	YES . . . . . 1 NO 2	))▸118
839	How much time past when you smoked daily?	SMOKE AT THE PRESENT MOMENT . . . . . 11 LESS 1 MONTH AGO . . . . . 12 1-6 MONTHS AGO . . . . . 13 6-12 MONTHS AGO . . . . . 14 1-5 YEARS AGO . . . . . 15 5-10 YEARS AGO . . . . . 16 MORE THAN 10 YEARS AGO . . . . . 17 DON`T REMEMBER 98	
840	How many years did you smoke every day?	YEARS . . . . . ☐☐ DON'T KNOW 98	
841	How many cigarettes did (do) you smoke a day?	QUANTITY . . . . . ☐☐ DON'T KNOW 98	
842	How old were you when you started to smoke every day?	AGE . . . . . ☐☐ DON'T KNOW 98	
843	Have you tried to quit smoking?	YES. . . . . 1 NO. 2	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
844	Do you live in the family where other people smoke every day?	YES . . . . . 1 NO 2	
845	Do you work in a place where people smoke daily?	YES . . . . . 1 NO . . . . . 2 DOESN'T WORK AT ALL 3	
846	Have you ever drunk alcoholic drinks?	YES . . . . . 1 NO 2	))▸854
847	Do you drink alcoholics now?	YES . . . . . 1 NO . . . . . 2 ONLY ON HOLIDAYS 3	))▸854))▸854
848	How many glasses do you usually drink a week in average?	QUANTITY . . . . . ☐☐ DON'T KNOW 98	
849	How many glasses do you usually drink on weekends in average?	QUANTITY . . . . . ☐☐ DON'T KNOW 98	
850	Did you think that you should stop drinking alcoholics?	YES . . . . . 1 NO 2	
851	Have you been criticized or run down by somebody that you drink alcoholics?	YES . . . . . 1 NO 2	
852	Did you feel guilty that you drink alcoholics?	YES . . . . . 1 NO 2	
853	Does it happen you drink on the mornings to calm or to cure a hang over?	YES . . . . . 1 NO 2	
854	Have you been injected last three months?	YES . . . . . 1 NO 2	))▸ 857
855	How many times have you been injected last three months?	QUANTITY . . . . . ☐☐ DON'T KNOW 98	
856	How have made you injection last time?	SPECIALIST . . . . . 1 PHARMACEUTIC . . . . . 2 PRACTITIONER . . . . . 3 FRIEND/RELATIVE . . . . . 4 HERSELF . . . . . 5 OTHER _____ 6 (SPECIFY)	
857	Before proceeding further with the questionnaire, let me measure your blood pressure and pulse on the left hand. MEASURE THE BLOOD PRESSURE AND PULSE AND RECORD THE RESULTS	BLOOD PRESSURE: SYSTOLIC ☐☐☐ DIASTOLIC ☐☐☐ PULSE ☐☐☐	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
857A	Before proceeding further with the questionnaire, let me measure your blood pressure and pulse on the right hand. MEASURE THE BLOOD PRESSURE AND PULSE AND RECORD THE RESULTS	BLOOD PRESSURE: SYSTOLIC ☐☐☐ DIASTOLIC ☐☐☐ PULSE ☐☐☐	
858	RECORD THE TIME.	HOUR ..... +)))0))) MINUTES ..... /)))3)))1	

SECTION 9. HEIGHT AND WEIGHT

IN 901 AND 902, RECORD THE HEIGHT AND WEIGHT OF THE RESPONDENT.

NO.	QUESTIONS AND FILTERS		CODING CATEGORIES
901	RESPONDENT'S HEIGHT (IN CENTIMETERS)	___.___	
902	RESPONDENT'S WEIGHT (IN KILOGRAMS)	___.___	
903	RESULT	MEASURED . . . . . 1 NOT PRESENT . . . . . 2 REFUSED . . . . . 3 OTHER _____ 6 (SPECIFY)	
904	CHECK 215 AND 219: ONE OR MORE LIVING CHILDREN BORN IN JAN. 1995 OR LATER ▼ NO LIVING CHILDREN BORN IN JAN. 1995 OR LATER → 1001		

IN 905 AND 906 RECORD THE LINE NUMBER AND NAME OF EACH CHILD BORN SINCE JANUARY 1995 AND STILL ALIVE. IN 907 RECORD THE BIRTH DATE FOR ALL LIVING CHILDREN BORN SINCE JANUARY 1995. IN 908 AND 910 RECORD HEIGHT AND WEIGHT OF THE LIVING CHILDREN.

		1) YOUNGEST LIVING CHILD	2) NEXT-TO-YOUNGEST LIVING CHILD	3) NEXT-TO-NEXT-TO-YOUNGEST LIVING CHILD
905	LINE NO. FROM 212			
906	NAME FROM 217	(NAME) _____	(NAME) _____	(NAME) _____
908	HEIGHT (IN CENTIMETERS)	___.___	___.___	___.___
909	WAS LENGTH/HEIGHT OF CHILD MEASURED LYING DOWN OR STANDING UP?	LYING . . . . . 1 STANDING 2	LYING . . . . . 1 STANDING 2	LYING . . . . . 1 STANDING 2
910	WEIGHT (IN KILOGRAMS)	___.___	___.___	___.___
911	DATE WEIGHED AND MEASURED	DAY . . . . . __ MONTH . . . . . __ YEAR . . . . . ____	DAY . . . . . __ MONTH . . . . . __ YEAR . . . . . ____	DAY . . . . . __ MONTH . . . . . __ YEAR . . . . . ____

NO.	QUESTIONS AND FILTERS			CODING CATEGORIES
912	RESULT OF WEIGHING AND MEASURING	MEASURED . . . . . 1 CHILD SICK . . . . . 2 CHILD NOT PRESENT . . . 3 CHILD REFUSED . . . . . 4 MOTHER REFUSED . . . . . 5 OTHER _____ 6 (SPECIFY)	MEASURED . . . . . 1 CHILD SICK . . . . . 2 CHILD NOT PRESENT . . . . . 3 CHILD REFUSED . . . . . 4 MOTHER REFUSED . . . . . 5 OTHER _____ 6 (SPECIFY)	MEASURED . . . . . 1 CHILD SICK . . . . . 2 CHILD NOT PRESENT . . . . . 3 CHILD REFUSED . . . . . 4 MOTHER REFUSED . . . . . 5 OTHER _____ 6 (SPECIFY)
913	NAME OF MEASURER : _____ ☐☐	NAME OF ASSISTANT : _____ ☐☐		

SECTION 10. HEMOGLOBIN MEASUREMENT IN THE BLOOD

READ TO THE RESPONDENT THE FOLLOWING INFORMATION ABOUT ANEMIA AND REQUEST HER PARTICIPATION IN THE ANEMIA TESTING PART OF THE SURVEY. IF THE RESPONDENT AGREES TO PARTICIPATE, ASK HER TO SIGN AND DATE THE RESPONDENT CONSENT FORM. THEN RECORD THE OUTCOME OF THIS REQUEST BY CIRCLING THE APPROPRIATE CODE ON THE NEXT PAGE.

CLINICAL-RESEARCH CENTER FOR MATERNAL AND CHILD HEALTH

Dear Respondent:

The Clinical Research Center for Maternal and Child Health is conducting Demographic and Health Survey in Turkmenistan. As part of this program we study the prevalence of anemia among the women and their children. We ask you to participate in this program, which will assist the Ministry of Health and Medical Industry to develop the specific measures to prevent and treat anemia.

Anemia is a disease, which is characterized by a low count of red blood cells. It results from poor nutrition and can be especially damaging to the health of pregnant and breastfeeding women.

Today, it is possible to rapidly (within a few minutes) diagnose this disease. A low level of hemoglobin can be determined by a Hemocue machine on the basis of a single drop of blood.

If you decide to participate in this program, we will ask you to provide a drop of blood from your finger for the analysis. Also, if you have a child of age 5 or less, please let our nurse to obtain drop of blood from him. The procedure will be done by sterile instruments. The blood will be analysed using the new sophisticated American equipment, Hemocue. The result of analysis will be available to you right after the blood is taken and assessed by Hemocue. We will also keep the results confidential.

If you decide to participate in this program , please sign at the bottom of this form that you agree to provide a drop of blood from your child.

If you decide not to participate , it is your right, and we will respect your choice.

I am _____ _____ _____

Last name, First name Middle name

agree to donate a drop of blood for the purpose of anemia diagnosis. I also allow a drop of blood to be taken from my child(children) for the purposes of anemia diagnosis.

Signature: _____ Date: _____ _____2000

1001	RESPONDENT AGREES TO TESTING OF HERSELF AND/OR HER CHILD(REN) . . . . . 1 ↓ 1002	RESPONDENT DOES NOT AGREE TO TESTING . . . . . 2 ↓ END
1002	RESPONDENT'S HEMOGLOBIN LEVEL (G/DL)	+)))0))),+))), * * ** * .)))2)))-..)))-
1003	RESULT	MEASURED . . . . . 1 NOT PRESENT . . . . . 2 REFUSED . . . . . 3 OTHER _____6 (SPECIFY)
1004	CHECK 212 AND 219:	
	ONE OR MORE LIVING CHILDREN BORN IN JAN. 1995 OR LATER +)))), /)))- ▾	NO LIVING CHILDREN BORN IN JAN. 1995 OR LATER +)))), .)))2)))))))))))))))))))))))))))))▸ 1009

IN 1005 AND1006 RECORD THE LINE NUMBER AND NAME OF EACH CHILD BORN IN JANUARY 1994 OR LATER AND STILL ALIVE. IN 1007 RECORD THE HEMOGLOBIN LEVEL IN THE BLOOD OF THE LIVING CHILDREN.

		1) YOUNGEST LIVING CHILD	2) NEXT-TO-YOUNGEST LIVING CHILD	3) NEXT-TO-NEXT-TO-YOUNGEST LIVING CHILD
1005	LINE NO. FROM 212			
1006	NAME FROM 217	(NAME) _____	(NAME) _____	(NAME) _____
1007	HEMOGLOBIN LEVEL IN THE BLOOD (G/DL)			
1008	RESULT	MEASURED . . . . . 1 CHILD SICK . . . . . 2 CHILD NOT PRESENT . . . . . 3 CHILD REFUSED . . . . . 4 MOTHER REFUSED . . . . . 5 OTHER _____ 6 (SPECIFY)	MEASURED . . . . . 1 CHILD SICK . . . . . 2 CHILD NOT PRESENT . . . . . 3 CHILD REFUSED . . . . . 4 MOTHER REFUSED . . . . . 5 OTHER _____ 6 (SPECIFY)	MEASURED . . . . . 1 CHILD SICK . . . . . 2 CHILD NOT PRESENT . . 3 CHILD REFUSED . . . . . 4 MOTHER REFUSED . . . . 5 OTHER _____ 6 (SPECIFY)
1009	NAME OF HEMOGLOBIN MEASURER: _____			
1010	CHECK 1002 AND 1007: NO VALUES BELOW 7 G/DL	▸ GIVE MOTHER RESULT OF HEMOGLOBIN MEASUREMENT AND END THE INTERVIEW		
	ONE OR MORE VALUES BELOW 7 G/DL	▸ GIVE MOTHER RESULT OF HEMOGLOBIN MEASUREMENT AND CONTINUE WITH 1011.		
1011	CHECK HOUSEHOLD QUESTIONNAIRE Q5: RESPONDENT IS USUAL RESIDENT	RESPONDENT IS VISITOR	▸END	

1012

Dear Respondent:

We detected the low level of hemoglobin in your (your child`s) blood. This indicates that you (your child) have developed severe anemia, which is serious health problem. We would like to inform about this the doctor at health care facility in your area. That would help you to meet appropriate further diagnosis and treatment of your (your child`s) condition.

If you agree with this please sign at the bottom of this form.

Thank you for your cooperation.

I am _____ _____ _____
Last name, First Name Middle Name

agree that the information about the level of hemoglobin in my (my child`s) blood will be disclosed to the doctor at the local health care facility.

Signature _____

Date "_____" _____2000

RESPONDENT AGREES TO REFERRAL OF HERSELF AND/OR HER CHILD(REN) . . . . . 1 ↓

RESPONDENT DOES NOT AGREE TO REFERRAL . . . . . 2 ↓ END

1013 RECORD NAMES OF WOMEN AND CHILD(REN) WITH HEMOGLOBIN LEVEL LESS THAN 7G/DL ON REFERRAL FORM

RESULTS OF HEMOGLOBIN MEASUREMENTS IN THE BLOOD

Date _____ _____ 1999

Name Hemoglobin level in the blood (G//Dl)	Respondent _____	Youngest child _____	Next-to-youngest child _____
	You have ☐☐☐	Your child has ☐☐☐	Your child has ☐☐☐
WHO CLASSIFICATION OF ANEMIA Normal level Hb level above 11 G/DL Mild anemia Hb (10-11 G/DL) Moderate anemia Hb (7- 10 G/DL) Severe anemia Hb (less than 7 G/DL)	Normal level Mild anemia Moderate anemia Severe anemia	Normal level Mild anemia Moderate anemia Severe anemia	Normal level Mild anemia Moderate anemia Severe anemia

In case of severe anemia (Hb level less than 7 G/DL), we recommend you to immediately contact your doctor.

INTERVIEWER'S OBSERVATIONS

TO BE FILLED IN AFTER COMPLETING INTERVIEW

COMMENTS ABOUT RESPONDENT:

COMMENTS ON SPECIFIC QUESTIONS:

ANY OTHER COMMENTS:

SUPERVISOR'S OBSERVATIONS

NAME OF THE SUPERVISOR: _____ DATE: _____

EDITOR'S OBSERVATIONS

NAME OF EDITOR: _____ DATE: _____

CALENDAR

INSTRUCTIONS: ONLY ONE CODE SHOULD APPEAR IN ANY BOX. FOR COLUMNS 1 AND 4, ALL MONTHS SHOULD BE FILLED IN. INFORMATION TO BE CODED FOR EACH COLUMN

COL.1: BIRTHS, REGNANCIES, PREGNANCY TERMINATIONS, CONTRACEPTIVE USE

- B BIRTHS
- P PREGNANCIES
- S STILLBIRTH
- M MISCARRIAGE
- D INDUCED ABORTIONS BY D&C
- V INDUCED ABORTION BY VACUUM ASPIRATION
- 0 NO METHOD
- 1 FEMALE STERILIZATION
- 2 MALE STERILIZATION
- 3 PILL
- 4 IUD
- 5 INJECTIONS
- 6 IMPLANTS
- 7 CONDOM
- 8 FEMALE CONDOM
- 9 DIAPHRAGM
- F FOAM OR JELLY
- L LACTATIONAL AMENORRHEA METHOD
- A PERIODIC ABSTINENCE
- W WITHDRAWAL
- X OTHER _____ (SPECIFY)

COL. 2: SOURCE OF CONTRACEPTION

- 1 HOSPITAL
- 2 POLYCLINIC
- 3 WOMEN'S CONSULTING CENTER
- 4 FGP
- 5 FAP
- 6 OTHER PUBLIC
- 7 PVT. HOSPITAL/CLINIC
- 8 PHARMACY
- 9 PRIVATE DOCTOR
- A NON GOVT. MOBILE CLINIC
- B NON GOVT. FIELD WORKER
- C OTHER PRIVATE MEDICAL
- D SHOP
- E CHURCH
- F FRIENDS/RELATIVES
- X OTHER _____ (SPECIFY)

NAME OF CHILD	DATA		1	2	3	4	5	DATA		
_____	2000	12 DEC 01						01	12 DEC	2000
		11 NOV 02						02	11 NOV	
		10 OCT 03						03	10 OCT	
		09 SEP 04						04	09 SEP	
		08 AUG 05						05	08 AUG	
		07 JUL 06						06	07 JUL	
		06 JUN 07						07	06 JUN	
		05 MAY 08						08	05 MAY	
		04 APR 09						09	04 APR	
		03 MAR 10						10	03 MAR	
		02 FEB 11						11	02 FEB	
		01 JAN 12						12	01 JAN	
_____	1999	12 DEC 13						13	12 DEC	1999
		11 NOV 14						14	11 NOV	
		10 OCT 15						15	10 OCT	
		09 SEP 16						16	09 SEP	
		08 AUG 17						17	08 AUG	
		07 JUL 28						28	07 JUL	
		06 JUN 29						29	06 JUN	
		05 MAY 20						20	05 MAY	
		04 APR 21						21	04 APR	
		03 MAR 22						22	03 MAR	
		02 FEB 23						23	02 FEB	
		01 JAN 24						24	01 JAN	
_____	1998	12 DEC 25						25	12 DEC	1998
		11 NOV 26						26	11 NOV	
		10 OCT 27						27	10 OCT	
		09 SEP 28						28	09 SEP	
		08 AUG 29						29	08 AUG	
		07 JUL 30						30	07 JUL	
		06 JUN 31						31	06 JUN	
		05 MAY 32						32	05 MAY	
		04 APR 33						33	04 APR	
		03 MAR 34						34	03 MAR	
		02 FEB 35						35	02 FEB	
		01 JAN 36						36	01 JAN	

COL. 3: DISCONTINUATION OF CONTRACEPTIVE USE

- 0 INFREQUENT SEX/HUSBAND AWAY
- 1 BECAME PREGNANT WHILE USING
- 2 WANTED TO BECOME PREGNANT
- 3 HUSBAND DISAPPROVED
- 4 WANTED MORE EFFECTIVE METHOD
- 5 HEALTH CONCERNS
- 6 SIDE EFFECTS
- 7 LACK OF ACCESS/TOO FAR
- 8 COST TOO MUCH
- 9 INCONVENIENT TO USE
- F FATALISTIC
- A DIFFICULT TO GET PREGNANT/MENOPAUSAL
- D MARITAL DISSOLUTION/SEPARATION
- X OTHER _____ (SPECIFY)
- Z DON'T KNOW

COL.4: MARRIAGE/UNION

- X IN UNION (MARRIED OR LIVING TOGETHER)
- 0 NOT IN UNION

COL. 5: PLACE OF ABORTION

- 1 DELIVERY HOSPITAL
- 2 GOVERNMENT HOSPITAL
- 3 FEE-FOR SERVICE DEPARTMENT OF HOSPITAL
- 4 PRIVATE CLINIC
- 5 WOMEN'S CONSULTING CENTER
- 6 FAMILY GROUP PRACTICE
- 7 OTHER _____ (SPECIFY)

NAME OF CHILD	DATA		1	2	3	4	5	DATA	
_____	12 DEC	37						37	12 DEC
	11 NOV	38						38	11 NOV
	10 OCT	39						39	10 OCT
	09 SEP	40						40	09 SEP
	08 AUG	41						41	08 AUG
1997	07 JUL	42						42	07 JUL 1997
	06 JUN	43						43	06 JUN
	05 MAY	44						44	05 MAY
	04 APR	45						45	04 APR
	03 MAR	46						46	03 MAR
	02 FEB	47						47	02 FEB
	01 JAN	48						48	01 JAN
_____	12 DEC	49						49	12 DEC
	11 NOV	50						50	11 NOV
	10 OCT	51						51	10 OCT
	09 SEP	52						52	09 SEP
	08 AUG	53						53	08 AUG
1996	07 JUL	54						54	07 JUL 1996
	06 JUN	55						55	06 JUN
	05 MAY	56						56	05 MAY
	04 APR	57						57	04 APR
	03 MAR	58						58	03 MAR
	02 FEB	59						59	02 FEB
	01 JAN	60						60	01 JAN
_____	12 DEC	61						61	12 DEC
	11 NOV	62						62	11 NOV
	10 OCT	63						63	10 OCT
	09 SEP	64						64	09 SEP
	08 AUG	65						65	08 AUG
1995	07 JUL	66						66	07 JUL 1995
	06 JUN	67						67	06 JUN
	05 MAY	68						68	05 MAY
	04 APR	69						69	04 APR
	03 MAR	70						70	03 MAR
	02 FEB	71						71	02 FEB
	01 JAN	72						72	01 JAN