

Reproductive, Maternal and Child Health in Eastern Europe and Eurasia: A Comparative Report

Eastern Europe

Czech



Moldova
Ukraine
Romania

Russia



Central Asia

Uzbekistan

Kazakhstan

Kyrgyz

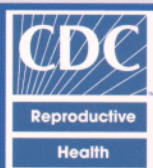
Republic

Turkmenistan

Armenia

Georgia

Azerbaijan



REPRODUCTIVE, MATERNAL AND CHILD HEALTH IN EASTERN EUROPE AND EURASIA: A COMPARATIVE REPORT

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The surveys on which this report is based were primarily funded by USAID. The United Nations Population Fund (UNFPA), the United Nations Children Fund (UNICEF) and USAID country missions have also contributed to many of these surveys. Technical assistance for these surveys was provided by DRH/CDC and ORC Macro.

Particular acknowledgement is made to the organizations that implemented the surveys in participating countries. The staff of these organizations provided dedicated and expert collaboration to colleagues from CDC and ORC Macro in project planning and analysis of the survey data. We are pleased to acknowledge these organizations by name on the following page.

Based upon our experience, we feel that the expertise and infrastructure needed to carry out these types of population-based surveys has improved in each country. In many instances, CDC and ORC Macro were able to use counterparts from countries that had completed surveys as consultants in the planning of surveys in other countries in the region.

We wish to thank the dedicated interviewers, field supervisors and data processing staff in each country for their commitment and discipline as well as the thousands of respondents who made such a major contribution to our knowledge of women's reproductive health in the region by their participation in these surveys.

I want to extend my personal thank you to all the contributors to this report. They are listed in the table of contents. A brief background of each author follows the table of contents. My special thanks to *Ranee Seither* who worked with me as the liaison between contributors, editorial staff, reviewers, and the production staff. *Susanna Binzen* provided editorial assistance and *Juliette Kendrick* provided valuable technical comments. Also, many thanks to *Moises Matos*, for formatting the report, and to *Rose Pecoraro*, for her contribution to the cover design.

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Leo Morris, Ph.D., MPH

Project Coordinator

<u>Country</u>	<u>Year of Survey</u>	<u>Organization</u>
Armenia	2000	National Statistical Service Ministry of Health
Azerbaijan	2001	Adventist Development and Relief Agency State Department of Statistics Ministry of Health
Czech Republic	1993	Czech Statistical Office WHO Collaborating Center for Perinatal Medicine, Prague Institute for the Care of Mother and Child
Georgia	1999	National Center for Disease Control Ministry of Health
Kazakhstan	1995	National Institute of Nutrition Academy of Preventive Medicine
Kazakhstan	1999	Academy of Preventive Medicine
Kyrgyz Republic	1997	Research Institute of Obstetrics and Pediatrics, Ministry of Health
Moldova	1997	Institute of Mother and Child Care, Ministry of Health State Department of Statistics Family Planning Association of Moldova
Romania	1993	Institute of Mother and Child Care, Ministry of Health
Romania	1996	International Foundation for Children and Families Institute for Mother and Child Care, Ministry of Health National Commission for Statistics
Romania	1999	Romanian Association for Public Health and Health Management National Commission for Statistics
Russia	1996	All-Russia Centre for Public Opinion and Market Research
Russia	1999	All-Russia Centre for Public Opinion and Market Research
Turkmenistan	2000	Research Center for Maternal and Child Health, Ministry of Health
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PREFACE

It is my pleasure and privilege, on behalf of the Europe & Eurasia Bureau of the United States Agency for International Development, to write the preface for the most comprehensive compilation of data regarding women's and children's health in the Europe and Eurasia Region. I have served USAID in the countries of Eastern Europe and the former Soviet Union since 1991, first as the USAID health officer in Romania and then as the Chief of the Health Reform and Humanitarian Assistance Division of the E&E Bureau in Washington D.C. I observed that the health of women in the region suffered considerably from excessive use of abortion to limit the number of children to that which they could financially support. High rates of secondary infertility often resulted from complicating infections. Thus, USAID supports programs promoting modern contraceptive methods to address inordinately high rates of abortion in the E&E Region and to counter widespread misinformation about modern contraception.

A number of population-based surveys have been funded to document the progress of these women's health care initiatives and to provide more accurate, population-based data. In fact, these surveys have become invaluable tools for decision-makers in USAID Missions in the E&E countries where reliable data have served as a lynchpin for the development of new programs and basic reforms in health care systems. Most importantly, these surveys have served to facilitate a mutually enriching exchange of experience and knowledge among governmental and UN entities in the U.S. in the host countries, especially UNFPA and UNICEF, as well as between governmental and non-governmental organizations. Clearly, these reports represent a concrete example of trust and collaboration among health professionals at many levels.

As I began reading the results of these surveys, I wondered about the similarities among the countries in the region since they shared a common prior context of communism. This comparative report of 16 surveys among 12 countries answers that question by examining clusters of countries that fall into three sub-groups. This report also provides special insights on health behaviors, knowledge of HIV/AIDS, infant and child mortality, young adults, and domestic violence. These are all topics that influence how USAID programs its resources. It is my hope that the governments and health professionals in the E&E Region, as well as USAID Missions, will deem it appropriate to support the implementation of future surveys and smaller comparative studies focusing on specific problems of infant and maternal mortality.

I wish to express my extreme gratitude to the organizations abroad that so generously gave time and resources to make this report a success. I wish to thank my staff, and especially Leo Morris and his staff at CDC and Jerry Sullivan and his staff at ORC Macro International. They have been dedicated to providing a methodologically sound approach to training host country staff and to the preparation and publication of the surveys. To each and everyone, thank you for your contributions as you traveled in the region.

Mary Ann Micka, MPH, MD

E&E Bureau, USAID/Washington

INTRODUCTION

This report summarizes the results of a series of surveys on fertility and reproductive health attitudes and behaviors carried out in 12 countries in Eastern Europe (Czech Republic, Moldova, Romania, Russia, and Ukraine), the Caucasus (Armenia, Azerbaijan, and Georgia), and Central Asia (Kazakhstan, Kyrgyz Republic, Turkmenistan, and Uzbekistan). These countries share a great deal in the way of recent political and economic history, having been either part of the Soviet Union or within its sphere of influence. The collapse of the Soviet Union in 1991 brought a number of social, economic, and political changes to the countries in this region, and the transition to a new market economy has presented formidable challenges.

In addition to the striking similarities in socio-economic conditions inherited from the Soviet era, there have also been demographic and health similarities among countries in the region, in particular a heavy reliance on abortion rather than on modern contraception as a means of preventing unintended births. Therefore, reproductive health is an issue of critical importance for the countries of this region.

Beginning in 1993, with the initiation of United States Agency for International Development (USAID) programs in this region, several surveys on family planning and reproductive health attitudes and behaviors were conducted. To this end, the Division of Reproductive Health of the Centers for Disease Control and Prevention (DRH/CDC) and Macro International have provided technical assistance for Reproductive Health Surveys (RHS) and Demographic and Health Surveys (DHS), respectively, in collaboration with local counterparts. Between 1993 and 2001, 16 surveys (10 RHS and 6 DHS) were conducted in the 12 countries covered in this report.

These surveys represent the first systematic efforts to gather data on population and reproductive health issues in the region. Population-based surveys of women of reproductive age using nationally representative samples are an effective mechanism for collecting information on topics such as family planning, fertility, contraceptive use, knowledge about HIV/AIDS, and other reproductive health issues. Significantly, data produced during the Soviet era were often flawed by distorted reporting, which sometimes presented a misleading picture of conditions in the region. As a result, until recently, relatively little detailed and reliable population-based information was available about the situation in the region with regard to important reproductive health topics.

Both the RHS and DHS examine patterns and levels of fertility, family planning, contraceptive use and method selection, health behaviors, knowledge of HIV/AIDS, as well as attitudes towards specific contraceptive methods and abortion. These issues are of particular importance in this region, since for many years women and health care providers had limited access to up-to-date and reliable information on these topics. The surveys also provide data on key maternal and child health indicators, including anemia, infant feeding and nutrition, and the extent to which mothers receive medical care during pregnancy and at delivery.

A principal objective of these surveys has been to examine the aspects of reproductive health status and needs that can be used to help direct or modify program interventions. These data are particularly useful in assisting policy makers and health planners in evaluating health service needs, and identifying reproductive health behaviors associated with poor health outcomes. They could also play a significant role in designing programs better targeted to meet the needs of population subgroups. A key programmatic difference between policy

objectives in this region and those in some developing countries is that in the former Soviet Union the emphasis is not on promoting a decline in fertility and population growth, but on bringing about improvements in women's health through increased availability and improved use of modern contraceptive methods and reduced reliance on abortion.

Until now, a comparison of key family planning and reproductive health indicators had never been compiled in the region. It is intended that this comparative analysis serve as a reference document for readers interested in major reproductive health findings in the region, while more detailed information may be found in the individual country reports (see references). By bringing together data from the individual surveys, this report allows for the examination of the similarities and differences between countries in the region. For instance, it may enable program officials, researchers, and policy-makers to identify those characteristics which will lead to increased and improved contraceptive use. In addition, this document may prove useful for other countries in the region that have not yet conducted surveys, but have similar characteristics, policies, and health care systems.

In conclusion, the nationally representative data on key indicators produced by both the Reproductive Health Surveys and the Demographic and Health Surveys can be used to design or modify health interventions, identify high-risk behaviors amenable to change and highlight reproductive health areas that warrant greater attention. These data may be translated into policy and programmatic activities to improve services and findings may provide guidance on how data may be combined with other existing information to contribute to a more profound understanding of reproductive health in the region.

1 CHAPTER

BACKGROUND

This report sets forth comparative reproductive health data collected in face-to-face interviews from representative household samples of women of reproductive age in 12 countries of Eastern Europe and the former Soviet Union. In this report, the countries are clustered in three sub-groups: a) the Eastern European group (Czech Republic, Romania, Moldova, Ukraine, and Russia); b) the Caucasus Region group (Georgia, Armenia, and Azerbaijan); and c) the Central Asian group (Kazakhstan, Kyrgyz Republic, Turkmenistan, and Uzbekistan). To better understand the similarities and differences among these countries in key reproductive health areas, this chapter includes a review of selected characteristics of the 12 countries profiled in this report.

1.1 Shared History

The countries of Eastern Europe, the Caucasus, and Central Asia studied in this report constitute a diverse group of nations, each having its own rich historical and cultural heritage, a distinct ethnic composition, and unique political and socioeconomic development. Their inclusion in a common group is rooted in relatively recent events. From the end of World War II until 1989, all of these nations had socialist governments and experienced similar political and economic situations. Their increasing isolation from Western Europe, and their inclusion into either the Soviet Union or its sphere of influence, added commonalities to a region already brought together by shared history and geographical proximity. The collapse of the Soviet Union loosened the old political systems in the region and triggered profound social, economic, and political changes. Since about 1990, most of the Eastern European countries and the former Soviet Union have made efforts to move from centralized totalitarian regimes under the influence of the Soviet Union, to

decentralized administrative, economic, political, and socio-cultural systems whose priorities are capacity building, transition to a democratic society, and development of a market economy. However, their progress on the road of post-communist transition has been uneven. At the forefront are some countries of Eastern Europe and the Baltic countries, more advanced in their transition due, in part, to preserved and renewed Western traditions. Other countries have been less successful, having economies still in the early stages of transition, facing severe economic hardships and, in a few instances, struggling with divisive ethnic disputes. All countries, however, have been subject to profound societal transformation, including rapid changes in the health status of their populations and in their health care systems.

1.2 Similar Demographic Profiles

Demographically and socially, the countries included in this report, as well as most other countries in the region, have much in common (Table 1.2). Between one-fourth and one-third of their populations are composed of women of reproductive age (15–49 years) (PRB, 2002a).¹ With the exception of the Central Asian republics, all countries studied in this report have fertility rates lower than those typically found in Western Europe and well below the replacement level of 2.1 births per woman (PRB, 2002a). Despite substantial differences in fertility between the European and Central Asian countries examined, rates of childbearing have fallen substantially in all places. Large actual or intended families are rare. Women tend to marry early, have their first child shortly after they marry, and achieve the desired family size of about one or two children soon after. Women tend to both begin

and end their childbearing at much earlier ages than in Western Europe and North America. The vast majority of childbearing takes place between the ages of 20 and 29, and it is concentrated in the early twenties. Mainly because of below-replacement fertility (with a small contribution from increased mortality and out-migration in some countries), population growth rates are around zero or even negative, excepting the countries in Central Asia. This situation has become a major social and economic concern in the region.

Compared to most of the major countries of Western Europe, life expectancy at birth in Eastern Europe and the Caucasus is, on average, 9 years shorter among men and 7 years shorter among women. The difference in life expectancy between the Central Asian countries and Western Europe is, on average, 10 years or more for both men and women (PRB, 2002a). Since 1990, life expectancy in most post-communist countries has declined—particularly in the Russian Federation, which has the lowest life expectancy among males in Europe—or has registered little change. One of the major direct contributors to the widening mortality gap between these countries and Western Europe is an increase in destructive health behaviors, especially among men. Previously existing health problems, such as alcoholism and tobacco use, have increased. Lack of physical activity and unhealthy diet have become more prevalent. Psychosocial stress factors, work-related stress and job insecurity, have amplified. Rising mortality from cardiovascular diseases—the leading cause of death in most countries of the region, accounting for more than one-half of the mortality gap—reflects, in part, the effect of these risk factors and the

¹ Note that the fertility rates presented in Table 1.2 are taken from the most recent official statistics available and do not necessarily coincide with the survey rates presented in Chapter 3 of this report.

Table 1.2 Comparative Demographic and Social Indicators for Selected Countries in Western and Eastern Europe, Caucasus, and Central Asia Eastern Europe and Eurasia: A Comparative Report												
Region and Country	Population (in millions)	Women Aged 15–49 (in millions)	Total Fertility Rate*	Rate of Natural Increase†	Life Expectancy		% Urban	GNI PPP per capita 2000‡	Health Expenditures per capita 1990–1998§		% Women Enrolled in Secondary School 1993–1997¶	
					Male	Female			1990–1998§	1990–1998§		
Western Europe												
Austria	8.1	2.0	1.3	0.0	75	81	54	24,600	2,108	2,108	102	
Belgium	10.3	2.4	1.6	0.1	75	82	97	25,710	1,812	1,812	151	
France	59.5	14.4	1.9	0.4	76	83	74	23,020	2,287	2,287	111	
Germany	82.4	19.5	1.3	-0.1	75	81	86	23,510	2,727	2,727	103	
Netherlands	16.1	3.9	1.7	0.4	76	81	62	24,410	1,988	1,988	129	
Switzerland	7.3	1.7	1.5	0.2	77	83	68	28,760	3,616	3,616	U	
United Kingdom	60.2	14.0	1.7	0.1	75	80	90	22,220	1,480	1,480	120	
Eastern Europe												
Czech Rep.	10.3	2.6	1.1	-0.2	72	78	77	13,780	384	384	100	
Moldova	4.3	1.2	1.3	-0.1	64	71	46	2,230	30	30	82	
Romania	22.4	5.8	1.2	-0.2	67	74	55	6,360	65	65	78	
Russia	143.5	39.3	1.3	-0.7	59	72	73	8,010	130	130	91	
Ukraine	48.2	12.7	1.1	-0.8	62	74	67	3,700	54	54	94	
Caucasus												
Armenia	3.8	1.1	1.1	0.2	70	74	67	2,580	27	27	79	
Azerbaijan	8.2	2.3	1.9	0.8	69	75	51	2,740	36	36	81	
Georgia	4.4	1.4	1.2	0.0	69	77	56	2,680	46	46	76	
Central Asia												
Kazakhstan	14.8	4.5	1.8	0.5	60	71	56	5,490	68	68	91	
Kyrgyz Rep.	5.0	1.4	2.4	1.3	65	72	35	2,540	11	11	83	
Turkmenistan	5.6	1.3	2.2	1.3	63	70	44	3,800	U	U	U	
Uzbekistan	25.4	6.9	2.7	1.7	68	73	38	2,360	U	U	88	

* The average number of children that a woman would have during her reproductive lifetime, given present age specific fertility rates.

† Rate of natural increase is the birth rate minus the death rate, implying the annual rate of population growth without regard to migration.

‡ GNI PPP per Capita, 2000 (US\$) is the gross national income in purchasing power parity (PPP) divided by midyear population. GNI PPP refers to gross national income converted to international dollars using a purchasing power parity conversion factor; expressed in US \$.

§ Represents the sum of public and private expenditures on health divided by the country's population.

¶ Percent enrolled in secondary school refers to the ratio of the number of students enrolled in secondary school to the population in the applicable age group (e.g. 12 to 17 years of age) for the country (gross enrollment ratio). It can exceed 100 when number of students enrolled exceeds the population of the relevant age group.

U = Unavailable.

Source: Population Reference Bureau, 2002 *World Population Data Sheet* and 2002 *Women of Our World*; World Bank, 2000 *World Development Indicators*.

inability of a deteriorating health system to provide adequate prevention services or treatment (e.g., low quality hypertension screening, lack of follow-up, poor emergency care, low access to proper medication) (Velkova A et al., 1997; Bobak M & Marmot M, 1996). Perhaps most of the mortality divide experienced by former Soviet bloc countries since 1990 could be attributed to economic changes, such as changes in gross domestic product and changes in income inequalities (Marmot M & Bobak M, 2000). The transition to a market economy has had a negative impact on the welfare of the population of these countries. The per capita gross national income (GNI PPP) is, on average, 6–9 times higher in Western Europe than in the other countries shown in Table 1.2 (PRB, 2002a). Furthermore, the health expenditures per capita are 13 times higher in Western Europe and at least 22 times higher than in the Caucasus and Central Asian countries (World Bank, 2001).

1.3 Common Reproductive Health Concerns

Unintended pregnancy and abortion

Given the relatively low usage of the more effective modern contraceptive methods in most countries of the region, the early start and completion of childbearing, and the small ideal family size, the proportion of pregnancies that are unintended is quite high in each of these countries. The vast majority of unintended pregnancies (over 80%) are unwanted (i.e., in excess of the number of children wanted), while mistimed pregnancies (i.e., occurring earlier than intended) are relatively infrequent. There is considerable evidence that women who are pregnant with an unintended pregnancy are more likely than those with intended pregnancies to seek an elective abortion, to enter prenatal care late

or not at all, and to experience pregnancy or perinatal complications (Brown SS & Eisenberg L, 1995). Typically, in Eastern Europe and the former Soviet Union most unintended pregnancies are not carried to term and end in elective abortions.

For several decades, one of the most outstanding demographic features of most of the former Soviet bloc countries has been the high reliance on abortion as a means of birth prevention. Abortion was the single most important determinant of fertility; contraception was much less significant. Until recently, abortion rates and ratios in many of these countries have been among the highest in the world. High reliance on abortion continues to play a role in Eastern Europe and the former Soviet countries at the current time although, since the mid-1990s, the use of modern effective methods of contraception has increased with a corresponding decrease in the abortion rates. Nevertheless, reliance on abortion as a means of fertility control is still high in many countries of the region. The official total abortion rates in the region are equal to or greater than the total fertility rates. Two Eastern European countries—Romania, with a rate of 2.3 abortions per woman and Russia, with a rate of 2.6 abortions per woman—have the second and third highest abortion rates in the world (Henshaw SK et al., 1999). By comparison, abortion rates in Western Europe are among the lowest in the world, typically not exceeding 0.5 abortions per woman.

Viewed as a basic reproductive right of women in the former Soviet Union and Eastern Europe, abortion was legalized in the region well before the Western European countries. Except for Romania and Albania—where abortion was illegal prior to 1990 and 1991, respectively—women in the other ex-Soviet bloc countries enjoyed broad access to free-

of-charge or affordably priced legal abortions. Currently, abortion without restrictions as to reason during the first 12–14 weeks of gestation is available in all countries presented in this report (Rahman A et al., 1998). Beyond this gestational age, abortion is available on medical or selected socioeconomic grounds. Abortion is typically performed by trained physicians either in public or private clinics or hospitals. In most countries, the official cost of a legal abortion in a state run facility is relatively low, but it is not covered by health insurance, and unofficial payments could increase the cost beyond what a low-income family may afford.

Although standard surgical abortion carries a very little health risk when compared to childbirth or other surgical procedures, it has an inherent risk of complications (Cates W Jr., 1982). Shortage of equipment, crowded facilities, poor hygienic conditions, and inadequate standards of care may increase the risk of post-abortion complications, even when the procedure is legal. In the countries included in this report, up to 16% of women experience post-abortion complications after legally performed procedures, mostly following procedures performed after more than 10 weeks of gestation. In contrast, complications following legal abortions range from less than 1% in the United States and from 3% to 6% in Western Europe (Hakim-Elahi E, et al., 1990; Heisterberg L & Kringelbach M, 1987; Thonneau P, et al., 1998).

Even though availability of legal abortion in Eastern Europe and Eurasia is almost universal, some women still obtain abortions outside the legal system. Lengthy waiting time between the first visit and hospital admission for obtaining a legal abortion, lack of sanitary conditions, privacy, and patient confidentiality in state run hospitals, and payments associated with the abortion procedure may

deter some women from obtaining abortions in authorized facilities. Mandatory abortion notifications (in several countries included in this report the employer and primary care physician are notified about the abortion procedure), parental consent (in Czech Republic parental authorization is required if the patient is a minor), and advanced gestational age (beyond 12 weeks) can often contribute to seeking an abortion outside the system. Obtaining abortions later in the pregnancy is independently associated with an increased risk of complications. All these barriers may influence some women to seek unsafe medical procedures performed by unskilled providers outside the legal system.

Unsafe abortion is one of the leading causes of maternal mortality and morbidity. Although the annual number of these abortions is difficult to estimate, vital statistics in Eastern Europe and Central Asia indicate that between 15% and 54% of maternal deaths are abortion-related, presumably most of them from illegally performed abortions. By contrast, abortion-related deaths constitute about 4% of maternal deaths in the United States (Chang J, et al., 2003). That unsafe abortion is a major cause of maternal death is dramatically exemplified by the levels and trends of maternal mortality in Romania, where abortion restrictions triggered a massive reliance on unsafe procedures. Between 1957 and 1966, abortion was legally available in Romania. Maternal mortality due to abortion was as low as 17 deaths per 100,000 live births. In an effort to stop the fertility decline, the government outlawed abortion and contraception and instituted various surveillance measures (such as mandatory pelvic exams in the workplace and the presence of security police personnel in maternity hospitals) to ensure compliance. Maternal mortality due to abortion skyrocketed, reaching its highest level in 1989 (142 abortion-related deaths per 100,000) and

contributing to over 85% of the maternal mortality ratio. At the end of 1990, the first year when abortion again became legal, abortion-related mortality fell to about one-third of its 1989 level (57.5 abortion-related deaths per 100,000) and continued to decrease in the following years (21 abortion-related deaths per 100,000 in 1997).

Since the mid-1990s, the use of modern methods of contraception has increased with a corresponding decrease in reliance on abortion. Nevertheless, reliance on abortion as a means of fertility control is still high in many countries and still an important determinant of fertility throughout the region.

Contraception

In all countries highlighted in this report, except Romania, modern contraceptive use during the communist years was legal and contraceptive services were offered through women's health centers. Legality, however, did not insure wide access to and availability of effective, modern contraception. The range of modern contraceptive methods available was often limited to locally produced supplies and the quality of contraceptive services was generally poor. In addition, provider resistance, fear about possible side effects (particularly associated with the use of hormonal methods), cultural norms, and partners' opposition, made it difficult for many women to obtain modern contraception.

In the former Soviet Union countries, for example, oral contraceptives were officially prescribed principally for selected medical benefits rather than for contraceptive purposes; dissemination of correct information about the pill was actively discouraged; and, when the topic was addressed, potential health risks and side effects were overstated. As a result of the negative propaganda, actively

promoted by policy makers and the medical community, misconceptions about the pill's safety were universal (Popov AA et al., 1993). Throughout the region, the use of traditional contraceptive methods, particularly withdrawal, was widespread and constituted a major contribution to the high levels of unintended pregnancy

Although the use of modern contraceptive methods has substantially increased in recent years, the prevalence of oral contraceptives continues to be low, mainly because of widespread misinformation about their health risks and side effects. Few couples in any country covered in this report employ long-term or permanent contraceptive methods, except for IUDs, despite the fact that a large majority do not intend to have more children. Permanent methods of contraception are not currently promoted, at least in part because of the continuing concern about a negative rate of population growth. Legal provisions to support voluntary sterilization are absent or restrictive. Female sterilization was illegal until recently and even today women younger than 30 years of age do not have access to sterilization unless they have three or more children (Popov AA, 1996). Legal provisions to support vasectomy are not yet in place. The availability of contraceptive sterilization (especially laparoscopic sterilization and vasectomy) is also limited because of a lack of adequate training of providers, their perception of low interest in these methods, and little knowledge among family planning clients. Withdrawal and periodic abstinence continue to be widely used. Because widespread use of traditional, less effective methods, the overall rates of contraceptive failure and discontinuation are very high, contributing significantly to unintended pregnancies.

Although many couples are currently using birth control methods, the use of traditional

methods often exceeds the use of modern methods and women using less effective contraception continue to rely on legal abortion services when their methods fail. Thus, substantial reductions in their reliance on abortion and improvements in maternal mortality and morbidity will depend not only on further increases in contraceptive use but also on improvements in method selection and reductions in contraceptive discontinuation and failure rates. In these countries, inclusion of postabortion counseling in the standards of care is essential, both to avoid repeat abortion and to encourage use of more effective methods of contraception.

Maternal and Infant Mortality

Maternal and infant mortality are measures of a nation's health and worldwide indicators of social well being, but accurate estimates are often difficult to obtain. Although the vital registration systems in former Soviet bloc countries are quite comprehensive, they share a common history of under-reporting and misclassification of deaths. Thus, comparisons of mortality rates based on vital statistics alone—even when correction factors are applied—are often misleading and difficult to interpret, highlighting the need for more accurate data provided by population-based surveys or other special studies.

Maternal mortality rates in all the countries studied in this report, but especially in the Central Asian republics, are reportedly at least twice as high as the Western European maternal mortality average, according to recent WHO estimates (Hill K et al., 2001). As of 1995, the last year for which comparison data were available, the Russian Federation had the highest maternal mortality ratios among Eastern European countries (75 deaths per 100,000 live births), followed by Romania (60 deaths per 100,000 live births). Among Central

Asian republics, maternal mortality rates in 1995 ranged from 123 per 100,000 live births in Tajikistan (data not shown) to 80 per 100,000 in Kazakhstan and the Kyrgyz Republic, to 63 per 100,000 in Uzbekistan. Complications related to abortion, especially when it is performed under unsafe conditions, are among the leading causes of maternal death in many of these countries. Worldwide, abortion-related deaths account for about 20% of maternal deaths each year, but in some of the countries of Eastern Europe, they account for as much as one-half of maternal deaths (WHO, 1997).

As will be demonstrated in Chapter 13, the actual rates of infant mortality in most of the countries included in this report are considerably higher than the official rates reported by these countries. However, even those official rates are much higher than the rates in Western Europe. For example, as of 2000, the official infant mortality rate in Romania (18.6 infant deaths per 1,000 live births) ranked the highest in Central and Eastern Europe. Official rates in the Caucasus region and Central Asian republics ranged from 12.2 to 32.8 infant deaths per 1,000 live births. By comparison, the infant mortality rate for Western Europe was, on average, 5.0 infant deaths per 1,000 live births (PRB, 2002).

The magnitude of the difference in infant mortality between East and West, however, cannot be accurately described using unadjusted data provided by the vital statistics systems in ex-Soviet countries (Kingkade WW & Arriaga EE, 1997). Part of the underreporting of infant deaths in the former Soviet Union countries is due, in part, to a widespread reluctance to adopt the standard international definition of a live birth (any infant who exhibits at least one sign of life upon delivery). In several countries included in this report, the Soviet definition of a live

birth is still in existence. Misclassifications and delays or failures to register infants who die shortly after births are key contributors to under-reporting of infant mortality rates in the region. Recent RHS and DHS surveys conducted in the region estimate much higher infant mortality rates than the official reports, particularly in the Caucasus region and Central Asia. Survey estimates of infant mortality in the region exceed official rates by a factor of between 1.5 and 5.8 in 8 of the 12 countries included in this report (see also Chapter 13).

Use of Preventive Services

A substantial proportion of women in Eastern Europe and the former Soviet Union have limited access to preventive health services for women, mainly because of provider's failure to recommend them, a perceived lack of susceptibility to disease, and a lack of awareness about screening. Among these services, cervical cancer screening is particularly deficient. Risk factors for cervical cancer include a history of multiple sexual partners, early onset of sexual intercourse, smoking, infection with human immunodeficiency virus (HIV), and infection with a certain serotype of the human papilloma virus. Data from large screening programs have shown that frequent Pap smear screening (every 1–3 years) reduces the probability of developing invasive cancer by 91% to 93%. Most experts recommend that women who are sexually active or 18 years of age or older should have a Pap test at least every 3 years. Unfortunately, the data show that a significant proportion of women in Eastern Europe are not aware of cervical cancer screening or have never been tested. Severe underutilization of cervical cancer screening is associated with higher morbidity and mortality rates. The average cervical cancer rate for Eastern Europe of 21.6 cases per 100,000 is 33% higher than

the Western European average of 15.0 per 100,000. Mortality due to cancer of the cervix constitutes the third highest cause of death among women of childbearing age in Romania, while in Poland it ranked 5th, in Hungary 8th, in Ukraine 11th, in the Czech Republic 12th, and in the Russian Federation 16th (Parker SL et al., 1996).

STIs, Including HIV/AIDS

Since the early 1990s, many of the countries of Eastern Europe and the former Soviet Union have experienced major epidemics of sexually transmitted infections (STIs), particularly of syphilis. While the reported incidence of new cases of syphilis in several former Soviet countries increased by 45–165 times during 1990–1998—the steepest recorded increases were reported in Kazakhstan (from 1.4 to 231.4 new cases per 100,000), the Kyrgyz Republic (from 2 to 144.4 new cases per 100,000), Belarus (from 2.7 to 164 new cases per 100,000), and the Russian Federation (from 5.3 to 225.6 per 100,000)—the rates in the countries of the Caucasus region and in Romania, though higher than in 1990, remained low by comparison (Riedner G et al., 2000).

Most former communist countries have inherited a centrally controlled STI surveillance system based mostly on case-reports. The only STI with active screening is syphilis. In all these countries, STI surveillance systems are centered on dermatavenerology (DV) clinics. Official data on STI prevalence represent only the cases reported to the dermatavenerology network. Cases seen by gynecologists or other doctors are seldom reported. Like other health surveillance systems, STI reporting is seriously affected by the general lack of resources that has plagued health care services during the past decade. Because of

limited laboratory resources, very few DV clinics have the ability to provide a wide array of laboratory testing and treatment. Even when the laboratory resources are adequate, the STI surveillance reflects only patients who seek medical care, and thus under-reports those with asymptomatic STIs, those who get treatment from alternative providers, those who use self-treatment or no treatment, and those with limited access to medical care. Increasingly, owing to the lack of confidentiality and social stigma, patients with STI symptoms are seeking care in the private sector, although the private sector is still little developed. Thus, even though these rates are high, STI surveillance systems in these countries are substantially underestimating the real magnitude of the STIs.

Eastern Europe is one of the last regions of the world to be challenged by the HIV/AIDS epidemic. Until mid-1995, Eastern Europe and the former Soviet Union did not seem threatened by a substantial HIV epidemic. Of the 450 million residents in the region, fewer than 30,000 were estimated to be infected with HIV. However, between 1995 and 1997, the estimated number of cases of HIV increased more than fivefold in this region. At the end of 2001, Eastern Europe and Central Asia were estimated to have one million people infected with HIV, with intravenous drug use being the main mode of transmission (UNAIDS, 2001). HIV surveillance in most former Communist countries is separate from that for other STIs, with diagnostics, reporting, and treatment centered around the infectious disease clinics. Under the recent health care reforms, HIV testing is usually voluntary (with the exception of blood donors) and is offered free of charge to some high-risk groups.

1.4 Young Adult Sexual and Reproductive Health: A Growing Concern

Prior to 1990, under the climate of strong moralistic principles vigorously promoted by the Communist regimes in Eastern Europe and the former Soviet Union, sex education in school was largely prohibited, sexuality was a taboo topic, and knowledge of contraception was discouraged in order to promote more rapid population growth. Although most adolescents in Eastern Europe remain sexually abstinent for most of their teen years, recent social, economic, and cultural changes are likely to liberalize sexual behaviors at a faster pace than in the past. Young people, especially adolescents, are sexually active at earlier ages than were older cohorts. They are more likely to have experienced premarital sexual intercourse, a greater number of sexual partners, and exposure to unintended pregnancy and sexually transmitted infections. In addition to direct health consequences, these behaviors could have very serious long-term influences on their lives (lower level of education, reduced range of employment opportunities, greater risk of fertility impairment, and even shorter life expectancy since, in the last decade, AIDS has rapidly become a leading cause of death among men and women 25–44 years of age).

1.5 Women's Status and Gender Issues

Most countries of the region share similarities with regard to the legal status of women and gender roles; they all experienced the same Communist efforts in the past to promote gender equality, only to see them replaced by recent political and social changes aimed at relegating women to traditional roles.

In many of these countries, the Reproductive Health Surveys produced the first population-based information on violence against women available at a national level. Violence against women includes a wide range of behaviors and acts perpetrated against women, and most commonly occurs between men and their female partners. This form of violence occurs in all cultures and affects women of all ages and all socio-economic and educational backgrounds. Gender stereotypes, women's economic dependence on men, cultural acceptability, loose or nonexistent legislation to protect women's fundamental human rights, and lack of preventive measures for victims are some of most widely recognized factors that contribute to intimate partner violence.

Since domestic violence affects women's physical, sexual, psychological, economical, and social well being, it implicitly affects women's health, including their reproductive health. Women subjected to domestic violence may be unable to use contraception effectively and consistently, and may lack control or negotiation skills that will enable them to avoid sexually transmitted diseases, plan pregnancies, and attend preventive health services, such as prenatal care.

1.6 Health and Population Policies

Health

In the former Communist countries, health policies, practices, and facilities were modeled after the centralized, government-supported Russian health system that provided universal health services to all citizens. Typically, the system promoted hospital-based health care services - that created a surplus of hospitals and hospital-based specialized physicians - and an inadequate supply of primary health care services. In the recent years of transition to a market economy, the costly hospital-based

curative system has become impossible to maintain; most hospitals lacked the minimum equipment, drugs, and supplies necessary and could not afford the maintenance costs. Health care deteriorated rapidly, particularly in the area of reproductive health services, which is reflected in the worsening of several outcome indicators (e.g., maternal and infant mortality, STI prevalence, and utilization of preventive services).

In all the countries profiled in this report, governments are struggling with limited resources and emerging health problems. They have responded to demographic and reproductive health challenges to varying degrees by introducing a wide array of policies and programs. Currently, health care reforms are in various stages of development and implementation. All of the governments continue to support health care services but most are in the process of turning them over to national health insurance agencies or to the private sector, possibly leaving large parts of their populations uninsured or with minimum health benefits. The newly created insurance systems have a mandatory component - based on mandatory payroll taxes, specific earmarked taxes and funds, and governmental and municipal subsidies- and a voluntary component. The mandatory insurance covers a limited range of essential services for all citizens who do contribute as well as for some who do not (e.g., minors and students).

Population policies

Under the socialist regimes, policies aimed to increase the birth rate were a high priority and employed a wide array of pronatalist incentives. Currently, with population growth stagnated or even reversed, all 12 countries that are the focus of this report have increased their efforts to stimulate the birth rate.

1.7 Measurement Issues

Many former Soviet bloc countries collect extensive vital statistics information. However, the health information systems during the Soviet times were often flawed by overreporting of “positive” results, which could bring rewards, and underreporting of undesired statistics, which could lead to disciplinary actions. Although the old systems are no longer in place, some of their characteristics may have been retained. In addition, with the emerging private health sector and the shifting of health costs from the state to the individual, official data may not be complete (Bladen C et al., 1998). For example, vital record data in several countries have indicated that abortion rates have been in decline. The availability of abortion services from private practice providers, however, has increased in most countries and abortions carried out by these providers are usually not included in official figures, placing the completeness of these figures in some doubt.

Even when they are complete, vital records, census data, and program data often do not provide sufficient information to adequately

and reliably assess public health problems and to evaluate public policy and program initiatives. Furthermore, the data usually satisfy the needs of centralized decision-making but are less useful for describing the health status and the burden of disease of the population at sub-national levels.

Until recently, population-based data on sexual behaviors, pregnancy intentions, contraceptive knowledge, and attitudes did not exist. While periodic sample surveys have been used for many years to evaluate national maternal and child health needs in developed countries, they have been infrequently used to evaluate reproductive health problems in former Soviet bloc countries. Population-based surveys of women of childbearing age with a nationally representative sample are considered to be the best and most timely way to collect information on fertility, the planning status of pregnancies, contraceptive use, health behaviors and use of women’s health services, knowledge and attitudes about contraception, knowledge about AIDS transmission and prevention, and other reproductive health issues.

CHAPTER 2

METHODOLOGY

The Demographic and Health Surveys (DHS) and Reproductive Health Surveys (RHS) continue a tradition of international family planning/maternal and child health survey programs that extends back three decades. The World Fertility Survey (WFS) project, conducted from 1972 to 1984, was the first worldwide survey program to collect comparable national population-based data on fertility and family planning. Between 1977 and 1985, the Contraceptive Prevalence Survey project (CPS) also collected and reported data in developing countries on fertility and family planning as well as programmatic issues. No countries of the Caucasus or Central Asia were included in these survey programs, and only the Czech Republic, Hungary, and Romania participated in the WFS.

In 1975 the Division of Reproductive Health (DRH) of the U.S. Centers for Disease Control and Prevention (CDC) began providing technical assistance to national population-based family planning surveys, which have evolved into the RHS (Morris, 2000). In 1984 the DHS program was established, combining features of the WFS and CPS and adding coverage of maternal and child health. In 1997 the DHS was renamed DHS+ to reflect more intensive coverage of health issues.

Since the first DHS in 1985, 67 countries have been surveyed in all regions of the developing world, with repeat surveys in 44 countries. RHS have been conducted in 19 countries since 1991, with repeat surveys in 8 countries. The first RHS in the Eastern European region were conducted in the Czech Republic and Romania in 1993, and the first DHS in the region was conducted in Kazakhstan in 1995. Both survey programs are funded principally by the U.S. Agency for International Development (USAID) with support in several countries from the United Nations Population Fund (UNFPA) and UNICEF.

Today, DHS surveys provide comparable information on a range of reproductive health topics, including contraceptive use, maternal and child health, child survival, and HIV/AIDS and other sexually-transmitted infections (STIs). In addition, the DHS program assists countries with improving data collection efforts, such as health information systems. The RHS are tailored to meet the information needs specific to individual countries. In addition to the standard questionnaire similar to the DHS questionnaire, the RHS program enables countries to add special-purpose modules that focus on specific issues, including young adults, intimate partner violence, STIs, school attendance, and special populations such as internally displaced and refugee women.

The CDC also conducts the Young Adult Reproductive Health Surveys (YARHS), which survey males and females 15-24 years of age to obtain more detailed information on reproductive behavior, including behavioral risks, and related knowledge and attitudes within this population.

Survey findings from the DHS- and CDC-supported surveys in the 1980s appear in the Johns Hopkins University **Population Reports**, *The Reproductive Revolution: New Survey Findings*, M-11, December 1992, and a summary of survey findings in the 1990s has recently been published (Zlidar, V. M. et al., 2003).

This report presents an overview of the 17 surveys conducted from 1993 to 2001 in 12 countries of Eastern Europe, the Caucasus, and the Central Asian republics (See the appendix table listing all surveys and implementing organization(s) by country). Much of the report will focus on the most

recent of the surveys conducted in each country:

- ◆ *Eastern Europe:*
 - Czech Republic (CZ), 1993
 - Moldova (MD), 1997
 - Romania (RO), 1999
 - Russia (RU), 1999
 - Ukraine (UA), 1999
- ◆ *Caucasus Region:*
 - Armenia (AR), 2000
 - Azerbaijan (AZ) 2001
 - Georgia (GE), 1999
- ◆ *Central Asian Republics*
 - Kazakhstan (KZ), 1999
 - Kyrgyz Republic (KG), 1997
 - Turkmenistan (TM), 2000
 - Uzbekistan (UZ), 1996

2.1 Sampling Design

Both the DHS and the RHS are designed to collect information from a representative sample of women of reproductive age, regardless of marital status. These probability samples are based on in-person, face-to-face interviews with the respondents at their homes. In some countries, an additional sample of males has been included. All surveys are designed to obtain independent estimates for urban and rural areas, and sometimes are divided into three strata: the Capital city metropolitan area, other urban areas, and rural areas. Thus, over-sampling is sometimes needed for the rural domain.

The DHS and RHS both have a two-stage sample design in which the first stage (primary sampling units or PSUs), consisting of census tracts or area units (sample clusters), are selected from a sampling frame, generally a recent census, from the National Statistical Center. In some cases, updated sampling frames used for labor force surveys or from

electoral districts are utilized if the census is not recent. A household listing operation is typically conducted in the selected PSUs. In the DHS, the second stage uses systematic random sampling to select households in which eligible women (or men) are identified for interview. In the RHS, a contiguous cluster of households is selected with a random start.

In the RHS, a third stage is utilized in which one woman is selected for interview at random in households with more than one eligible woman. Because only one woman is selected from a household, all results are weighted to compensate for the fact that some households included more than one female (or male) of reproductive age. The principal reason for the selection of one woman per household is because of the young adult module, which explores sexual behavior of women 15-24 years of age. Because most households with more than one eligible woman include a mother and daughter, and experience shows that the mother is more likely to be at home at the first visit to the household, this selection is made to avoid discussions between the mother and daughter that may influence the daughter's participation in the survey and her responses.

Another difference in design is the handling of male samples (when included). The DHS generally includes a sub-sample of males in the households selected in the female sample. The RHS uses the same PSU selected for the female sample for the male sample, but selects a sample of households that were not included in the female sample.

The reader is referred to the survey reports, which are listed at the end of this report in the references, for more detail on each country's sample design.

2.2 Characteristics of Eligible Women

An overview of selected characteristics of the women interviewed in the surveys is essential background for many of the findings presented in this report, and can provide an approximate indication of the representativeness of each survey. Again, the reader is directed to the final report for each survey for comparisons to census and other survey data and analyses of the quality of the data, including possible non-response differentials that required post-stratification weighting. It should be emphasized that all results presented in these tables and all the following tables in this report are weighted to adjust for sampling design and non-response differentials, if necessary. However, the unweighted number of observations, used for variance estimation, is also shown.

Another note concerning data presented in this report relates to *percent distributions*; although all percent distributions are shown to add to 100 percent, they may actually add to 99 percent or 101 percent due to rounding.

Response rates for eligible women are shown in Table 2.2.1 for each country by residence and by region. As mentioned previously, three of the 12 countries had sampling designs that separated urban areas into the metropolitan area of the capital city and other urban areas. All others present response rates for the national level and by urban and rural areas, except for Russia, which was not a national survey as data were collected in only three primarily urban areas.

In Tables 2.2.1 and 2.2.2, response rates and respondent characteristics are presented for the most recent survey for the three countries

with more than one survey (Romania, Russia and Kazakhstan).

Response rates are generally excellent in this region of the world, ranging from 85% in Ukraine to 99% in Georgia and Kazakhstan; Ukraine is the only country with a response rate of less than 90%. Response rates are best in the Central Asian republics; and only Azerbaijan in the Caucasus region is less than 96%. As many as four visits are made to each household with eligible respondents who were not at home during the first visit to the household. Non-response essentially represents women who could not be found after multiple visits to the household as refusal rates are very low. Less than three percent of eligible respondents refused to give an interview in 9 of the 12 countries. Only in the Czech Republic, Russia, and Ukraine did refusals reach 5 or 6%.

Completed interviews indicate sample sizes that range from 3,848 in the Kyrgyz Republic to 7,919 in Turkmenistan. Surveys conducted prior to 1998 tend to have smaller sample sizes, from 3,848 to 5,412, whereas all surveys since 1998, with the exception of Kazakhstan, have samples greater than 6,000 women.

The percentage distribution of selected characteristics of respondents-including residence, age group, marital status, education and number of living children (children ever born in the case of the Central Asian republics and Armenia)-are presented in Table 2.2.2 for each of the three sub-regions. Two of the respondent characteristics in this table need clarification.

For the marital status variable, women are classified according to their formal (legal) status at the time of interview into several

Table 2.2.1 Individual Response Rates by Residence* (Among Eligible Respondents) Eastern Europe and Eurasia: A Comparative Report						
Region and Country	Total	Number of Cases	Residence			
			Capital City	Other Urban	Urban	Rural
Eastern Europe						
<i>Czech Rep., 1993</i>	92	4,870	†	†	93	91
<i>Moldova, 1997</i>	98	5,543	97‡	97	†	99
<i>Romania, 1999</i>	90	7,645	86	91	†	90
<i>Russia, 1999</i>	91	6,582	†	†	91	†
<i>Ukraine, 1999</i>	85	8,367	†	†	84	89
Caucasus						
<i>Armenia, 2000</i>	96	6,685	†	†	96	97
<i>Azerbaijan, 2001</i>	93	8,246	86	94	†	96
<i>Georgia, 1999</i>	99	7,896	†	†	99	99
Central Asia						
<i>Kazakhstan, 1999</i>	97	3,954	†	†	98	97
<i>Kyrgyz Rep., 1997</i>	99	4,906	†	†	98	98
<i>Turkmenistan, 2000</i>	96	8,250	†	†	96	96
<i>Uzbekistan, 1996</i>	97	4,544	†	†	97	98

* Three of the 12 countries had sampling designs that separated urban areas into the metropolitan area of the capital city and other urban areas. All others present response rates for the national level and by urban and rural areas, except for Russia, which was not a national survey as data were collected in only three primarily urban areas.

† Not applicable.

‡ Four largest municipalities, including Chisinau, the capital city.

Table 2.2.2 Percent Distribution of Eligible Women with Complete Interviews by Selected Background Characteristics Eastern Europe and Eurasia: A Comparative Report												
Country	Eastern Europe				Caucasus				Central Asia			
	Czech Rep. 1993	Moldova 1997	Romania 1999	Russia 1999*	Ukraine 1999	Armenia 2000	Azerbaijan 2001	Georgia 1999	Kazakhstan 1999	Kyrgyz Rep. 1997	Turkmenistan 2000	Uzbekistan 1996
Residence												
Urban	66	52	63	*	73	61	55	56	56	34	47	38
Rural	34	48	37	*	27	39	45	44	44	67	53	62
Age												
15-19	20	19	17	12	17	18	22	20	17	19	20	22
20-24	16	17	19	17	16	16	17	17	14	17	20	18
25-29	15	15	18	17	17	12	13	16	14	14	16	16
30-34	14	16	16	16	17	12	17	16	15	16	13	14
35-39	18	19	14	20	17	15	17	18	16	15	12	13
40-44	18	14	17	18	17	15	13	14	14	11	11	10
45-49	†	†	†	†	†	13	†	†	11	8	8	7
Marital Status												
Currently Married	67	69	65	63	66	64	59	61	63	70	62	70
Previously Married	8	8	7	16	12	7	5	6	12	9	6	5
Never Married	26	23	29	21	23	29	36	33	25	22	32	25
No. of Living Children[‡]												
0	30	31	39	30	29	33	43	40	29	27	37	31
1	19	25	26	36	35	10	10	15	19	14	11	12
2	37	31	25	29	30	27	23	31	25	18	15	17
3	11	10	6	3	4	20	16	12	14	14	13	14
4+	3	4	5	1	1	10	8	3	13	27	25	27
Education Level												
Secondary Incomplete	59	24	53	12	11	13	25	17	8	11	26	13
Secondary Complete	34	38	30	22	28	32	48	33	32	42	47	51
Technicum	††	23	††	42	41	36	15	24	40	30	20	26
Postsecondary	8	16	17	24	20	19	12	26	20	17	7	11
Total	100	100	100	100	100	100	100	100	100	100	100	100
Number of Women	4,497	5,412	6,888	6,004	7,128	6,430	7,668	7,798	4,800	3,848	7,919	4,415

* Data for Russia pertain to three primarily urban areas as described in text.

† Women aged 45-49 were not interviewed in RHS surveys.

‡ Number of children ever born in Armenia and Central Asia.

†† Technicum, specific to former Soviet Union countries, does not exist in the Czech Republic or Romania.

categories: (1) legally married, (2) cohabitating or living in a consensual (unregistered) marital union, (3) widowed, (4) separated, (5) legally separated or (6) never married. The term currently married, used interchangeably with “women in union,” refers to women in legal and consensual marital unions. The term “previously married” encompasses two categories: a) women who have been in legal unions and are currently widowed, divorced or separated and b) women who have been in consensual marital unions and are currently widowed or separated. The never married category refers to women who have never been in either a legal or consensual marital relationship. In the tables presented in this report the currently married category will always include women in both formal and consensual marital unions.

For the educational level variable, four categories of educational attainment were chosen for the countries of the former Soviet Union: (1) secondary incomplete, which includes no education, primary school or some secondary school attendance, (2) secondary complete, which includes 10 or 11 years of schooling depending on the country, (3) technicum (called secondary special in some countries), and (4) postsecondary. The technicum level is essentially mid-level technical or vocational training for 4 to 5 years for students leaving secondary school after grade 9 or 10 or for 2 years after completing secondary school. (see glossary). Post-secondary refers to university level following completion of secondary school. In the Czech Republic and Romania, there is no technicum level and secondary complete includes 12 years of schooling.

The three regions present different profiles. The five countries surveyed in Eastern Europe have a majority urban population, ranging from 52% to 73% urban, and included women

15-44 years of age; the Russia three-oblast survey was primarily an urban sample. From 29% to 36%, around one-third, of the women surveyed in Eastern Europe were young adults 15-24 years of age, reflecting the low fertility rates seen in these countries in the recent past, in contrast to developing countries where 40% or more of reproductive age women are young adults. From 21% to 29% of women have never been married or lived in a consensual union and about two-thirds (63%-69%) are currently married or live in a consensual union. Women in these countries tend to be well educated as evidenced by the relatively low proportion of women who did not have any secondary education (data not shown). Most of the respondents who had not yet completed secondary education were young women still in school. Reflecting the proportion of women who have never been married, approximately 30% of the women in four of the five countries report that they have no living children; in the Russian areas surveyed, it is 39%. Most women report having one or two living children, from 46% in the Czech Republic to 65% in Ukraine.

The three countries surveyed in the Caucasus region (Armenia, Azerbaijan, and Georgia) have a slightly greater urban than rural population, ranging from 55% to 61% urban. Armenia includes women from 15-49 years of age. Excluding the women 45-49 years of age in Armenia, from 37% to 41% are young adults, higher than in Eastern Europe. Also, a higher proportion of women have never been married, ranging from 29% in Armenia to 36% in Azerbaijan, reflecting, in part, the younger age distribution. Most women have completed primary school and the majority have completed secondary school. The profile of number of living children is similar to that seen in Eastern Europe, but a greater proportion of women report having three or more children.

Three of the four Central Asian republics (Kyrgyz Republic, Turkmenistan, and Uzbekistan) are predominantly rural; Kazakhstan is slightly more urban than rural. These countries have younger age distributions, with 30% to 40% of women of reproductive age from 15-49 in the young adult group. If we restricted reproductive age to 15-44, young adults would represent from 34% to 44% of all women. There is about an 8 percentage point range in women currently married, from 62% in Turkmenistan to 70% in Uzbekistan. In three of the four countries, a much higher proportion of women report

having three or more children than in the Eastern European or Caucasus regions. In three of the countries, from 36% to 38% have either a technicum (secondary special) or post-secondary education. In Kazakhstan, 60% of women report these levels of education, reflecting, in part, a higher proportion of Russian ethnic population. The influence of ethnicity and religion is different in each country and readers are referred to the individual country reports for more detailed analysis of these two background characteristics, as the ethnic and religious compositions are different in each country and are beyond the scope of this report.

3 CHAPTER

FERTILITY

This chapter reports findings concerning fertility levels, differentials and time trends for the twelve surveyed countries in Eastern Europe, the Caucasus, and Central Asia. Information is also presented on marital status and other indicators of exposure to the risk of pregnancy (i.e., age at first sexual relation and age at first cohabitation). The first attempt to analyze the survey data from these regions in a comparative framework included seven countries (Goldberg, et. al., 1999). The current effort expands on that work both by including more countries and by providing more in-depth analysis of fertility trends and the role of marriage in contributing to those trends. All the survey-based statistics presented in this chapter are derived from nationally representative surveys with the exception of the statistics for the Russian areas. In the case of Russia, the statistics pertain to three urban areas in Central Russia.¹

Much of the following analysis is in terms of age-specific and total fertility rates (TFR).² The TFR is interpreted as the number of births a woman would have during her childbearing years if she passed through those years experiencing the observed age-specific rates. To provide up-to-date information for countries in which a survey was conducted before the latter part of the decade, recent information on fertility from government sources is cited where available.

¹The survey in Russia was conducted in three urban sites in Central Russia (Ivanovo Oblast, Yekaterinburg City, and Perm City) and cannot be considered representative of Russia or the urban areas of Russia.

²Age-specific fertility rates are calculated as the number of births reported by women in a five-year age interval during a specified time period divided by the number of women-years lived in the age interval during that time period. The rates indicate the average annual fertility of women in the age interval and are expressed per 1,000 women. The TFR is the sum of the age-specific rates; expressed on a per woman basis.

3.1 Fertility Levels

Table 3.1 shows TFRs for a three-year period preceding each survey (column 3). Most of the surveys were conducted between 1999 and 2001 and for those surveys the estimated TFRs pertain to the late 1990s. The surveys in Moldova, the Kyrgyz Republic, and Uzbekistan were conducted in 1996 and 1997 so that the survey rates are for the mid-1990s. The survey in the Czech Republic was conducted somewhat earlier, in 1993, and the estimated TFR pertains to the early 1990s.

The survey fertility rates show a clear geographic pattern. The TFRs were lowest and well below replacement for Romania, Russia, and Ukraine (1.3, 1.3, 1.4 births per woman).³ Somewhat higher fertility was found for

Moldova and the Czech Republic (1.8 and 1.9), although government sources indicate that, by the end of the decade, fertility in these countries had declined to 1.1 and 1.4 births per woman, respectively (Table 3.1, column 5). Fertility was close to replacement in the Caucasus and in Kazakhstan (between 1.7 and 2.1). Substantially higher levels of fertility were found in the Kyrgyz Republic, Turkmenistan, and Uzbekistan (between 2.9 and 3.4).

Table 3.1 also shows fertility rates from government sources (column 4) for the same time period as the survey estimates. The two sets of rates agree closely with two exceptions. For Armenia and Georgia, the survey estimates (1.7 births per woman) exceed the government TFRs (1.3 births per woman) by four-tenths of

Table 3.1 Total Fertility Rates (TFRs) from the Surveys and from Government Sources Women Aged 15–44 Eastern Europe and Eurasia: A Comparative Report				
Region and Country	Total Fertility Rates (Per Woman)			TFRs, 1998–99
	Time Period	Survey Estimates	Government Sources*	Government Sources*
Eastern Europe				
<i>Czech Rep., 1993</i>	1990–1992	1.9	1.8	1.1
<i>Moldova, 1997</i>	1994–1996	1.8	1.7	1.4
<i>Romania, 1999</i>	1997–1999	1.3	1.3	1.3
<i>Russia, 1999†</i>	1996–1998	1.3	‡	‡
<i>Ukraine, 1999</i>	1997–1999	1.4	1.3	1.2
Caucasus				
<i>Armenia, 2000</i>	1998–2000	1.7	1.3	1.3
<i>Azerbaijan, 2001</i>	1998–2000	2.1	2.0	2.0
<i>Georgia, 1999</i>	1997–1999	1.7	1.3	1.3
Central Asia				
<i>Kazakhstan, 1999</i>	1997–1999	2.1	1.9	1.8
<i>Kyrgyz Rep., 1997</i>	1995–1997	3.4	3.1	2.7
<i>Turkmenistan, 2000</i>	1998–2000	2.9	2.9	2.9
<i>Uzbekistan, 1996</i>	1994–1996	3.3	3.4	2.8

* World Health Organization; European Public Health Information Network for Eastern Europe (www.euphin.dk).

† Data for Russia pertain to three primarily urban areas as described in Chapter 2.

‡ Local data not available.

³In populations of relatively low mortality, the replacement level of the TFR can be taken as 2.1.

a child. We do not attempt to reconcile these differences here, although it should be noted that there is compelling evidence that the government TFRs are underestimates, especially for the late 1990s.⁴

Also shown in Table 3.1 are fertility rates from government sources for a single time period, calendar years 1998–99 (column 5). These estimates are generally lower than the survey estimates, especially for the surveys conducted early in the 1990s (Czech Republic, Moldova, Kyrgyz Republic, and Uzbekistan) and for Armenia and Georgia, probably due to the inaccuracies in the government estimates as described above. The lower rates for 1998–99 reflect the continuing decline of fertility that has been underway since the breakup of the Soviet Union in 1991. After substituting the survey estimates for Armenia and Georgia in the series of government rates, a very strong geographic pattern emerges. TFRs are lowest in Eastern Europe (between 1.1 and 1.4 births per woman), intermediate in the Caucasus and Kazakhstan (between 1.7 and 2.0) and notably higher in the Kyrgyz Republic, Turkmenistan, and Uzbekistan (between 2.7 and 2.9).

3.2 Fertility Differentials

Residence

Fertility levels are shown for urban and rural areas in Table 3.2.1. In all of these countries, urban fertility was lower than rural fertility. Urban fertility was lowest in Romania (1.0 births per woman) and somewhat higher in Moldova, Russia, and Ukraine (1.3 or 1.4 births

per woman). The survey estimate of urban fertility for the Czech Republic was 1.8 births per woman (1990–92), however government statistics indicate that this had fallen to 1.3 by 1997 (United Nations, 1999). In the Caucasus and Kazakhstan, urban fertility was also below replacement (between 1.5 and 1.9). Only in the Kyrgyz Republic, Turkmenistan, and Uzbekistan was urban fertility above replacement (between 2.3 and 2.7).

In rural areas, fertility rates were again lowest in Eastern Europe (between 1.8 and 2.3 births per woman). The survey estimate of rural fertility for the Czech Republic was 2.0 (1990–92), while government statistics indicate a TFR of 1.5 for 1997. Rural fertility tended to be higher in the Caucasus and in Kazakhstan (between 2.0 and 2.7) and was much higher in the Kyrgyz Republic, Turkmenistan, and Uzbekistan (between 3.3 and 3.9).

The differential between urban and rural fertility differed considerably by country, being least in the Czech Republic (0.2 births per woman, whether measured by survey estimates or more recent government statistics). Differentials of about half a child were found in Ukraine and the Caucasus. Larger differentials—of about one child—were found in Moldova and Romania and in Central Asia.

Education

Many studies have shown that fertility tends to be lower among women with higher levels of education. This is generally true for the

⁴Both Armenia and Georgia experienced substantial net out migration during the decade of the 1990s (MOSSRA, 2000 and Yeganyan, R., et.al., 2001). However, denominators for the government fertility rates were derived by projection of the female population recorded in the 1989 Population Censuses, without adjustment for migration. Thus, even if birth registration had been complete in these countries, overestimation of the resident female population has resulted in underestimation of age-specific fertility rates and TFRs. The degree of underestimation of the government rates is most pronounced in the late 1990s when the cumulative impact of migration throughout the decade was greatest. In the case of Armenia, further discussion of this issue can be found in M. Khachikyan, et. al. (2001).

Table 3.2.1
Total Fertility Rates (Per Woman) by Residence and Education, 0–2 Years Preceding the Survey
Women Aged 15–44
Eastern Europe and Eurasia: A Comparative Report

Region and Country	Time Period	TOTAL	Residence		Education Level			
			Urban	Rural	Secondary Incomplete	Secondary Complete	Technicum	Post-Secondary
<i>Eastern Europe</i>								
<i>Czech Rep., 1993</i>	1990–1992	1.9	1.8	2.0	2.1	1.8	†	1.5
<i>Moldova, 1997</i>	1994–1996	1.8	1.4	2.3	2.1	2.0	1.7	1.4
<i>Romania, 1999</i>	1997–1999	1.3	1.0	1.8	1.6	1.2	†	0.9
<i>Russia, 1999*</i>	1996–1998	1.3	*	*	1.2	1.3	1.4	1.2
<i>Ukraine, 1999</i>	1997–1999	1.4	1.3	1.8	1.6	1.5	1.6	1.1
<i>Caucasus</i>								
<i>Armenia, 2000</i>	1998–2000	1.7	1.5	2.1	1.9	1.9	1.6	1.4
<i>Azerbaijan, 2001</i>	1998–2000	2.1	1.9	2.3	2.3	2.1	1.9	1.8
<i>Georgia, 1999</i>	1997–1999	1.7	1.5	2.0	1.8	1.6	1.8	1.7
<i>Central Asia</i>								
<i>Kazakhstan, 1999</i>	1997–1999	2.1	1.5	2.7	2.3	2.4	2.1	1.5
<i>Kyrgyz Rep., 1997</i>	1995–1997	3.4	2.3	3.9	3.0	3.9	3.3	2.4
<i>Turkmenistan, 2000</i>	1998–2000	2.9	2.5	3.3	2.4	3.2	2.6	2.6
<i>Uzbekistan, 1996</i>	1994–1996	3.3	2.7	3.7	3.2	3.5	3.1	2.8

* Data for Russia pertain to three primarily urban areas as described in Chapter 2.

† Technicum, specific to former Soviet Union countries, does not exist in the Czech Republic or Romania.

populations examined here (Table 3.2.1). However, there are deviations from this pattern. Overall, the Eastern European countries show relatively minor variation in the TFRs for women in the three lower education categories (secondary incomplete, secondary complete and technicum) and distinctly lower levels for women with a postsecondary education. In the Caucasus, there is a regular pattern of declining fertility across all education categories—the differential between women with a secondary incomplete and postsecondary education is about half a child.

The differentials by education in the Central Asian republics show an unexpected feature; the TFRs increase between women with a secondary incomplete and secondary complete education. Nevertheless, the generally observed relation between fertility and

education is evident at the higher levels of education. Between women with a secondary complete and a postsecondary education, the TFR differential varies from about half a birth per woman in Turkmenistan to 1.5 births per woman in the Kyrgyz Republic.

Ethnicity

In Moldova, Romania, and Central Asia, there are ethnic minorities whose fertility levels differ substantially from that of the major ethnic group. Table 3.2.2 shows fertility rates by ethnicity.

In Moldova, significant proportions of survey respondents reported Russian or Ukrainian ethnicity (15% and 10%). The TFR of both groups (1.3 and 1.6 births per woman) was lower than that of Moldovan women (2.0 births per woman). In Romania, significant

Table 3.2.2
Total Fertility Rates (Per Woman) by Ethnicity, 0–2 Years Preceding the Survey
Women Aged 15–44
Eastern Europe and Eurasia: A Comparative Report

Region and Country	Time Period	Percent of Respondents*	TFR
<i>Eastern Europe</i>			
<i>Moldova, 1997</i>	1994–1996		
<i>Women of Moldovan Ethnicity</i>		68	2.0
<i>Women of Russian Ethnicity</i>		15	1.3
<i>Women of Ukrainian Ethnicity</i>		10	1.6
<i>Romania, 1999</i>	1997–1999		
<i>Women of Romanian Ethnicity</i>		87	1.2
<i>Women of Hungarian Ethnicity</i>		6	1.3
<i>Women of Roma Ethnicity</i>		5	2.6
<i>Central Asia</i>			
<i>Kazakhstan, 1999</i>	1997–1999		
<i>Women of Kazakh Ethnicity</i>		54	2.5
<i>Women of European Ethnicity</i>		39	1.4
<i>Kyrgyz Rep., 1997</i>	1995–1997		
<i>Women of Kyrgyz Ethnicity</i>		62	3.6
<i>Women of European Ethnicity</i>		13	1.5
<i>Turkmenistan, 2000</i>	1998–2000		
<i>Women of Turkmen Ethnicity</i>		78	3.0
<i>Women of European Ethnicity</i>		5	1.5
<i>Uzbekistan, 1996</i>	1994–1996		
<i>Women of Uzbek Ethnicity</i>		83	3.5
<i>Women of European Ethnicity</i>		6	1.1

* The difference between the sum of these percentages and 100% is attributable to other ethnic groups that comprise a small percentage of women and are not shown.

proportions of women were Hungarian and Roma (6% and 5%).⁵ The fertility of Romanian and Hungarian women was virtually identical (1.2 and 1.3 births per woman) while the TFR for women of Roma ethnicity was twice as high (2.6 births per woman).

Kazakhs, Kyrgyz, Turkmen, and Uzbeks comprise the majority of the population in Central Asia but there are large minorities of women of European origin (primarily Russian but also Ukrainian, Tatar, German, etc.). Although there has been steady immigration

of the European populations from Central Asia since 1991, the proportion of respondents of European ethnicity was substantial in Kazakhstan and the Kyrgyz Republic (39% and 13%), although less so in Turkmenistan and Uzbekistan (5% and 6%) ethnicity was similar in the four Central Asian republics (between 1.1 and 1.5 births per woman) and sharply lower than that of the major ethnic group in each republic (between 2.5 and 3.6 births per woman). The differences in fertility range from 1.1 births per woman (Kazakhstan) to 2.4 births per woman (Uzbekistan).

⁵The 1992 Population Census reported that the Roma (Gypsies) were 1.8% of the total population. However, that figure is considered an underestimate (Council of Europe, 1998).

3.3 Age Pattern of Fertility

Age-specific fertility rates based on survey data are shown in Table 3.3 and Figure 3.3. The surveyed countries exhibit a common age pattern of fertility which is characterized by an early age at onset of childbearing and the completion of childbearing at a relatively early age. Childbearing begins in the late teenage years and peak fertility occurs in the age interval 20–24 (in every country except Turkmenistan). The decline in the fertility rates after age 20–24 is steep in most countries and very little childbearing occurs among women older than 30–34 years, especially in Eastern Europe and the Caucasus. On average, in the surveyed countries, 53% of fertility occurs before age 25 and only 15% to women age 30 and above. This age pattern contrasts to that of Western

Europe, where childbearing is concentrated at older ages. On average, in the 15 countries of the European Union, 23% of fertility occurs below age 25 and 42% to women age 30 and above (United Nations, 1999).

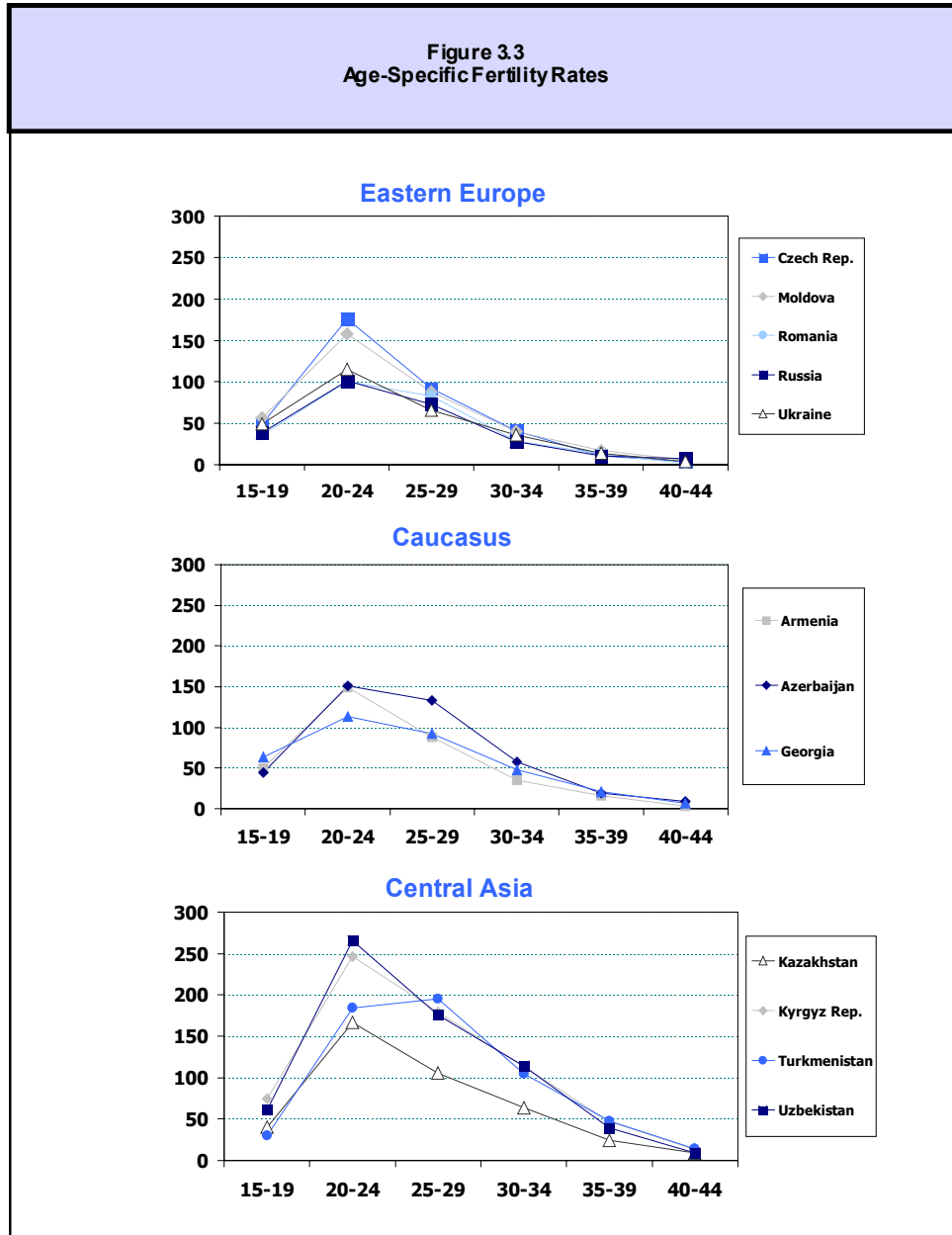
The age pattern of fertility in the former Soviet countries indicates that most women complete childbearing by age 30 and thereafter face a long period during which they must practice some means of fertility control in order to avoid unwanted births. During the Soviet period much reliance was placed on induced abortion either as the primary means of fertility control or as a backup to less effective contraception. More effective methods are increasingly available in these countries which should reduce the reliance on abortion.

Region and Country	Time Period	Age-Specific Fertility Rates (Per 1000)						TFR 15–44	GFR* 15–44
		15–19	20–24	25–29	30–34	35–39	40–44		
<u>Eastern Europe</u>									
<i>Czech Rep., 1993</i>	1990–1992	49	176	92	41	11	4	1.9	62
<i>Moldova, 1997</i>	1994–1996	57	158	88	40	17	6	1.8	64
<i>Romania, 1999</i>	1997–1999	36	100	83	29	13	2	1.3	49
<i>Russia, 1999[†]</i>	1996–1998	39	101	73	28	11	7	1.3	44
<i>Ukraine, 1999</i>	1997–1999	49	115	66	36	14	4	1.4	49
<u>Caucasus</u>									
<i>Armenia, 2000</i>	1998–2000	50	149	88	35	16	3	1.7	56
<i>Azerbaijan, 2001</i>	1998–2000	44	151	133	58	19	9	2.1	71
<i>Georgia, 1999</i>	1997–1999	64	113	92	48	21	7	1.7	61
<u>Central Asia</u>									
<i>Kazakhstan, 1999</i>	1997–1999	40	167	106	64	24	9	2.1	67
<i>Kyrgyz Rep., 1997</i>	1995–1997	75	246	179	113	47	13	3.4	118
<i>Turkmenistan, 2000</i>	1998–2000	30	184	195	105	48	14	2.9	103
<i>Uzbekistan, 1996</i>	1994–1996	61	266	176	114	39	9	3.3	123

* GFR: General Fertility Rate (births divided by the number of women age 15–44), expressed per 1,000 women.

† Data for Russia pertain to three primarily urban areas as described in Chapter 2.

Figure 3.3
Age-Specific Fertility Rates



3.4 Time Trends

Time trends were calculated from the pregnancy history data collected in the surveys. The period of analysis is constrained by the fact that the age range for which data are available is truncated at younger and younger ages for progressively earlier time periods. In order to include an extensive age range of women in the analysis (i.e., women 15–39), the analysis is limited to a nine year period.⁶ Table 3.4.1 shows TFRs for women 15–39 in the time periods 6–8 and 0–2 years preceding each survey and the average annual rate of change.⁷

With the sole exception of the Czech Republic, where the survey was conducted several years earlier than in the other countries, the TFRs indicate declines in fertility of between 2.4% and 7.1% per annum. This pace of fertility decline substantially exceeds the average rate of decline recently estimated for 21 developing countries during the decade of the 1990s: 1.2% per annum (Rutstein, 2002).

Table 3.4.1 also shows TFRs based on government statistics for calendar years 1988–89 and 1998–99. These data depict trends during a common ten-year period for

Region and Country	Survey TFRs (Per Woman)			Government Sources*		
	Years before Survey		Rate of Change	Calendar Years		Rate of Change
	6–8	0–2		1988–89	1998–99	
Eastern Europe						
<i>Czech Rep., 1993</i>	1.7	2	+1.9	1.9	1.1	-5.5
<i>Moldova, 1997</i>	2.6	2	-6.1	2.6	1.4	-6.2
<i>Romania, 1999</i>	1.5	1	-2.4	2.3	1.3	-5.7
<i>Russia, 1999[†]</i>	1.6	1	-3.5	‡	‡	‡
<i>Ukraine, 1999</i>	1.7	1	-3.2	2.0	1.2	-5.1
Caucasus						
<i>Armenia, 2000</i>	2.6	2	-7.1	2.6	1.3	-6.9
<i>Azerbaijan, 2001</i>	2.8	2	-5.6	2.8	2.0	-3.4
<i>Georgia, 1999</i>	2.2	2	-4.3	2.1	1.3	-4.8
Central Asia						
<i>Kazakhstan, 1999</i>	2.8	2	-5.6	2.7	1.6	-5.2
<i>Kyrgyz Rep., 1997</i>	3.8	3	-2.4	3.9	2.7	-3.7
<i>Turkmenistan, 2000</i>	3.9	3	-5.5	4.3	2.9	-3.9
<i>Uzbekistan, 1996</i>	4.2	3	-4.0	4.0	2.8	-3.6

* World Health Organization; European Public Health Information Network for Eastern Europe (www.euphin.dk).

† Data for Russia pertain to three primarily urban areas as described in Chapter 2.

‡ Local data not available.

⁶The RHS surveys interviewed women in the age range 15–44. Thus, for the period 6–8 years preceding those surveys there is no information on reproductive events for women age 40 and above. Inclusion of time periods earlier than 6–8 years prior to the survey would require that the age range of women be further restricted.

⁷The following formula was used to calculate annual percent decline: $r = [\ln(\text{TFR}_1 / \text{TFR}_0) / t] \times 100$, where r is the annual rate of change, TFR_0 is the initial rate, TFR_1 is the final rate and t is the number of years between the two rates.

each country. The annual rates of fertility decline vary between 3.6% and 6.9%, again far exceeding the average rate of decline for the 21 countries of the developing world.⁸ Based on rates for the common reference period the Czech Republic shows the same rapid fertility decline (5.5% per annum) as do the other surveyed countries.

Table 3.4.2 shows age-specific fertility rates based on survey data for 0–2 and 6–8 years preceding each survey. With the exception of the Czech Republic, fertility declined at almost every age in each survey. Particularly striking is the magnitude of the declines among women age 20–24. In Romania, Ukraine, Armenia, and Georgia the greater part of the fertility decline

Table 3.4.2											
Age-Specific Fertility Rates, 0–2 and 6–8 Years Preceding the Survey											
Per 1000 Women Aged 15–39											
Eastern Europe and Eurasia: A Comparative Report											
Age Group	Years before Survey			Absolute Change	Years before Survey			Absolute Change	Years before Survey		
	6–8	0–2	Absolute Change		6–8	0–2	Absolute Change		6–8	0–2	Absolute Change
Czech Rep., 1993											
15–19	30	49	19	55	57	2	49	36	-13		
20–24	165	176	11	207	158	-49	129	100	-29		
25–29	86	92	6	135	88	-47	83	83	0		
30–34	42	41	-1	70	40	-30	33	29	-4		
35–39	15	11	-4	49	17	-32	12	13	1		
TFR (15–39)	1.7	1.8	0.1	2.6	1.8	-0.8	1.5	1.3	-0.2		
Moldova, 1997											
Romania, 1999											
Russia, 1999*											
15–19	47	42	-5	62	49	-13	92	50	-42		
20–24	127	107	-20	139	115	-24	245	149	-96		
25–29	78	73	-5	76	66	-10	105	88	-17		
30–34	40	25	-15	38	36	-2	49	35	-14		
35–39	21	11	-10	19	14	-5	24	16	-8		
TFR (15–39)	1.6	1.3	-0.3	1.7	1.4	-0.3	2.6	1.7	-0.9		
Ukraine, 1999											
Armenia, 2000											
Azerbaijan, 2001											
15–19	61	44	-17	81	64	-17	64	40	-24		
20–24	207	151	-56	169	112	-57	217	167	-50		
25–29	168	133	-35	109	92	-17	163	106	-56		
30–34	80	58	-22	57	47	-10	82	64	-18		
35–39	49	19	-30	33	21	-12	43	24	-19		
TFR (15–39)	2.8	2.0	-0.8	2.2	1.7	-0.6	2.8	2.0	-0.8		
Georgia, 1999											
Kazakhstan, 1999											
Kyrgyz Rep., 1997											
15–19	51	75	24	30	30	0	55	61	7		
20–24	273	246	-27	226	184	-41	289	266	-23		
25–29	224	179	-45	272	195	-77	257	176	-81		
30–34	153	113	-40	178	105	-73	161	114	-47		
35–39	63	47	-16	79	48	-31	82	39	-42		
TFR (15–39)	3.8	3.3	-0.5	3.9	2.8	-1.1	4.2	3.3	-0.9		
Turkmenistan, 2000											
Uzbekistan, 1996											

* Data for Russia pertain to three primarily urban areas as described in Chapter 2.

⁸It is not expected that the estimated rates of fertility decline based on survey data and on government statistics should be the same on a country-by-country basis: the time periods covered by the two estimates differ, there is sampling variability associated with the survey estimates and, as indicated earlier, government statistics can be in error. Nevertheless, for most countries there is reasonably good agreement between data sources. The estimates differ the most for the Czech Republic (+1.9 versus -5.5), Moldova (-3.5 versus -5.7) and Azerbaijan (-5.6 and -3.4). In each of these cases, the major part of the difference disappears when rates of decline are calculated for the same time period.

(65% or more) occurred among women under age 25. In Russia, Azerbaijan and Kazakhstan the figures are 45%, 46% and 44%, respectively. Thus, in seven of the twelve countries examined, a substantial component of the fertility decline was contributed by women below age 25. Only in the three high fertility republics of Central Asia (the Kyrgyz Republic, Turkmenistan, and Uzbekistan) did fertility decline primarily at the older ages. In those countries and in Moldova fertility among women age 15–19 was either unchanged or increased.

The different age structures of fertility decline depict populations at different stages of fertility transition. In the Kyrgyz Republic, Turkmenistan, and Uzbekistan, the TFR (15–39) for 6–8 years before the survey was close to 4 births per woman and by 0–2 years before the survey was approximately 3 births per woman. As achieved fertility overtook reproductive preferences in these populations, fertility declined primarily among older women. Alternatively, the countries in which the recent fertility decline was primarily among younger women, all had a TFR below 3 births per woman at the outset of the period and a rate at or well below replacement by the end of the period. These populations had previously experienced fertility decline in the older reproductive ages and further decline occurred among younger women, most probably as the result of postponement of marriage and delay of childbearing within marriage.

3.5 Marital Status

Table 3.5 shows the distributions of women 15–44 by marital status. The distributions are similar across countries. The great majority of women (between 54% and 68%) are currently married and a significant proportion have never been married (between 21% and

35%). As expected, smaller proportions report cohabitation in a consensual union or being formerly married. Among women in the older age cohorts, marriage has been almost universal in the countries surveyed. Among women age 35–39 and 40–44, the proportions never married are typically between 2% and 4% except in the Caucasus (Armenia, Azerbaijan, and Georgia) where they are between 5% and 10%.

Nevertheless, there are important variations in the marital status distributions by country and region. The proportion of respondents that report cohabitation in a consensual union is much greater in Russia (10%) and Romania (6%) than in the republics of the Caucasus (under 1%) or Central Asia (under 3%). In addition, three countries stand out with a high proportion of formerly married women: Russia (16%), Ukraine (11%), and Kazakhstan (11%).

Russia has by far the highest proportion of women below age 30 living in a consensual union—17% among women age 20–24. Above age 30, Russia has the highest proportion of formerly married women—26% of women age 40–44. However, as indicated earlier, when considering the Russian areas it must be borne in mind that the data pertain to only three primarily urban areas in Central Russia.

3.6 First Sexual Relations and First Union by Age 20

Table 3.6 shows the proportions of respondents who reported having sexual relations, a union (either married or consensual) and a live birth by age 20. The proportion of women reporting sexual intercourse before age 20 is higher among the younger age cohorts in the countries of Eastern Europe and Central Asia. The trend toward increasingly younger exposure to sexual

Table 3.5
Percent Distribution of Women by Marital Status According to Age
Women Aged 15–44
Eastern Europe and Eurasia: A Comparative Report

Age Group	Marital Status																								
	Czech Rep., 1993			Moldova, 1997			Romania, 1999			Russia, 1999*			Ukraine, 1999			Armenia, 2000									
	Married	Consensual Union	Formerly Married	Never Married	Married	Consensual Union	Formerly Married	Never Married	Married	Consensual Union	Formerly Married	Never Married	Married	Consensual Union	Formerly Married	Never Married									
15–19	6.4	2.6	0.2	90.8	9.3	1.9	0.8	88.0	4.6	4.6	0.8	90.0	5.8	8.4	1.1	84.7	8.6	2.2	0.6	88.6	8.5	0.0	0.1	91.4	
20–24	58.3	5.2	3.4	33.1	63.0	3.2	6.2	27.6	37.2	8.9	4.2	49.7	40.3	17.4	7.9	34.4	55.7	5.5	5.4	33.4	50.5	0.2	1.8	47.5	
25–29	83.3	2.5	6.7	7.5	84.9	2.4	7.1	5.6	71.9	7.4	7.7	13.0	60.7	12.3	16.0	11.1	75.5	5.3	11.7	7.5	80.9	0.4	5.2	13.5	
30–34	81.6	3.4	10.4	4.7	87.3	2.0	8.3	2.4	80.7	5.7	8.0	5.6	66.8	8.5	21.0	3.7	80.9	4.1	11.8	3.2	85.9	0.7	8.1	5.3	
35–39	82.9	2.5	12.2	2.4	84.2	2.2	11.7	1.9	83.3	5.5	8.8	2.4	67.8	7.5	20.2	4.7	77.5	3.3	16.6	2.6	84.2	0.6	9.4	5.8	
40–44	82.3	2.5	12.9	2.2	81.3	1.8	14.8	2.1	82.0	4.0	12.9	1.1	63.9	5.5	25.5	5.1	76.6	2.9	18.7	1.8	81.2	0.5	11.4	6.9	
Total	63.7	3.1	7.5	25.7	66.4	2.3	7.9	23.4	58.5	6.1	6.9	28.5	53.5	9.8	16.1	20.6	62.5	3.9	10.8	22.8	61.7	0.4	5.7	32.2	
	Azerbaijan, 2001				Georgia, 1999				Kazakhstan, 1999																
15–19	9.5	0.4	0.3	89.8	14.8	0.7	0.3	84.2	7.5	0.5	1.0	91.0	15–19	11.5	0.7	1.5	86.3	5.3	0.0	0.6	94.1	12.7	0.1	0.2	87.0
20–24	43.2	0.8	3.2	52.8	48.2	0.5	3.8	47.5	51.2	1.7	7.0	40.1	20–24	67.8	3.1	9.4	19.7	43.3	1.0	3.0	52.7	73.4	0.9	2.9	22.8
25–29	71.8	0.7	3.7	23.8	69.7	1.1	6.1	23.1	71.8	1.4	12.9	13.9	25–29	82.0	4.4	9.0	4.6	77.3	3.5	4.0	15.2	89.4	0.7	4.7	5.2
30–34	80.1	1.1	7.5	11.3	78.5	0.7	7.1	13.7	76.5	1.6	4.9	17.0	30–34	84.7	3.7	9.0	2.6	85.6	2.5	7.7	4.2	89.2	2.4	6.5	1.9
35–39	83.8	0.6	7.6	8.1	81.6	0.7	8.8	8.9	80.5	1.9	14.2	3.4	35–39	85.3	3	10.8	0.9	85.4	2.6	9.5	2.5	91.0	1.6	6.2	1.2
40–44	80.7	0.6	11.8	6.9	79.3	1.0	11.7	8.0	78.8	1.8	15.4	4.0	40–44	80.9	2.5	15.1	1.5	87.5	3.1	8.6	0.8	89.7	0.9	9.0	0.4
Total	57.8	0.7	5.2	36.3	60.0	0.8	6.0	33.3	60.1	1.5	10.7	27.7	Total	65.5	2.8	8.5	23.2	57.9	1.8	5.0	35.3	68.1	1.0	4.2	26.7
	Kyrgyz Rep., 1997				Turkmenistan, 2000				Uzbekistan, 1996																

* Data for Russia pertain to three primarily urban areas as described in Chapter 2.

relations is evident even between the cohorts 25–29 and 20–24. Particularly in Eastern Europe, premarital sex is widening the gap between the women having sex by age 20 and having a first union by age 20. The situation is different in the Caucasus, where the proportion of women reporting sexual relations before age 20 has decreased somewhat between the cohorts age 25–29 and 20–29 and there is little or no gap between sexual exposure and entry into a union.

Data on the proportion of women married by age 20 yields some insight into recent fertility trends. In most of the surveys, the proportion married by age 20 increases between women 40–44 and women 25–29, indicating a declining age at marriage across age cohorts. However, in several countries this trend is reversed between women 25–29 and women 20–24. In two countries with particularly rapid fertility declines during the 1990s (Romania and Armenia) significant declines have

Table 3.6
Percentage of Women Who Had Sexual Relations, a Union
and a Live Birth before Age 20
Women Aged 15–44
Eastern Europe and Eurasia: A Comparative Report

Age Group	Eastern Europe				Caucasus			Central Asia				
	Czech Rep. 1993	Moldova 1997	Romania 1999	Russia 1999*	Ukraine 1999	Armenia 2000	Azerbaijan 2001	Georgia 1999	Kazakhstan 1999	Kyrgyz Rep. 1997	Turkmenistan 2000	Uzbekistan 1996
15–19	(53.8)	(20.7)	(25.7)	(47.2)	(32.1)	(8.6)	(10.2)	(15.8)	(17.5)	(14.3)	(5.9)	(13.0)
20–24	91.9	64.4	57.5	78.0	84.7	37.1	34.3	39.5	50.1	59.1	25.9	55.8
25–29	NA	54.5	52.2	71.3	70.4	53.5	36.2	43.7	48.1	46.9	25.7	49.6
30–34	NA	42.8	51.4	58.2	57.4	50.0	28.3	36.6	39.8	39.9	21.4	41.8
35–39	NA	41.4	54.0	42.6	53.1	44.0	23.1	34.9	34.8	38.5	22.8	51.1
40–44	NA	37.2	49.4	40.3	50.8	39.9	26.1	32.1	33.3	45.9	38.5	55.5
						Sexual Intercourse before Age 20						
						Union before Age 20						
15–19	(9.5)	(12.0)	(10.0)	(15.3)	(11.4)	(8.6)	(10.2)	(15.8)	(9.0)	(13.7)	(5.9)	(13.0)
20–24	38.2	52.9	29.9	44.1	42.8	37.2	33.7	39.2	39.9	58.4	26.2	55.7
25–29	37.0	48.0	38.0	43.7	44.8	53.1	35.2	42.7	39.8	45.0	26.4	51.0
30–34	39.4	39.3	39.1	39.4	41.1	48.8	27.5	34.9	31.9	40.2	22.3	42.7
35–39	35.0	38.0	45.2	29.4	37.4	43.6	22.2	34.6	31.0	38.3	23.5	51.4
40–44	35.6	33.7	39.4	31.2	36.3	38.9	25.5	29.9	29.3	46.7	38.8	56.2
						Live Birth before Age 20						
15–19	(5.7)	(5.5)	(5.0)	(4.6)	(5.6)	(4.4)	(4.1)	(8.4)	(4.4)	(6.3)	(2.6)	(6.2)
20–24	23.8	28.1	15.2	19.7	25.7	25.6	22.1	30.7	22.1	36.6	14.5	25.3
25–29	22.7	24.7	21.3	22.5	26.0	33.6	21.7	26.8	24.4	23.3	12.8	27.4
30–34	24.2	19.1	22.9	19.5	22.8	30.5	14.7	20.5	19.7	21.3	10.0	22.9
35–39	22.1	18.9	27.0	13.2	20.9	23.9	11.2	19.7	17.2	19.4	10.1	26.1
40–44	19.2	16.0	24.0	11.0	19.0	22.0	12.2	17.3	18.0	24.0	18.9	28.7

* Data for Russia pertain to three primarily urban areas as described in Chapter 2.

Note: Figures for women age 15–19 are in parentheses to indicate that not all members of the cohort have been exposed up to age 20 and that the figures are not comparable to the figures for the older age cohorts.

occurred in the of the proportion married by age 20; from 38% to 30% and from 53% to 37%, respectively. Less pronounced declines are evident for Ukraine, Azerbaijan, and Georgia.

The recent declines in proportions reporting having been in a union by age 20 suggest that postponement of first marriage has significantly contributed to the fertility declines in several of the countries surveyed. Based on the month-by-month calendar data from the Armenia survey, this assertion was confirmed by calculating the time spent in union by women 20–24 for two time periods preceding the survey (Westoff, et. al., 2002). The analysis found that the proportion of time spent in union declined over a four year period from .60 to .48. This 20% decline in time exposed to the risk of pregnancy goes far toward explaining the significant contribution of women under age 25 to the overall fertility decline in Armenia. This finding also has implications for future fertility trends that may reflect an effort to recoup temporarily delayed fertility.

In spite of indications that age at marriage among females has been increasing in recent years in some of the countries surveyed, women still marry considerably earlier than in Western Europe. The age at first marriage is typically still in the early twenties in these countries while the average age at first marriage in the mid-1990s for the countries of Western Europe was about 27 years (United Nations Economic Commission for Europe, 1997–2001).

The data of Table 3.6 for the age group 15–19 differ from that of the other age groups in that they do not represent final status of women with respect to experiencing various events before age 20. Nevertheless the data are revealing. The percent of women 15–19 who reported sexual experience varies greatly from

6% in Turkmenistan to 54% in the Czech Republic. There is also an indication of substantial differences between regions in sexual abstinence before marriage. In the Eastern European countries and, to a lesser extent, Kazakhstan, much higher proportions report sexual experience than report a first union. This is not the case in the Caucasus or in most of Central Asia. Apparently, strong cultural norms exist regarding sexual abstinence prior to marriage in Armenia, Azerbaijan, Georgia, the Kyrgyz Republic, Turkmenistan and Uzbekistan.

3.7 Summary of Findings

This chapter has reviewed survey data for 12 countries of Eastern Europe (Czech Republic, Moldova, Romania, Russia, and Ukraine), the Caucasus (Armenia, Azerbaijan, and Georgia) and Central Asia (Kazakhstan, Kyrgyz Republic, Turkmenistan, and Uzbekistan). Despite marked differences in culture, ethnicity, religion, and socioeconomic factors, the data for the various countries revealed many commonalities.

- ◆ There was good agreement between estimates of the TFR based on survey data and published government statistics for most countries. The principal exceptions were Armenia and Georgia where there is persuasive evidence that the government rates are underestimates. This tends to substantiate the reliability of both the survey findings and government statistics for most countries, at least for the time periods of the comparative analysis.
- ◆ Fertility levels have declined precipitously in all of the surveyed countries during the decade of the 1990s. At the close of the decade, estimates of the TFR were well below the replacement level in Eastern Europe (between 1.1 and 1.4 births per

woman), at about replacement in the Caucasus and in Kazakhstan (between 1.7 and 2.0 births per woman) and well above replacement in the Kyrgyz Republic, Turkmenistan and Uzbekistan (between 2.7 and 2.9 births per woman).

- ◆ Although fertility levels differed in the surveyed countries, the age-pattern of fertility was similar in each. The fertility schedules are characterized by significant childbearing among women age 15–19, peak fertility among women age 20–24 and sharp drop-offs after that age group (with the exception of Azerbaijan and Turkmenistan, where fertility fell sharply only after age 25–29. There is little childbearing after age 30 in these countries. In contrast, in Western Europe, childbearing starts later and peak fertility occurs in the 25–29 age interval.
- ◆ Significant fertility differentials were found by ethnicity in Moldova, Romania, and Central Asia. In Moldova and Central Asian republics, fertility of the major ethnic group exceeded that of minority women. In Central Asia, the TFR of Kazakh, Kyrgyz, Turkmen, or Uzbek women exceeded that of women of European ethnicity (primarily, Russian) by between 1.1 and 2.4 births per woman. Only in Romania was the TFR of the major ethnic group, Romanian women (1.2 births per woman), less than that of a minority group, Roma women (2.6 births per woman).

- ◆ Examination of the time trends in age-specific fertility indicates that declines among women age 15–19 and 20–24 were primarily responsible for the rapid fertility declines during the 1990s in the majority of these countries. Only in three of the Central Asian republics (Kyrgyz Republic, Turkmenistan, and Uzbekistan) have fertility declines been due primarily to declines in fertility at the older ages.
- ◆ Data on marital status and time in union by age group clearly indicate that in Romania and Armenia postponement of marriage has been the mechanism for the fertility decline among younger women. There are indications that delay of entry into cohabitation may also have been an important factor in the fertility declines in Ukraine, Azerbaijan, and Georgia. This is an area of research that would benefit from further detailed analysis.
- ◆ There are substantial differences between regions in sexual abstinence before marriage. In the Eastern European countries and, to a lesser extent, Kazakhstan, significant proportions of women report having sexual experience before entering their first cohabitating union. This is not the case in the Caucasus or in most of Central Asia where strong cultural norms exist regarding sexual abstinence before marriage.

4

CHAPTER

ABORTION

This chapter examines the data on abortion and related issues collected in the surveys in 11 countries of the European and Eurasia Region (E&E Region).¹ The surveys show that unintended pregnancy is the primary cause of abortion in these countries. Throughout much of the decade of the 1990s, USAID has assisted these countries in strengthening the provision of reproductive health services. By increasing the availability and access to safe effective methods of contraception, USAID has played a major role in reducing recourse to abortion and allowing women and couples to control their reproductive lives.

Prior to the breakup of the Soviet Union in 1991, a characteristic feature of the countries under Soviet influence was their reliance on abortion as a means of fertility control. In these countries, abortion has long been readily available while effective means of contraception have not. Romania was an exception to this pattern from 1966 to 1989, when neither legal abortion nor contraception was available to women as a result of the government's pronatalist policy. These restrictions were removed in late 1989, so that by the early 1990s Romania resembled the populations of the former Soviet Union with abortion used as the primary means of fertility control or as a backup to less effective, traditional contraceptive methods (primarily, withdrawal).²

¹Data are shown for Moldova, Romania, Russia, and Ukraine in Eastern Europe; Armenia, Azerbaijan, and Georgia in the Caucasus; and Kazakhstan, the Kyrgyz Republic, Turkmenistan, and Uzbekistan in Central Asia. With the exception of Russia, the surveys are all nationally representative. The survey in Russia was conducted in three primarily urban sites (Ivanovo Oblast, Yekaterinburg City, and Perm City) and cannot be considered representative of Russia or the urban areas of Russia.

² In this report, the term "traditional methods of contraception" refers to withdrawal and periodic abstinence. The term "modern methods" includes the pill, the IUD, condom, male and female sterilization, injectables, implants, and vaginal methods. See Chapter 5 for method-specific, current use rates among married women of reproductive age.

The widespread use of abortion in the former Soviet Union resulted from many factors. Chief among these were the liberal government policies toward abortion and centralized medical systems, which focused more on curative than on preventive care. Before 1990, the medical establishments of these countries were relatively isolated from advances in Western contraceptive technology such as the low-dose pills, which have reduced the serious side effects of oral contraceptives. These factors continue to play a role in the former Soviet countries at the current time although, since the mid-1990s, the use of modern effective methods of contraception has increased with a corresponding decrease in reliance on abortion (Popov AA & David HP, 1999). Nevertheless, reliance on abortion as a means of fertility control is still high in many countries of the region.

Section 1 of the chapter provides a brief overview of the procedures for collecting abortion data in the Reproductive Health Surveys and Demographic Health Surveys. In Section 2, the abortion rates calculated from the RHS/DHS surveys are compared with government statistics on abortion. The remaining sections of the chapter are based solely on RHS/DHS data. Sections 3, 4, and 5 examine the age pattern, differentials by population characteristics, and recent time trends in abortion. Section 6 discusses the relationship between unintended pregnancy, contraception, and abortion. Sections 7 and 8 examine reasons for seeking abortion and post-abortion medical complications. The chapter concludes with a summary of findings.

4.1 Survey Data

The questionnaire structure and procedures used to collect abortion data were similar, although not identical, in the Reproductive Health Surveys (Moldova, Romania, Russia,

Ukraine, Azerbaijan, and Georgia) and the Demographic Health Surveys (Armenia, Kazakhstan, the Kyrgyz Republic, Turkmenistan, and Uzbekistan). Although some variation exists in the survey instruments, all followed the same procedures and collected the same basic information.³

In each survey, abortion data were collected in the reproductive section of the women's questionnaire. The section begins with a series of questions to determine if the respondent had ever been pregnant and includes specific questions about whether she ever had an abortion, miscarriage, or stillbirth as well as questions about the number of live births she has had.

Following these preliminary questions, the respondent was asked about each of her pregnancies beginning with the most recent and progressing back to her first pregnancy. For each pregnancy the following information was collected: date of pregnancy termination, pregnancy outcome (miscarriage, abortion, stillbirth, and live birth) and, for live births, information about the sex, survivorship, and age of the child or age at death for deceased children.

In the RHS and in most DHS, information was also collected about the planning status of pregnancies. Additionally, in the RHS, questions were asked concerning the reasons for obtaining an abortion, care received where the abortion was performed, and post-abortion medical complications.

4.2 Comparison of Survey and Government Statistics

In most countries of the world, data on abortion collected in retrospective surveys suffer from substantial underreporting. In most populations there is a social stigma

³ The questionnaires used in each survey are published in the various country reports.

attached to abortion and in many countries the practice is illegal. These are not significant factors in the former Soviet countries where abortion has long been legal, readily available at government health facilities, and widely practiced. Of course, recall error is always an issue in retrospective surveys. But, at least for the years immediately preceding a survey, recall error should not be a major factor. However, for time periods well before the survey date, the reporting of abortion may be less than complete, a possibility to be borne in mind when investigating abortion time trends.

Statistics on abortion are available from government sources for most of the countries surveyed. The registration systems generating these statistics rely on the recording of events in public and private health facilities. The post-Soviet era has seen the shifting of health care costs from the state to the individual and an expansion of the private health sector. There has also been increased reliance on early-term abortion as opposed to later-term abortion. These trends may have affected the completeness of abortion reporting in the government systems but they should have little effect on the reporting of events by survey respondents. Only if all abortions that occur in both public and private health facilities as well as events occurring outside clinical settings are reported, will government statistics on abortion be complete.

Table 4.2 compares abortion statistics from the surveys and from government sources in terms of the general abortion rate (GAR), a summary measure that indicates the annual number of abortions per 1,000 women of reproductive age. There is good agreement between the GARs from both data sources for Moldova. For all other countries, the survey estimates exceed government rates by at least 20%. In the Caucasus, the survey estimates are several

times higher than official rates—so that there appears to be a breakdown in the government system for collecting abortion statistics. Overall, it appears that government statistics underestimate abortion levels in most of the surveyed countries.

4.3 Levels and Age Pattern of Abortion

Table 4.3 shows age-specific abortion rates for the 3-year period preceding the surveys as well as the total abortion rate (TAR). Age-specific rates are calculated as the ratio of the number of abortions to the number of women-years of exposure in the specified age interval during a specified time period. They are expressed per 1,000 women-years of exposure. The TAR is the sum of the age-specific rates, expressed on a per woman basis. It is interpreted as the number of abortions that a woman would have during her lifetime if she experienced the age-specific rates observed in the specified time period.

There is considerable variation in the TARs. The highest rates are in the Caucasus where, at current age-specific rates, a woman would have more than three abortions during her lifetime in Azerbaijan and Georgia and more than two abortions in Armenia. The TAR for Georgia (3.7 abortions per woman) is probably as high as anywhere in the world. In Eastern Europe, the rates are variable, being higher in Romania and Russia (2.2 and 2.3 abortions per woman) than in Moldova and Ukraine (1.3 and 1.6). Abortion levels also differ among the Central Asian Republics. In Kazakhstan and the Kyrgyz Republic, where the cultural influence of Russia has been stronger and larger proportions of the population are ethnically Russian, levels of abortion are distinctly higher (1.4 and 1.5 abortions per woman) than in Turkmenistan or Uzbekistan (0.8 and 0.6).

Table 4.2
General Abortion Rates from the Surveys and from Government Sources
Per 1,000 Women of Reproductive Age
Eastern Europe and Eurasia: A Comparative Report

Region and Country	Time Period	General Abortion Rates* (per 1,000)	
		Survey Estimates (women 15-44)	Government Sources† (women 15-49)
<u>Eastern Europe</u>			
<i>Moldova, 1997</i>	1994–1996	43	43
<i>Romania, 1999</i>	1997–1999	74	62
<i>Russia, 1999‡</i>	1996–1998	80	U
<i>Ukraine, 1999</i>	1997–1999	55	42
<u>Caucasus</u>			
<i>Armenia, 2000</i>	1998–2000	81	17§
<i>Azerbaijan, 2001</i>	1998–2000	116	10
<i>Georgia, 1999</i>	1997–1999	125	18
<u>Central Asia</u>			
<i>Kazakhstan, 1999</i>	1997–1999	47	32
<i>Kyrgyz Rep., 1997</i>	1995–1997	45	31
<i>Turkmenistan, 2000</i>	1998–2000	26	U
<i>Uzbekistan, 1996</i>	1994–1996	20	16

* General abortion rate is the annual number of abortions per 1,000 women of reproductive age.

† General abortion rates from official government sources are expressed per 1,000 women aged 15–49 and are slightly lower than general abortion rates expressed per 1,000 women aged 15–44, since very few women aged 45 years or older reported any abortions.

‡ Data for Russia pertain to three primarily urban areas as described in Chapter 2.

§ General abortion rate for women 15–49 in 1998.

U = Unavailable.

Table 4.3
Age-Specific* and Total Abortion Rates†, 0–2 Years Preceding the Survey
Among Women Aged 15–44
Eastern Europe and Eurasia: A Comparative Report

Region and Country	Time Period	Age-Specific Abortion Rates (per 1,000)						Total Abortion Rate (per woman) 15–44
		15–19	20–24	25–29	30–34	35–39	40–44	
<u>Eastern Europe</u>								
<i>Moldova, 1997</i>	1994–1996	12	74	81	46	31	16	1.3
<i>Romania, 1999</i>	1997–1999	26	101	119	105	58	21	2.2
<i>Russia, 1999‡</i>	1996–1998	43	117	114	101	54	35	2.3
<i>Ukraine, 1999</i>	1997–1999	16	90	90	69	37	21	1.6
<u>Caucasus</u>								
<i>Armenia, 2000</i>	1998–2000	6	100	176	131	82	30	2.6
<i>Azerbaijan, 2001</i>	1998–2000	6	86	177	176	132	63	3.2
<i>Georgia, 1999</i>	1997–1999	29	162	191	179	122	50	3.7
<u>Central Asia</u>								
<i>Kazakhstan, 1999</i>	1997–1999	12	57	87	65	44	20	1.4
<i>Kyrgyz Rep., 1997</i>	1995–1997	6	57	77	81	58	22	1.5
<i>Turkmenistan, 2000</i>	1998–2000	1	18	48	48	36	18	0.8
<i>Uzbekistan, 1996</i>	1994–1996	2	18	33	36	23	15	0.6

* Age-specific rates are calculated as the ratio of the number of abortions to the number of women-years of exposure in the specified age interval during a specified time period. They are expressed per 1,000 women-years of exposure.

† The total abortion rate (TAR) is interpreted as the number of abortions that a woman would have during her lifetime if she experienced the observed age-specific rates.

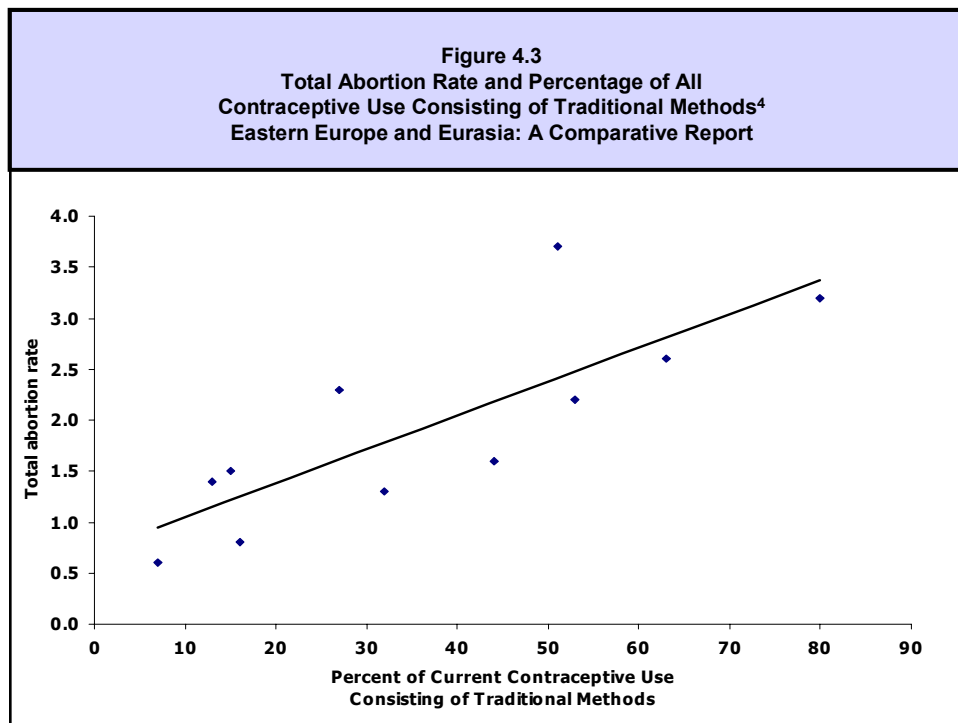
‡ Data for Russia pertain to three primarily urban areas as described in Chapter 2.

These different levels of abortion are the result of many factors (i.e., marriage and cohabitation patterns, desired family size, access and use of modern and traditional methods of contraception, acceptability of abortion within the population, etc.). An analysis of these factors is beyond the scope of this report. However, the effect of traditional method use on abortion rates is evident from the survey data. Figure 4.3 shows a scatter plot of abortion rates in the surveyed countries in relation to the proportion of total contraceptive use consisting of traditional methods.⁴ The regression line indicates a clear relationship. The greater the traditional component of all contraceptive use, the higher the abortion rate tends to be.

Although, there are differences in the level of abortion, the age pattern is similar in all countries. Overall, the rates are relatively low at both ends of the reproductive age span and

relatively high in mid-reproductive years. Nevertheless, there are differences between countries. The Eastern European countries, display a somewhat earlier age pattern than the other countries. This is evident in relatively high rates at age 15–19, a broad peak from age 20 to 30 and sharp fall in the rates among women age 35 and above.

The age pattern in the Caucasus and Central Asia indicates low rates among women 15–19, a broad peak from age 25 to 34 and a decline from age 35 which is less pronounced than in the Eastern European countries. In Georgia the age-specific rates are well above 100 per 1,000 among women age 20 to 39, which indicates that each year, on average, about one out of every seven women at those ages will have an abortion. In both Azerbaijan and Georgia, relatively high abortion rates persist among women 40–44 where the annual rates are 63 and 50 abortions per 1,000 women, respectively.



⁴The ratios of traditional method use to all method use were computed from Table 5.2.2.

4.4 Abortion Differentials

Residence

Table 4.4.1 shows abortion rates for urban and rural areas. The differentials do not follow a consistent pattern. In Moldova and Ukraine and the four Central Asian Republics, urban rates exceed rural rates by 0.3 or 0.4 abortions per woman. The only exception is the Kyrgyz Republic where the urban rate exceeds the rural rate by 0.9 abortions per women. In a second set of countries (Romania, Armenia, and Azerbaijan), rural rates exceed urban rates by between 0.4 (Romania) and 1.3 (Armenia) abortions per woman. In Georgia, abortion rates are equally high in urban and rural areas (3.6 and 3.7 abortions per woman).

These differences require further investigation. Preliminary observation indicates that

differentials in the use of contraception do not seem to be the cause. In all of these countries, overall contraceptive use is about the same in urban and rural areas. For example, in Kazakhstan, where urban abortion rates exceed rural rates, contraceptive prevalence rates for women in union are 65% in urban areas and 60% in rural areas. Alternatively, in Romania and Armenia rural abortion rates exceed urban rates and again there is no difference in prevalence rates between areas (about 60% in urban and rural areas in both countries) (see Table 5.2.2).

However, method mix appears to be related to these differences. In all three countries where rural rates exceed urban rates, traditional method use (predominately, withdrawal) among women in union is greater in rural than in urban areas: Romania (41% rural, 30% urban); Armenia (44% rural, 35% urban); and

Region and Country	Time Period	Total Abortion Rate (per woman)	Residence		Education Level			
			Urban	Rural	Secondary Incomplete	Secondary Complete	Technicum	Post-Secondary
Eastern Europe								
Moldova, 1997	1994–1996	1.3	1.4	1.1	1.4	1.2	1.3	1.3
Romania, 1999	1997–1999	2.2	2.0	2.4	2.7	2.0	†	1.2
Russia, 1999‡	1996–1998	2.3	‡	‡	3.3	2.5	2.4	2.0
Ukraine, 1999	1997–1999	1.6	1.7	1.3	1.8	1.7	1.6	1.4
Caucasus								
Armenia, 2000	1998–2000	2.6	2.1	3.4	2.8	3.3	2.5	1.6
Azerbaijan, 2001	1998–2000	3.2	2.8	3.4	3.2	3.3	3.2	2.5
Georgia, 1999	1997–1999	3.7	3.6	3.7	4.3	3.9	4.0	3.2
Central Asia								
Kazakhstan, 1999	1997–1999	1.4	1.6	1.2	1.8	1.4	1.5	1.1
Kyrgyz Rep., 1997	1995–1997	1.5	2.1	1.2	0.8	1.2	1.8	1.6
Turkmenistan, 2000	1998–2000	0.8	1.0	0.7	0.6	0.6	1.0	1.1
Uzbekistan, 1996	1994–1996	0.6	0.9	0.5	0.5	0.5	0.8	0.9

* The total abortion rate (TAR) is interpreted as the number of abortions that a woman would have during her lifetime if she experienced the observed age-specific rates.

† Technicum, specific to former Soviet Union countries, does not exist in Romania.

‡ Data for Russia pertain to three primarily urban areas as described in Chapter 2.

Azerbaijan (50% rural, 38% urban).⁵ Whatever the reason for the greater reliance on traditional methods in the rural areas, this appears to be part of the explanation of the higher abortion rates in those areas.

Education

Table 4.4.1 also shows abortion rates by women's education. For many but not all countries, the relationship is inverse with abortion rates being lower among more educated women. The inverse relationship is present in Romania, Russia, and Ukraine, where the TAR tends to decline with each higher level of education. The overall differentials between secondary incomplete and postsecondary education are substantial, amounting to 1.5 abortions per woman in Romania. Moldova differs from the other Eastern European countries and essentially shows no differentials by education level. The countries of the Caucasus also exhibit the inverse pattern with education, with abortion levels relatively stable among women in the first three education categories but distinctly lower among women with a postsecondary education.

The situation is different again in Central Asia. Kazakhstan exhibits the inverse relationship with the TAR declining between women with a secondary incomplete education (1.8 abortions per woman) and women with a postsecondary education (1.1 abortions per woman). On the other hand, for the Kyrgyz Republic, Turkmenistan, and Uzbekistan abortion levels tend to be positively correlated with education.

Rates for women with a technical school or postsecondary education exceed the rates for women with less education by about 0.5 abortions per woman.

Ethnicity

Table 4.4.2 shows abortion rates by ethnicity. In Moldova, significant proportions of survey respondents were of Russian (15%) or Ukrainian (10%) ethnicity. However, the abortion rates of Moldovan, Russian, and Ukrainian women differed little (between 1.2 and 1.5 abortions per women). In Romania, the significant ethnic minorities were Hungarian (6%) and Roma (5%).⁶ The abortion level of Romanian women (2.1 abortions per woman) was higher than that of Hungarian women (1.2 abortions per woman), and that of Roma women was higher still—about twice as high as the rate for Romanian women (4.6 abortions per woman).⁷

Significant proportions of the population of Central Asia were of European ethnicity (primarily Russian but also Ukrainian, Tatar, German, etc.) during the Soviet era. There has been steady migration of these populations from Central Asia in the 1990s, but at the time of the surveys women of European ethnicity were a substantial proportion of survey respondents in Kazakhstan (39%) and the Kyrgyz Republic (13%), although not in Turkmenistan (5%) and Uzbekistan (6%). The abortion rates of women of European ethnicity varied, being highest in Kazakhstan and the Kyrgyz Republic (1.7 and 2.2 abortions per woman) and lower in Turkmenistan and Uzbekistan (1.6 and 0.9

⁵ See Tables 5.2.2, 5.2.3, and 5.7 for prevalence statistics and 12-month failure rates for traditional methods.

⁶ The 1992 population Census reported that the Roma (Gypsies) were 1.8% of the total population. However, that figure is considered an underestimate (Council of Europe, 1998).

⁷ Roma women had both the highest fertility and the highest abortion rates of any ethnic group in Romania. This is not surprising since age at marriage is very early among Roma women and only 16% of Roma women in union used a more effective method of contraception (1999 Romania Reproductive Health Survey).

Table 4.4.2
Total Abortion Rates* by Ethnicity, 0–2 Years Preceding the Survey
Among Women Aged 15–44
Eastern Europe and Eurasia: A Comparative Report

Region, Country, and Time Period	Percent of Respondents [†]	Total Abortion Rate (per woman)
<i>Eastern Europe</i>		
<i>Moldova, 1994–1996</i>		
Women of Moldovan Ethnicity	68	1.3
Women of Russian Ethnicity	15	1.2
Women of Ukrainian Ethnicity	10	1.5
<i>Romania, 1997–1999</i>		
Women of Romanian Ethnicity	87	2.1
Women of Hungarian Ethnicity	6	1.2
Women of Roma Ethnicity	5	4.6
<i>Central Asia</i>		
<i>Kazakhstan, 1997–1999</i>		
Women of Kazakh Ethnicity	54	1.1
Women of European Ethnicity	39	1.7
<i>Kyrgyz Republic, 1995–1997</i>		
Women of Kyrgyz Ethnicity	62	1.2
Women of European Ethnicity	13	2.2
<i>Turkmenistan, 1998–2000</i>		
Women of Turkmen Ethnicity	78	0.8
Women of European Ethnicity	5	1.6
<i>Uzbekistan, 1994–1996</i>		
Women of Uzbek Ethnicity	83	0.6
Women of European Ethnicity	6	0.9

* The total abortion rate (TAR) is interpreted as the number of abortions that a woman would have during her lifetime if she experienced the observed age-specific rates of a specified time period.

† The difference between the sum of these percentages and 100% is attributable to other ethnic groups that comprise a small percentage of women and are not shown.

abortions per woman). Nevertheless, the abortion rates of European women were at least 50% higher than those of women of the major ethnic group in each republic.

4.5 Time Trends

Time trends in abortion were calculated from the pregnancy history data collected in the surveys. The period of analysis is constrained by the fact that the age range for which data are available is truncated at younger and younger ages for progressively earlier time

periods. In order to include an extensive age range of women in the analysis (i.e., women 15–39), the analysis is limited to a nine-year period.⁸ Table 4.5.1 shows TARs for women 15–39 in the time periods 6–8 and 0–2 years preceding the surveys.

Seven of the 11 surveys show a decline in the level of abortion. The declines are substantial, amounting to between 0.3 and 0.6 abortions per woman in Moldova, Russia, Armenia, Kazakhstan, and Uzbekistan and about 1.0 abortion per woman in Romania and Georgia.

⁸ The CDC surveys interviewed women in the age range 15–44. Thus, for the period 6–8 years preceding those surveys there is no information on reproductive events for women age 40 and above. Inclusion of time periods earlier than 6–8 years prior to the survey would require that the age range of women be further restricted.

Table 4.5.1
Trends in Total Abortion Rates*
Among Women Aged 15–39
Eastern Europe and Eurasia: A Comparative Report

Region and Country	Total Abortion Rate (per woman)		Absolute change
	Years before the survey		
	6–8	0–2	
<u>Eastern Europe</u>			
<i>Moldova, 1997</i>	1.6	1.2	-0.4
<i>Romania, 1999</i>	3.2 [†]	2.0	-1.2
<i>Russia, 1999‡</i>	2.6 [§]	2.2	-0.4
<i>Ukraine, 1999</i>	1.5	1.5	0.0
<u>Caucasus</u>			
<i>Armenia, 2000</i>	3.1	2.5	-0.6
<i>Azerbaijan, 2001</i>	2.3	2.9	0.6
<i>Georgia, 1999</i>	4.3	3.4	-0.9
<u>Central Asia</u>			
<i>Kazakhstan, 1999</i>	1.6	1.3	-0.3
<i>Kyrgyz Rep., 1997</i>	1.2	1.4	0.2
<i>Turkmenistan, 2000</i>	0.7	0.8	0.1
<i>Uzbekistan, 1996</i>	0.9	0.6	-0.3

* The total abortion rate (TAR) is interpreted as the number of abortions that a woman would have during her lifetime if she experienced the observed age-specific rates of a specified time period.

† Rates for Romania are from the 1993 Reproductive Health Survey of Romania for the 3-year period preceding the survey.

‡ Data for Russia pertain to three primarily urban areas as described in Chapter 2.

§ Rates for Russia are from the 1996 Russia Women's Reproductive Health Survey for the 2-year period preceding the survey.

These represent declines of between 15% and 38% over the 6-year interval between midpoints of the estimates.

In three of the remaining surveys, (Ukraine, the Kyrgyz Republic, and Turkmenistan), there is little or no change in the abortion rates. In the case of Azerbaijan, there is a clear increase in the abortion level from 2.3 to 2.9 abortions per woman.

Table 4.5.2 shows age-specific abortion rates for the time periods 6–8 and 0–2 years before the surveys. The significance of changes in individual age-specific rates should not be overemphasized; nevertheless there are

noteworthy differences in the relative contributions of younger and older women to changes in abortion levels. In five of the seven countries where abortion has declined (Moldova, Romania, Russia, Armenia, Kazakhstan), women under 25 years of age have contributed more than 25% of the overall decline.⁹ Abortion declines have also been significant in the age group 25–29, so that women under age 30 have contributed the major part of the overall decline in these countries. On the other hand, in the two remaining countries showing an abortion decline (Georgia and Uzbekistan), in excess of 50% of the decline occurred to women age 30 and older.

⁹ In Armenia, women under age 25 contributed 51% of the overall decline. This is consistent with the finding that in the late 1990s there was a significant postponement of marriage in Armenia (see Chapter 3).

Table 4.5.2
Trends in Age-Specific Abortion Rates*
Per 1,000 Women Aged 15–39
Eastern Europe and Eurasia: A Comparative Report

	Age-Specific Abortion Rate (per 1,000)			Age-Specific Abortion Rate (per 1,000)			Age-Specific Abortion Rate (per 1,000)			Age-Specific Abortion Rate (per 1,000)		
	Years before the survey		Absolute Change	Years before the survey		Absolute Change	Years before the survey		Absolute Change	Years before the survey		Absolute Change
	6–8	0–2		6–8	0–2		6–8	0–2		6–8	0–2	
Eastern Europe												
	Moldova, 1997			Romania, 1999[†]			Russia, 1999[‡]			Ukraine, 1999		
15–19	13	12	-1	32	26	-6	44	43	-1	15	16	1
20–24	100	74	-26	153	101	-52	144	117	-27	94	90	-4
25–29	91	81	-10	209	119	-90	145	114	-31	76	90	14
30–34	64	46	-18	167	105	-62	94	101	7	58	69	11
35–39	50	31	-19	79	58	-21	55	54	-1	57	37	-20
TAR§ (15–39)	1.6	1.2	-0.4	3.2	2.0	-1.2	2.4	2.2	-0.2	1.5	1.5	0.0
Caucasus												
	Armenia, 2000			Azerbaijan, 2001			Georgia, 1999					
15–19	13	6	-7	2	6	4	27	29	2			
20–24	157	100	-57	61	86	25	152	162	10			
25–29	211	176	-36	136	177	41	245	191	-54			
30–34	148	131	-17	147	176	29	229	179	-50			
35–39	90	82	-8	108	132	24	205	122	-83			
TAR§ (15–39)	3.1	2.5	-0.6	2.3	2.9	0.6	4.3	3.4	-0.9			
Central Asia												
	Kazakhstan, 1999			Kyrgyz Rep., 1997			Turkmenistan, 2000			Uzbekistan, 1996		
15–19	18	12	-6	10	6	-4	4	1	-3	4	2	-2
20–24	88	57	-31	46	57	12	23	18	-5	22	18	-4
25–29	85	87	2	67	77	11	39	48	8	55	33	-23
30–34	81	65	-16	78	81	2	45	49	4	50	36	-14
35–39	44	44	1	49	58	10	19	36	16	42	23	-20
TAR§ (15–39)	1.6	1.3	-0.3	1.2	1.4	0.1	0.7	0.8	0.1	0.9	0.6	-0.3

* Age-specific rates are calculated as the ratio of the number of abortions to the number of women-years of exposure in the specified age interval during a specified time period. They are expressed per 1,000 women-years of exposure.

† For the earlier time period, rates for Romania are from the 1993 Reproductive Health Survey of Romania for the 3-year period preceding the survey.

‡ Data for Russia pertain to three primarily urban areas as described in Chapter 2. For the earlier time period, rates are from the 1996 Russia Women's Reproductive Health Survey for the 2-year period preceding the survey.

§ The total abortion rate (TAR) is interpreted as the number of abortions that a woman would have had during her lifetime if she experienced the observed age-specific rates.

4.6 Unintended Pregnancy, Abortion, and Contraception

In most of the surveys, data were collected on the planning status of each pregnancy that occurred in the 5-year period preceding the survey. The information collected allows the classification of pregnancies as *intended* (wanted at the time of occurrence), *mistimed* (wanted at a later time) or *not wanted* (not

wanted at the time of occurrence or at any time in the future). The latter two categories are referred to as *unintended* pregnancies.

Table 4.6.1 indicates that in six of the nine surveys, for which the data are available, a majority of pregnancies were unintended (between 55% and 66%) and the vast majority of these were not wanted at all. Only in Moldova, Kyrgyz Republic, and Uzbekistan

were more than half of pregnancies intended. A noteworthy feature of reproductive behavior in all of the countries surveyed is the very high proportion of unintended pregnancies that are aborted. Table 4.6.1 indicates that between 71% and 90% of unintended pregnancies are aborted.

The relationship between unintended pregnancy, contraception and abortion has been examined in several papers based on the surveys in Armenia, Kazakhstan, Kyrgyz Republic, and Uzbekistan (Westoff CF, et al., 1998, 2000, and 2002). The majority of abortions reported in these surveys occurred to women seeking to avoid pregnancy; i.e., women using either modern or traditional

methods of contraception or nonusers who declared a desire to avoid pregnancy—a category known in the family planning literature as women with an unmet need for contraception. The purpose here is to indicate the proportion of all abortions contributed collectively by women in these three categories (modern and traditional users and nonusers in need of contraception) and the proportion of all abortions contributed separately by each of these categories.¹⁰

Table 4.6.2 indicates that, collectively, the three categories of women seeking to avoid pregnancy account for between 63% and 95% of all abortions. The contribution of modern users to all abortions is disproportionately

Table 4.6.1 Percent Distribution of Pregnancies by Planning Status and Percent of Unintended Pregnancies Terminated by Abortion Among Pregnancies in the Last 5 Years Eastern Europe and Eurasia: A Comparative Report						
Region and Country	Planning Status (percent distribution*)				Percent of Pregnancies that are Unintended	Percent of Unintended Pregnancies that are Aborted
	Intended	Mistimed	Not Wanted	Unsure		
Eastern Europe						
<i>Moldova, 1997</i>	57	9	33	0	42	83
<i>Romania, 1999†</i>	44	9	47	1	55	82
<i>Russia, 1999‡</i>	33	16	49	2	66	83
<i>Ukraine, 1999</i>	44	17	38	2	54	82
Caucasus						
<i>Armenia, 2000</i>	38	9	53	0	62	87
<i>Azerbaijan, 2001†</i>	42	9	48	1	57	84
<i>Georgia, 1999</i>	40	10	49	1	59	90
Central Asia						
<i>Kazakhstan, 1999</i>	§	§	§	§	§	§
<i>Kyrgyz Rep., 1997 </i>	66	11	23	0	34	71
<i>Turkmenistan, 2000</i>	§	§	§	§	§	§
<i>Uzbekistan, 1996 </i>	84	4	12	0	16	74

* Percentages may not sum to 100% due to rounding.

† Most recent pregnancy in last 5 years.

‡ Data for Russia pertain to three primarily urban areas as described in Chapter 2.

§ The 1999 Kazakhstan and 20000 Turkmenistan Surveys, collected planning status only for live births.

|| Data for Kyrgyz Republic and Uzbekistan are for the last 3 years.

¹⁰ The full Westoff model classifies women into modern and traditional users and five categories of nonusers (women with an unmet need for family planning, women seeking pregnancy, women at low risk of pregnancy, pregnant women, and those who have never had sex). The objectives of this synopsis are achieved by focusing on only three of these categories.

small relative to their representation among women seeking to avoid pregnancy while the contribution of traditional users and nonusers is disproportionately high. For example, in Kazakhstan, users of modern methods are 72% of women seeking to avoid pregnancy and account for only 17% of all abortions. Traditional users and nonusers are 28% of women seeking to avoid pregnancy but account for 67% of all reported abortions. The conclusion is that the greater the use of modern methods by women who desire to avoid pregnancy, the lower the abortion rate.

This conclusion is further supported by the contrasting distributions of women seeking to

avoid pregnancy in the Central Asian Republics and in Armenia. In Central Asia modern use far outweighs traditional use while in Armenia the reverse is true. But failure rates and abortions are relatively frequent among traditional users. The result is that in Armenia traditional users contribute substantially to all abortions (51%) and abortion rates are considerably higher (2.6 abortions per woman) than in the Central Asian Republics (between 0.6 and 1.5 abortions per woman).

It is clear that abortion rates would be reduced if more women seeking to avoid pregnancy were to use modern methods. Westoff and

Table 4.6.2 Percent Distribution of Women at Risk of an Unintended Pregnancy and Percent of Abortions by Contraceptive Status Among Women Aged 15–44 Eastern Europe and Eurasia: A Comparative Report		
Region and Country	Percent distribution of women at risk of an unintended pregnancy	Percent of all abortions*
Caucasus		
<i>Armenia, 2000</i>		
Users of Modern Methods	30	9
Users of Traditional Methods	50	51
Nonusers in Need of Contraception	20	35
Total	100	95
Central Asia		
<i>Kazakhstan, 1999</i>		
Users of Modern Methods	72	17
Users of Traditional Methods	15	19
Nonusers in Need of Contraception	13	48
Total	100	84
<i>Kyrgyz Rep., 1997</i>		
Users of Modern Methods	70	12
Users of Traditional Methods	16	15
Nonusers in Need of Contraception	14	45
Total	100	72
<i>Uzbekistan, 1996</i>		
Users of Modern Methods	77	8
Users of Traditional Methods	6	5
Nonusers in Need of Contraception	17	50
Total	100	63

*Percentages do not sum to 100 because some abortions were reported by women seeking pregnancy but who aborted due to a change of mind or circumstance and by women at very low risk of pregnancy due to infrequent sex or subfecundity.

colleagues have developed models which estimate the reduction in abortion that would result from changes in the distribution of women by contraceptive status. Here we report only the full potential impact of the increased use of more effective contraceptives, i.e., the reduction in abortion rates that would occur if users of less effective traditional methods and nonusers seeking to avoid pregnancy were to use modern methods. Abortion rates would decline by about 55% in the Central Asian Republics and by 64% in Armenia, resulting in substantially fewer abortions each year.¹¹

Other analyses, based on the data sets for Moldova, Russia, Ukraine, and Georgia, have also shown that reductions in abortions levels would follow increased use of contraception and the substitution of modern methods for less effective traditional methods (Goldberg HI, et al., 1997 and 2001; Goldberg HI & Serbanescu F, 2001).

4.7 Reasons for Abortion

As indicated above, the surveyed countries have relatively high rates of unintended pregnancies. A characteristic of these countries is the much higher prevalence of unintended pregnancies and abortions among married women than among the never married, owing to relatively low levels of premarital intercourse among the latter. Usually, women marry at young ages, achieve their desired family size at a young age, and spend much of the remainder of their reproductive years trying to avoid pregnancy—although frequently by using less effective traditional methods of contraception.

Table 4.7 indicates that most of the abortions in the 5 years preceding the surveys occurred because a woman wanted no more children or because the family's socio-economic circumstances (poverty, unemployment, fear of losing employment) could not support

Table 4.7 Most Important Reason for Having an Abortion Among Women Aged 15–44 Who Had an Abortion During the 5-Year Period Preceding the Survey Eastern Europe and Eurasia: A Comparative Report							
Region and Country	Reason for Abortion (%)						No. of Cases
	Limit Fertility	Socio-economic	No Partner	Partner Opposes Birth	Threat to Mother's Health	Known Fetal Defect	
Eastern Europe							
<i>Moldova, 1997</i>	27.8	57.4	2.6	4.4	4.9	2.9	1,333
<i>Romania, 1999</i>	53.4	29.5	6.4	4.2	3.4	3.1	2,902
<i>Russia, 1999*</i>	65.6 [†]	‡	6.1	4.9	4.4	2.1	2,268
<i>Ukraine, 1999</i>	59.7	25.1	3.7	2.2	4.3	1.8	2,032
Caucasus							
<i>Azerbaijan, 2001</i>	63.4	31.5	0.0	0.7	3.1	0.4	4,196
<i>Georgia, 1999</i>	65.8	28.7	1.0	0.5	2.7	1.1	4,845

* Data for Russia pertain to three primarily urban areas as described in Chapter 2.

† Includes "socioeconomic" reasons.

‡ Included in "limit fertility".

¹¹ In the Central Asian Republics, the most significant reductions would come from shifts of women from the unmet need category to modern method use while, in Armenia, shifts of traditional users and women in the unmet need category would reduce the abortion rate.

another child. Overall, between 66% and 95% of abortions were for these two reasons. Partner opposition to the pregnancy was more common in Eastern Europe than in Azerbaijan and Georgia, most probably because cohabitation while unmarried is not uncommon in Eastern Europe but it is virtually nonexistent in Azerbaijan and Georgia. Women in Moldova, Russia, and Ukraine more often reported maternal health-related reasons. Women in Moldova and Romania mentioned the risk of birth defects more often.

4.8 Post-abortion Complications

During the first trimester of pregnancy, abortion is legally available upon request in all of the surveyed countries. Although standard surgical abortion is remarkably safe when compared to childbirth or other surgical procedures, it has an inherent risk of complications (Cates W. Jr., 1982). Additionally, legality alone does not make the procedure safe. Shortage of equipment, crowded facilities, poor hygienic conditions, and inadequate standards of care may increase the risk of post-abortion complications. These

factors may turn women seeking pregnancy termination away from hospitals or may increase the waiting time between an initial consultation and admission to a designated facility. When delays in hospital admission would place the gestation age beyond the 12-week legal limit, women may seek an illegal, risky abortion outside a licensed facility. Unsafe abortion carries a high risk of mortality and morbidity. Government mortality statistics in Eastern Europe and Central Asia indicate that between 15% and 50% of maternal deaths are abortion-related whereas such deaths account for only 4% of maternal mortality ratio (MMR) in the United States (Chang J, et al., 2003).

In the RHS surveys respondents were asked about the occurrence of medical complications for abortions in the 5 years preceding a survey. Table 4.8 and Figure 4.8 indicate the rates of early complications (within 6 months) and late complications (6 months or later). Early complications ranged from 8 to 16 per 100 procedures. These rates are high relative to those reported for first-trimester abortions in the United States (0.9 complication per 100

Table 4.8
Percent of Women Reporting Early and Late Postabortion Complications
Among Women Aged 15–44 Who Had an Abortion During the 5-Year Period Preceding the Survey
Eastern Europe and Eurasia: A Comparative Report

Region and Country	Early Complications (%)						Late Complications* (%)				
	Any Complication	Severe Bleeding	Pelvic Pain	Local Infection	High Fever	Other	Any Complication	Chronic Pelvic Pain	Irregular Bleeding	Infection	Other
Eastern Europe											
<i>Moldova, 1997[†]</i>	11.2	5.7	2.5	2.1	0.8	0.1	4.9	1.6	1.5	0.7	1.1
<i>Romania, 1999</i>	7.7	5.1	4.5	3.5	3.3	0.9	2.3	0.5	0.9	0.4	0.6
<i>Russia, 1999[†]</i>	13.7	3.1	1.1	5.5	0.8	2.1 [‡]	5.5	0.6	1.4	2.1	1.5
<i>Ukraine, 1999[†]</i>	14.1	4.2	3.0	1.5	1.6	3.7	5.4	1.8	0.9	0.4	2.2
Caucasus											
<i>Azerbaijan, 2001</i>	16.3	7.2	12.7	4.2	6.0	0.7	4.0	2.0	0.6	0.3	1.1
<i>Georgia, 1999</i>	7.5	5.0	4.4	1.6	2.6	0.5	2.3	1.4	0.5	0.2	0.3

* Includes sequelae at 6 months after the abortion (cases with fewer than 6 months since abortion were excluded).

[†] Respondents experiencing more than one type of complication were asked to report only the most severe one.

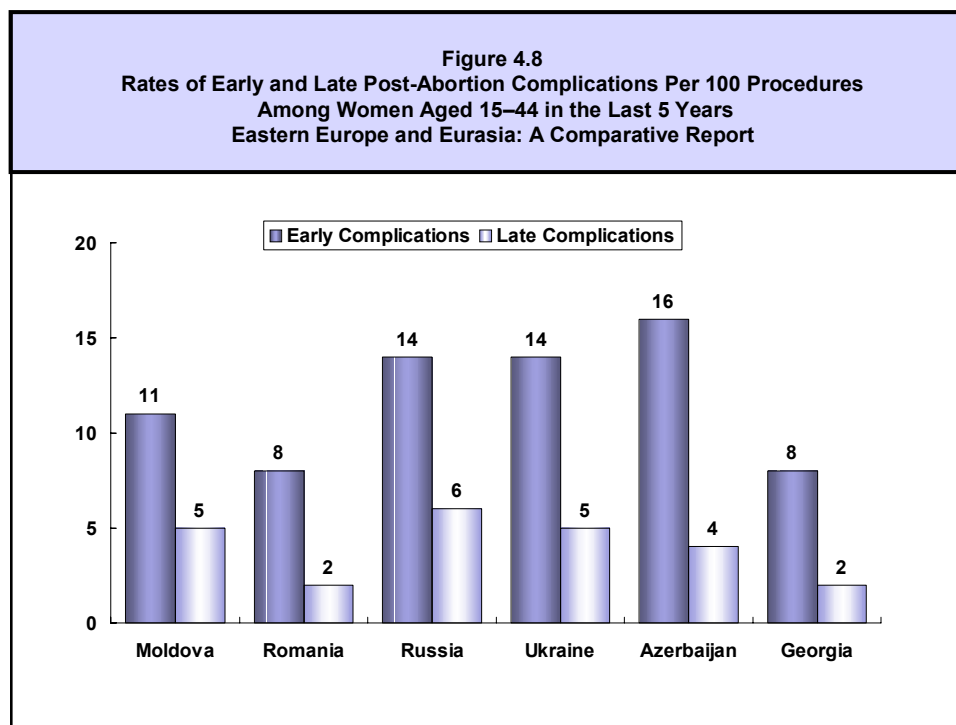
[‡] Includes 0.3% uterine perforation.

procedures; Hakim-Elahi E, et al., 1990), in Denmark (6.1 per 100; Heisterberg L & Kringlebach M, 1987), and in France (3.1 per 100; Thonneau P, et al., 1998). Most early complications in Romania, Georgia, and Moldova involved severe or prolonged bleeding (51% to 66% of reported complications). The most common early complication was pelvic infection in Russia (40%) and prolonged pelvic pain in Azerbaijan (78%). It is difficult to assess how serious the early complications may have been. Since surgical abortion is usually performed without overnight hospitalization, an indirect indicator of severity of post-abortion complications is the frequency of hospitalization. Data from Romania indicate that almost half of early complications (44%) resulted in a hospital stay of one night or longer. Among late complications, chronic pelvic pain, irregular bleeding and chronic infection were most frequently reported (Figure 4.8).

4.9 Summary of Findings

The chapter has reviewed the data on abortion from 11 surveys in Eastern Europe, the Caucasus, and Central Asia. A recurring theme is that abortion frequently follows an unintended pregnancy among women who either fail to use contraception or use less effective traditional methods. Government policies and programs fostering the use of effective modern methods of contraception have been initiated in these countries and abortion rates have declined. Continued efforts to promote access to and use of effective modern methods of contraception should further substantially reduce abortion rates.

- ◆ In most countries, survey-based estimates of abortion were higher than government estimates for the same time period—several times higher in the case of Armenia, Azerbaijan, and Georgia. The government



reporting systems from which official statistics are derived may suffer from underreporting of abortions.

- ◆ The level of abortion varied by region. Estimates of the total abortion rate (TAR) indicated that women in Armenia average more than two abortions during their reproductive years (2.6 abortions) and women in Azerbaijan and Georgia average more than three (3.2 and 3.7 abortions). The TAR in Georgia is possibly the highest in the world today. Abortion rates were lower in Eastern Europe (between 1.3 and 2.3 abortions) and in Central Asia (between 0.6 and 1.5 abortions).
- ◆ Across the surveyed countries, there was a clear positive relation between the abortion level and reliance on traditional contraceptive methods. The greater the traditional component of all method use, the higher the level of abortion.
- ◆ The age pattern of abortion was broadly similar in each country with rates being highest in the mid-reproductive years from age 20 to 35.
- ◆ Urban abortion rates were higher than rural rates in most countries. However in Romania, Armenia, and Azerbaijan, the reverse was true. These countries are characterized by significantly higher traditional method use in rural than in urban areas. The high rural abortion rates appear to result from the failure rates and unintended pregnancies associated with less effective traditional contraceptive methods.
- ◆ In several countries, abortion rates among ethnic minorities were significantly higher than among the majority ethnic group. In Romania, Roma women had twice the abortion rate of Romanian women. Similarly, in the Central Asian Republics, abortion rates of women of European ethnicity were at least 50% greater than that of the majority ethnic group.
- ◆ Examination of the survey data indicates that the vast majority of all abortions follow an unintended pregnancy. Moreover, the proportion of unintended pregnancies that are aborted is extremely high—ranging from 70% to 90%.
- ◆ Simulation analysis with data from Armenia, Kazakhstan, Kyrgyz Republic, and Uzbekistan indicates if women using less effective traditional methods and nonusers seeking to avoid pregnancy were to use modern methods, abortion rates would decline by between 55% and 64%, reducing to less than half the number of abortions in these four countries.
- ◆ Most of the surveys (7 of 11) indicated declines in abortion levels during the decade of the 1990s. Declines between the periods 6–8 and 0–2 years prior to the surveys ranged between 15% and 38%.
- ◆ In the surveys that asked questions about post-abortion medical problems, the frequency of reported problems was higher than has been reported elsewhere, suggesting that the quality of services is a problem in those countries.

5 CHAPTER

CONTRACEPTIVE KNOWLEDGE AND USE

In countries with well-established comprehensive family planning programs, elective abortion is usually a last resort, employed when contraception fails to protect women from unintended pregnancies. In most of the former Soviet bloc countries, however, the limited availability and acceptance of and access to modern contraceptive methods, and the high reliance on traditional, less effective methods, had shifted the role of abortion from a minor contributor to the primary determinant of fertility control. At the beginning of the 1990s, the extremely high rates of abortion in Romania, Russia, and several other successor states of the former Soviet Union appeared to be the principal determinant of fertility decline, as the protracted transition to new political and economic systems in these countries had initially brought little change in contraceptive prevalence.

At the breakup of the Soviet Union, the overall contraceptive prevalence in the USSR was estimated to be around 30%, lower in the Caucasus and Central Asian republics and higher in the Eastern European and Baltic republics (Brackett JW, 1993; Popov A et al., 1993). In most Soviet bloc countries of Central and Eastern Europe, isolated from the advanced contraceptive technology of other industrialized countries, the use of modern contraception was low and reliance on elective abortion high. Compared to Western Europe, women in these countries relied on contraceptive methods that are more prone to failure, particularly withdrawal. The reasons given for the limited use of modern contraception varied between countries and within countries, but most often were related to lack of access, poor quality of contraceptive supplies (both actual and perceived), concerns among both family planning clients and providers about the health risks associated with certain modern methods, and the easy access to and low cost of obtaining abortions

(Serbanescu F et al., 1995; Serbanescu F, 1998; Goldberg HI and Serbanescu F, 2001).

In recent years, however, changes in the balance between contraception and abortion appear to be underway. Thanks to recent efforts by a number of international donors in collaboration with governmental and non-governmental local counterparts, both the availability of modern methods and the delivery of adequate information on modern contraception seem to be improving. In several countries of the region, both annual official statistics and nationwide Reproductive Health Surveys (RHS) and Demographic and Health Surveys (DHS)—which allow for trend estimates in contraceptive use either through follow-up surveys, such as in Romania and Kazakhstan, or through 5-year contraceptive histories—have indicated a decline in the most recent abortion rates that coincided with an increased proportion of couples using modern contraceptive methods.

Despite the important role contraception plays in women's health and as a determinant of fertility levels, very little information about contraceptive use is routinely collected in this region. Moreover, little was known about the knowledge of, attitudes toward, and perceived effectiveness of contraceptive methods at national or regional levels. For all the countries studied in this report, survey data constitute the most detailed and largest-scale examination of most aspects of contraceptive use known to exist. Previous to surveys such as the RHS and DHS, most information on contraceptive use in these countries came from national statistics on distribution of supplied methods or from small-scale studies. However, such data tend to be of relatively little value in determining overall contraceptive prevalence, method mix, unmet need for contraception, and many other aspects of contraceptive use, such as the knowledge,

accessibility, and acceptance of modern contraceptive methods.

In this report, as in the recent Population Report on worldwide survey results (Zlidar VM et al, 2003), traditional methods include withdrawal and periodic abstinence only. In most surveys a small proportion of women reports using breastfeeding or the lactational amenorrhea method (LAM) as a contraceptive method. Studies show, however, that the correct use of LAM is limited (Haggerty PA and Rutstein SO, 1999). For a mother to practice LAM correctly, she must fulfill three criteria: (1) exclusive or full breastfeeding for 3 months, (2) being less than 6 months postpartum, and (3) not menstruating (Labbock M et al., 1997). If a woman does not meet all of these criteria, she would not be correctly practicing LAM and would be at risk of an unintended pregnancy unless she is using another contraceptive method. In this report, women practicing LAM were not included as part of the contraceptive prevalence rate. Moreover, demographers have considered the duration of post-partum sterility, or the “non-susceptible period” as one of the four intermediate variables affecting the determinants of fertility (Davis K and Blake J, 1956; Bongaarts J, 1978).

5.1 Contraceptive Awareness

Lack of or misleading information about contraceptive methods and their side effects, and misperceptions and general mistrust of modern contraception are important barriers to utilization of newly established family planning services and to consistent and correct use of modern methods. All the RHS and DHS surveys include questions on general awareness of specific contraceptive methods and knowledge of source(s) of supplied methods. In addition, the RHS documents perceived reliability (knowledge of the contraceptive efficacy) of most used

contraceptive methods and knowledge of how these methods are used.

In all three sub-regions studied, almost all women (87%–100%) had heard of at least one modern method, while far fewer were aware of traditional methods in Central Asia (31% and 82%) and the Caucasus (65% and 72%) (Table 5.1.1). Generally, levels of awareness about any method were lower in rural areas, among younger women, among women who have never been married, and among those with less than complete secondary education. The differences in awareness between subgroups tend to be larger in countries with lower overall levels of awareness, suggesting that women with selected background characteristics (urban residence, older age, post-secondary education) may be the first to benefit from the newly implemented family planning programs. These differences also highlight the need to include information on contraceptive methods in age-appropriate sexual health education programs, since never-married young women, often still in school, seem to be the least knowledgeable subgroup.

Though most women had heard of at least one modern contraceptive method, the IUD, condom, and the pill were the modern methods most widely known (Table 5.1.2). Between 83% and 84% of women in Azerbaijan and Armenia and 96%–98% in Eastern Europe were aware of the IUD. This compares with condom awareness as low as 48% in Uzbekistan and 58% in Azerbaijan and as high as 97%–99% in Eastern Europe, where the recent threat of an emerging HIV/AIDS epidemic may have contributed to increased awareness of the condoms' benefits in preventing sexually transmitted infections. Pill awareness ranged from 53% to 78% in Caucasus, 66% to 87% in Central Asia, and about 90% in Eastern Europe (excepting Moldova, where awareness of the pill was only

66%). The same respondent background characteristics (rural residence, young age, no marital experience, and less than secondary complete education) were associated with lower levels of awareness for the most common modern methods known. Awareness of other modern methods, particularly those seldom available (e.g., injectables, diaphragm, and vasectomy) was typically very low (data not shown).

Between 66% and 99% of women knew at least one place where they thought they could obtain condoms, 36%–97% knew where to obtain pills, and 59%–95% knew where to get IUDs (Table 5.1.3). In most countries, the knowledge of where to obtain a family planning method was significantly affected by residence and education: rural residents and less educated women were less likely to have such information.

As shown in Table 5.1.4, the RHS surveys in four countries found that among women 15–44 years of age, the main source of information about contraceptive methods was a friend or acquaintance (33%–51%), followed in most countries by a physician (11%–22%) or a relative other than a parent (14% in Georgia and 19% in Azerbaijan). Mass media (including print media) was mentioned by 17% of women in Romania and 15% of women in Moldova, but by only 7%–8% in Azerbaijan and Georgia. School was seldom mentioned in any country (1%–3%). These findings explain, in part, the poor quality of contraceptive information, which is often acquired through rumors, and argue for increasing the public health efforts in the dissemination of correct contraceptive information through official channels (school, mass media, and health providers).

Correct information about contraceptive effectiveness can greatly influence a couple's

Table 5.1.1
Percent of Women with General Awareness of Contraception by Selected Characteristics
Among Women Aged 15–44
Eastern Europe and Eurasia: A Comparative Report

Region and Country	Total	Residence		Age Group			Marital Status			Education				
		Urban	Rural	15–24	25–34	35–44	Married	Previously Married	Never Married	Secondary Incomplete	Secondary Complete	Technicum	Post-Secondary	
Eastern Europe	<u>Czech Rep., 1993</u>													
	Any Method	100	100	100	99	100	100	100	100	99	100	100	*	100
	Modern	100	100	99	99	100	100	100	100	99	99	100	*	100
	Traditional	98	98	97	97	98	98	98	97	96	97	100	*	100
	<u>Moldova, 1997</u>													
	Any Method	100	100	99	99	100	100	100	100	98	98	100	100	100
	Modern	99	100	99	99	100	100	100	99	98	98	100	100	100
	Traditional	88	90	84	71	97	96	96	97	58	76	87	95	96
	<u>Romania, 1999</u>													
	Any Method	100	100	99	99	100	100	100	100	99	99	100	*	100
	Modern	99	100	98	99	100	99	99	98	99	99	100	*	100
	Traditional	93	95	89	83	98	98	98	96	80	88	98	*	100
	<u>Russia, 1999</u>[†]													
	Any Method	100	†	†	100	100	100	100	100	99	99	100	100	100
	Modern	100	†	†	100	100	100	100	100	99	99	100	100	100
	Traditional	97	†	†	94	98	98	98	98	91	86	96	98	99
	<u>Ukraine, 1999</u>													
	Any Method	100	100	100	99	100	100	100	100	100	99	100	100	100
Modern	100	100	100	99	100	100	100	100	99	98	99	100	100	
Traditional	92	93	91	85	97	95	96	95	79	78	90	96	97	
Caucasus	<u>Armenia, 2000</u>													
	Any Method	94	95	92	88	98	98	99	94	84	78	94	98	99
	Modern	93	95	91	87	97	97	98	94	84	77	93	97	99
	Traditional	72	72	74	46	89	89	91	81	35	37	75	81	79
	<u>Azerbaijan, 2001</u>													
	Any Method	88	91	85	74	96	98	99	94	69	78	87	97	98
	Modern	87	90	83	74	95	97	98	93	69	78	86	97	98
	Traditional	65	68	62	34	83	87	92	75	20	49	65	81	78
	<u>Georgia, 1999</u>													
	Any Method	95	98	91	90	98	98	98	96	90	82	95	100	99
	Modern	95	98	91	90	97	98	97	96	90	81	95	100	99
	Traditional	69	74	63	44	83	86	85	79	39	30	66	85	86
Central Asia	<u>Kazakhstan, 1999</u>													
	Any Method	99	99	98	96	100	100	100	100	96	95	97	100	100
	Modern	99	99	98	96	100	100	100	100	96	95	97	100	100
	Traditional	82	87	75	66	90	90	89	91	61	55	71	91	92
	<u>Kyrgyz Rep., 1997</u>													
	Any Method	97	99	96	93	99	100	100	100	88	82	98	100	100
	Modern	97	99	96	93	99	100	100	99	87	81	97	100	100
	Traditional	68	74	64	47	81	82	80	76	27	29	62	81	84
	<u>Turkmenistan, 2000</u>													
	Any Method	93	95	92	85	99	99	99	99	82	81	96	99	100
	Modern	93	95	92	85	99	99	99	99	82	81	96	99	100
	Traditional	42	48	37	19	59	60	60	54	11	15	43	64	75
<u>Uzbekistan, 1996</u>														
Any Method	88	92	86	79	96	96	96	87	69	70	88	94	96	
Modern	88	92	86	78	96	96	96	87	69	70	88	94	96	
Traditional	31	46	23	19	40	42	39	39	11	15	23	44	60	

* Technicum, specific to former Soviet Union countries, does not exist in the Czech Republic or Romania.

† Data for Russia pertain to three primarily urban areas as described in Chapter 2.

Table 5.1.2
Percent of Women with Awareness of Specific Contraceptive Methods by Selected Characteristics
Among Women Aged 15–44
Eastern Europe and Eurasia: A Comparative Report

Region and Country	Total	Residence		Age Group			Marital Status			Education					
		Urban	Rural	15–24	25–34	35–44	Married	Previously Married	Never Married	Secondary Incomplete	Secondary Complete	Tech-nicum	Post-Secondary		
Eastern Europe	<u>Czech Rep., 1993</u>														
	Pills	99	99	98	98	99	99	99	98	98	100	*	100		
	IUD	97	97	96	93	99	98	99	99	91	94	100	*	100	
	Condom	99	100	99	99	100	99	99	100	99	99	100	*	100	
	<u>Moldova, 1997</u>														
	Pills	66	75	56	63	72	64	67	68	62	50	61	76	87	
	IUD	97	98	96	93	99	99	100	99	88	92	97	99	99	
	Condom	97	100	94	97	98	96	97	96	96	92	96	100	100	
	<u>Romania, 1999</u>														
	Pills	93	97	85	91	95	92	93	91	93	87	99	*	100	
	IUD	91	95	84	84	96	94	95	91	82	85	96	*	99	
	Condom	98	99	96	99	98	97	98	96	99	97	100	*	100	
	<u>Russia, 1999[†]</u>														
	Pills	98	†	†	99	98	98	99	98	98	96	99	98	100	
	IUD	98	†	†	95	99	99	99	99	94	91	98	99	99	
Condom	99	†	†	99	100	99	99	100	99	99	99	100	99		
<u>Ukraine, 1999</u>															
Pills	90	92	85	86	92	92	91	93	86	80	87	92	96		
IUD	96	96	95	91	99	98	99	98	87	84	95	98	99		
Condom	99	99	98	99	99	98	99	99	98	97	98	99	100		
Caucasus	<u>Armenia, 2000</u>														
	Pills	78	80	74	69	86	82	84	79	67	52	74	85	91	
	IUD	84	84	83	72	92	91	93	86	67	57	84	91	92	
	Condom	85	91	77	78	91	89	90	86	76	61	82	92	97	
	<u>Azerbaijan, 2001</u>														
	Pills	53	61	44	37	64	63	66	57	33	40	49	67	80	
	IUD	83	86	81	66	94	96	97	92	61	72	83	95	94	
	Condom	58	69	45	42	69	68	72	60	35	40	54	75	88	
	<u>Georgia, 1999</u>														
	Pills	68	78	55	56	76	72	73	70	57	33	61	79	88	
	IUD	93	96	88	86	97	97	97	95	85	75	92	99	99	
	Condom	89	96	79	83	92	90	91	89	84	65	88	96	98	
	Central Asia	<u>Kazakhstan, 1999</u>													
		Pills	87	92	81	80	91	90	89	92	80	70	79	93	97
		IUD	96	97	95	91	99	99	99	99	89	88	94	99	99
Condom		94	97	91	91	97	95	95	97	91	85	91	97	99	
<u>Kyrgyz Rep., 1997</u>															
Pills		68	79	62	58	76	72	74	71	49	37	59	80	89	
IUD		95	97	95	89	99	100	100	98	82	75	96	99	99	
Condom		81	93	76	73	90	84	86	85	66	52	75	91	98	
<u>Turkmenistan, 2000</u>															
Pills		66	73	60	49	80	79	80	80	72	41	69	85	90	
IUD		92	93	91	83	98	99	99	99	79	79	95	98	100	
Condom		59	72	49	46	71	68	69	72	41	38	57	83	91	
<u>Uzbekistan, 1996</u>															
Pills		68	77	62	56	76	78	76	73	47	47	64	78	84	
IUD		87	91	85	76	95	96	95	86	66	67	87	93	96	
Condom	48	65	38	37	57	55	54	54	32	29	39	62	79		

* Technicum, specific to former Soviet Union countries, does not exist in the Czech Republic or Romania.

† Data for Russia pertain to three primarily urban areas as described in Chapter 2.

Table 5.1.3
Percent of Women with Knowledge of Source of Supplied Contraceptive Methods by Selected Characteristics
Among Women Aged 15–44 -- Selected RHS Surveys
Eastern Europe and Eurasia: A Comparative Report

Region and Country	Residence			Age Group			Marital Status			Education			
	Total	Urban	Rural	15–24	25–34	35–44	Married	Previously Married	Never Married	Secondary Incomplete	Secondary Complete	Technicum	Post-Secondary
Eastern Europe													
<u>Czech Rep., 1993</u>													
Pills	96	97	95	94	97	97	97	96	93	93	100	*	100
IUD	94	94	93	87	98	97	98	95	83	90	99	*	99
Condom	99	99	98	99	99	99	99	99	98	98	100	*	100
<u>Moldova, 1997</u>													
Pills	56	66	45	51	62	55	58	55	50	39	50	66	80
IUD	87	91	83	76	94	93	94	91	68	78	87	94	93
Condom	86	93	79	85	90	84	88	86	82	78	84	93	95
<u>Romania, 1999</u>													
Pills	81	89	67	79	86	79	81	79	81	71	90	*	96
IUD	75	82	61	63	84	78	80	74	62	64	84	*	92
Condom	89	94	80	88	91	87	89	86	89	83	95	*	98
<u>Russia, 1999[†]</u>													
Pills	97	†	†	96	98	97	98	97	95	91	97	97	99
IUD	95	†	†	89	99	98	98	98	87	85	95	98	98
Condom	99	†	†	99	99	99	99	99	99	98	99	99	99
<u>Ukraine, 1999</u>													
Pills	85	87	80	79	88	88	87	89	78	72	81	88	92
IUD	91	91	89	81	95	96	95	96	76	72	88	95	96
Condom	97	97	96	96	98	97	97	98	95	94	96	97	98
Caucasus Region													
<u>Azerbaijan, 2001</u>													
Pills	36	44	26	23	45	43	46	37	20	22	32	51	61
IUD	59	63	53	38	71	73	74	67	32	44	57	76	72
Condom	44	55	31	30	54	53	56	44	26	26	41	62	76
<u>Georgia, 1999</u>													
Pills	46	55	34	35	55	50	52	49	34	16	40	55	65
IUD	68	73	61	55	77	74	76	70	53	40	67	76	79
Condom	66	76	53	59	73	67	70	68	58	37	64	72	81

* Technicum, specific to former Soviet Union countries, does not exist in the Czech Republic or Romania.

† Data for Russia pertain to three primarily urban areas as described in Chapter 2.

decision about how to prevent unintended pregnancies. It is not realistic to expect individuals to make informed decisions if there are gaps in their knowledge about the methods available and if adequate access to comprehensive family-planning services is lacking. Women's lack of knowledge about how contraceptives are used and about the effectiveness of specific contraceptive methods is an indirect indicator of the failure of adequate counseling and information/education programs. Although the overall level of family planning awareness was high in most countries studied, for the most widely known modern contraceptive methods there was a

serious gap between awareness of the method and knowledge of how the procedure or product could be used. Generally, about two thirds of women with awareness of IUD or condom knew how these methods could be used, while less than one-half of those aware of the pill had knowledge about how to use it (Figure 5.1.1).

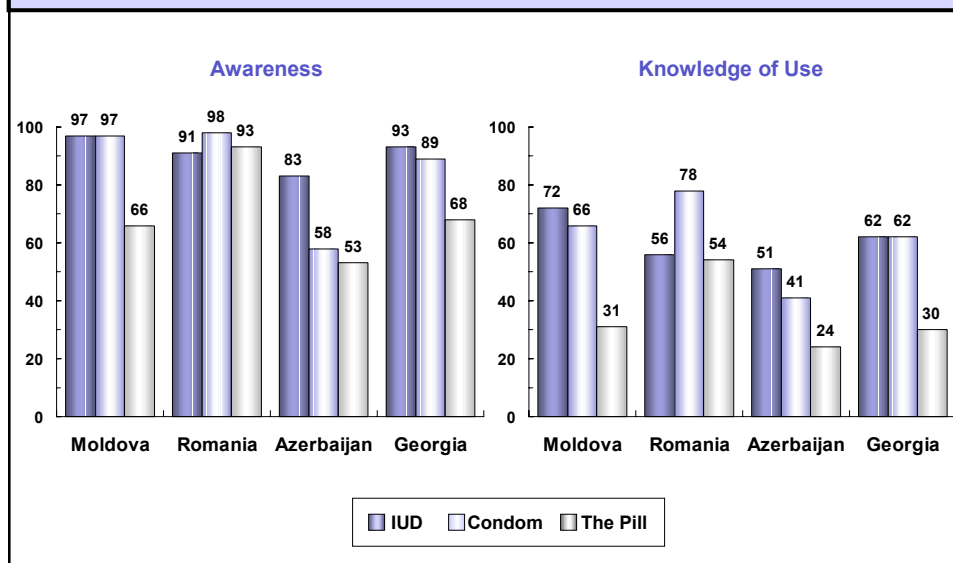
Similarly, most women in these countries had little knowledge about the contraceptive effectiveness of modern methods. Overall, no modern method was recognized as very effective by a majority of women—with the exception of the IUD in Moldova. Only between

Table 5.1.4
Main Source of Information about Contraception
Among Women Aged 15–44 Who Have Heard about Specific Methods of Contraception
Selected RHS Surveys
(Percent Distribution)
Eastern Europe and Eurasia: A Comparative Report

Main Source of Information about Contraception	Eastern Europe		Caucasus	
	Moldova, 1997	Romania, 1999	Azerbaijan, 2001	Georgia, 1999
Friend, Peer, Colleague	33	41	40	51
Physician	22	11	16	11
Television or Radio	5	9	4	5
Brochures/Newspapers/Magazines	10	8	3	3
Relative	4	7	19	14
Partner or Boyfriend	14	7	11	6
Mother or Father	3	6	1	1
Nurse/Midwife or Pharmacist	*	3	2	1
Books	6	3	3	5
School	3	2	1	1
Other	0	1	0	0
Do Not Remember	1	3	0	1
Total	100	100	100	100

* In Moldova this category is combined with "physician."

Figure 5.1.1
Percentage of Women Aged 15-44 with Awareness and Knowledge of
How to Use the IUD, Condom, and the Pill – Selected RHS Surveys
Eastern Europe and Eurasia: A Comparative Report



27% and 55% of women correctly stated that the IUD is very reliable (very effective in preventing pregnancy) (Figure 5.1.2). Though more women correctly had more confidence in the IUD's effectiveness than in the effectiveness of condoms or pills, the majority of women incorrectly thought that pills are not very reliable. Only between 5% and 22% thought that the pill is very reliable whereas 8%–43% thought that condoms are very reliable in preventing pregnancy. In fact, in Azerbaijan and Georgia the proportion of women who said that pills are very effective was lower than or about equal to the proportion who incorrectly perceived withdrawal as very effective.

Additionally, questions included in the RHS surveys exploring attitudes and opinions about modern methods among women who reported current use of traditional methods, revealed a high level of misinformation. When these women were asked about the importance of several selected reasons for not using a modern method, most women stated that fear of side effects, partner preference, and little

knowledge about modern methods influenced their decision to not use a modern method (data not shown). Between 57% of such women in Romania and 78% in Georgia believed that the traditional method they were currently using was as effective as or even more effective than the pill or the IUD (Figure 5.1.3). These findings highlight both the lack of correct information about modern contraceptives and the strength of women's trust in the traditional methods historically practiced in the region.

5.2 Current Contraceptive Prevalence

This section focuses mostly on women in legal and consensual marriages because they represent the majority of sexually active women, have greater frequency of intercourse, have higher fertility and risk of unintended pregnancies (see also Chapter 4), and constitute the common denominator for most national and international studies of contraceptive prevalence. However, in order to present a complete picture of contraceptive prevalence in these countries, all women who

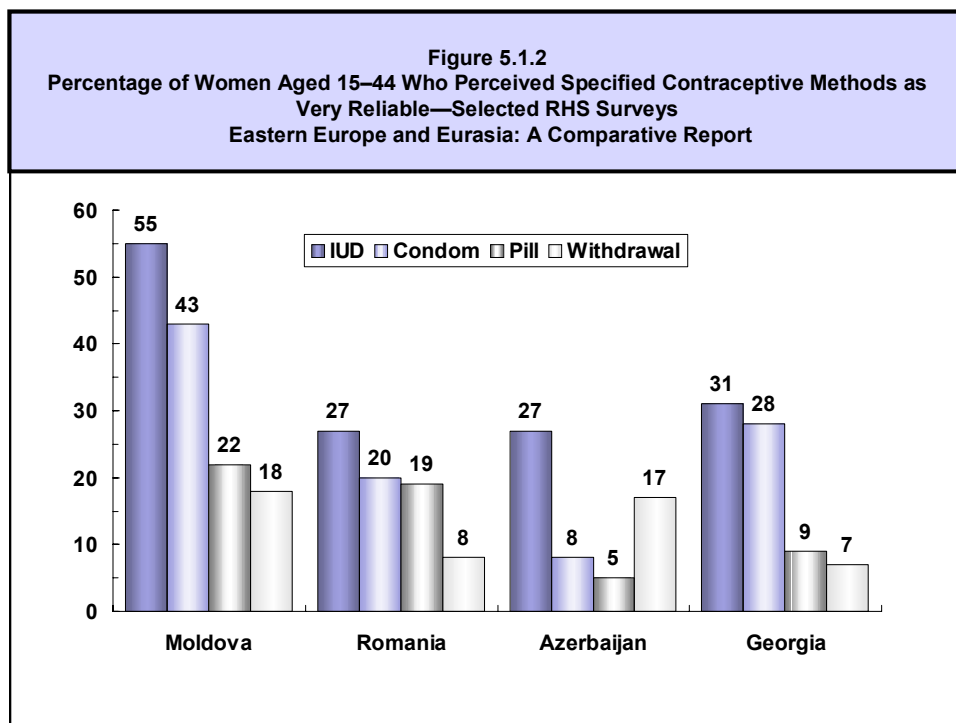
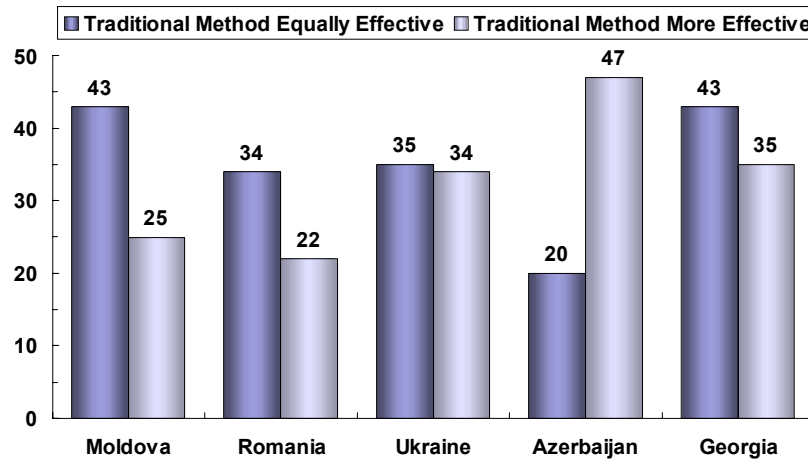


Figure 5.1.3
Percentage of Women Aged 15–44 Currently Using Traditional Methods Who Believe That Their Methods are Equally or More Effective than Modern Methods such as the Pill or IUD
Eastern Europe and Eurasia: A Comparative Report



have ever had sexual relations were asked a series of questions about their current and past contraceptive use, and contraceptive prevalence rates were also computed for women previously married and those who have never been married (Table 5.2.1). As expected, most women not currently married were not currently using contraception. Although over one-half of married women were using some form of birth control (except in Georgia), only one-fifth to one-half of previously married women in Eastern Europe, and fewer than one in six women in Central Asia (excepting Kazakhstan) were currently using contraception. In the Caucasus region contraceptive use among previously married women was almost nonexistent (2%–3%). Similarly, between about one-third (in Czech Republic) and one-fifth of never-married women in other Eastern European countries were using any form of contraception (excepting Moldova, where only 7% were using contraception). In countries with strong cultural traditions that oppose pre-marital sexual initiation (Caucasus and Central Asian countries), none of the never-married women

interviewed reported they were currently using contraception.

Most countries profiled in this report exhibit relatively high prevalence of contraceptive use (typically over 50% among currently married women) but relatively low reliance on methods of high efficacy, particularly in the Caucasus region (Table 5.2.2). Contraceptive prevalence was highest in Eastern Europe and lowest in the Caucasus region; while in Eastern Europe almost three of every four couples were using a contraceptive method, this proportion decreased to between 41% in Georgia and 61% in Armenia in the Caucasus region and between 55% in Turkmenistan and 62% in Kazakhstan in Central Asia.

The prevalence of modern method use was highest among married women in the Central Asian republics (between 47% and 55% of all women in union were using modern methods) and lowest in the Caucasus region (12%–22%). In many countries, it exceeded the prevalence of traditional methods, sometimes by a considerable margin. In the Central Asian

countries, modern methods accounted for over 80% of contraceptive prevalence. With the exception of Romania, in all countries of Eastern Europe the prevalence of modern methods exceeded that of traditional methods; in the areas of Russia¹ surveyed, Moldova, the Czech Republic, and Ukraine, between 38% and 53% of women in union rely on modern methods to control their fertility. Conversely, in all countries of the Caucasus region, the prevalence of modern methods is lower than the prevalence of traditional methods. Thus, in most of the former Soviet Union, not only is contraceptive use widespread, but most of the birth prevention methods are modern. Within countries, however, there were considerable differences between different subgroups of women, particularly in the use of modern contraceptives. Generally, rural residence, young age (15–24 years), and less than secondary complete education were associated with lower contraceptive prevalence and lower

prevalence of modern methods. In all countries, the use of any method increased substantially with the number of living children, particularly in the Caucasus region and some countries in Central Asia, where contraceptive use among childless women was practically non-existent.

The study of contraceptive method-mix shows a strong preference for IUD use in all countries where contraceptive use is predominantly modern (Table 5.2.3). While use of the IUD was lowest (less than 10% of women in union) in the Caucasus countries and in Romania (countries where contraceptive use is predominantly traditional), it was 25% in the Russian areas surveyed, about 38% in Moldova and the Kyrgyz Republic, and highest (over 40%) in other Central Asian countries. Thus, the IUD accounted for more than one-half of contraceptive use in Moldova, and over 80% in Central Asia, but less than 25% in

Region and Country	Total	Marital Status			Number of Cases
		Currently Married	Previously Married	Never Married	
<u>Eastern Europe</u>					
<i>Czech Rep., 1993</i>	59	69	46	38	4,497
<i>Moldova, 1997</i>	54	74	27	7	5,412
<i>Romania, 1999</i>	48	64	20	20	6,888
<i>Russia, 1999*</i>	59	73	42	29	6,004
<i>Ukraine, 1999</i>	54	68	35	22	7,128
<u>Caucasus</u>					
<i>Armenia, 2000</i>	38	61	2	0	5,624
<i>Azerbaijan, 2001</i>	32	55	2	0	7,668
<i>Georgia, 1999</i>	25	41	3	0	7,798
<u>Central Asia</u>					
<i>Kazakhstan, 1999</i>	45	62	40	8	4,267
<i>Kyrgyz Rep., 1997</i>	42	60	15	1	3,529
<i>Turkmenistan, 2000</i>	34	55	18	0	7,263
<i>Uzbekistan, 1996</i>	40	57	11	0	4,091

* Data for Russia pertain to three primarily urban areas as described in Chapter 2.

¹ The survey in Russia was sub-national, conducted in three primarily urban sites in central Russia, and thus cannot be considered representative of Russia as a whole.

Table 5.2.2
Percent of Women Currently Using Contraception by Selected Characteristics
Among Currently Married Women Aged 15–44
Eastern Europe and Eurasia: A Comparative Report

Region and Country	Total	Residence		Age Group			Number of Living Children				Education					
		Urban	Rural	15–24	25–34	35–44	0	1	2	3+	Secondary Incomplete	Secondary Complete	Tech- nicum	Post- Secondary		
Eastern Europe	<u>Czech Rep., 1993</u>															
	Any Method	69	72	64	58	75	68	29	64	75	76	62	77	*	75	
	Modern	43	46	42	35	50	44	15	37	47	53	39	51	*	45	
	Traditional	26	25	22	23	24	24	14	27	28	23	24	26	*	31	
	<u>Moldova, 1997</u>															
	Any Method	74	75	73	64	76	76	23	70	84	80	68	75	74	79	
	Modern	50	56	44	40	54	51	15	49	58	52	41	49	55	57	
	Traditional	24	19	28	24	22	25	9	21	26	29	27	26	19	22	
	<u>Romania, 1999</u>															
	Any Method	64	65	62	60	70	59	38	69	73	54	59	69	*	71	
	Modern	30	35	21	26	37	24	24	32	34	17	21	34	*	50	
	Traditional	34	30	41	34	34	35	14	36	39	37	38	35	*	21	
	<u>Russia, 1999</u>[†]															
	Any Method	73	†	†	67	77	73	47	73	79	72	51	67	75	81	
	Modern	53	†	†	50	59	51	36	51	57	51	36	48	56	60	
Traditional	20	†	†	17	18	21	11	20	22	21	16	19	19	21		
<u>Ukraine, 1999</u>																
Any Method	68	69	63	60	72	66	34	69	75	63	57	61	69	76		
Modern	38	42	27	33	42	35	21	41	40	28	29	32	38	47		
Traditional	30	27	36	28	30	31	13	28	35	35	28	29	31	29		
Caucasus	<u>Armenia, 2000</u>															
	Any Method	61	60	62	43	67	63	5	45	69	66	50	60	62	65	
	Modern	22	25	18	14	27	21	3	20	27	19	13	17	22	37	
	Traditional	39	35	44	29	41	42	2	25	42	47	37	43	41	28	
	<u>Azerbaijan, 2001</u>															
	Any Method	55	54	57	38	60	58	3	45	62	65	51	54	59	60	
	Modern	12	16	7	7	13	13	0	10	14	13	10	10	12	24	
	Traditional	44	38	50	31	47	45	3	35	48	52	42	45	47	36	
	<u>Georgia, 1999</u>															
	Any Method	41	43	37	28	45	41	5	34	49	41	25	37	42	49	
	Modern	20	23	16	17	24	17	4	20	24	17	8	17	19	28	
	Traditional	21	20	22	11	21	24	1	14	26	24	16	20	22	21	
	Central Asia	<u>Kazakhstan, 1999</u>														
		Any Method	62	65	60	42	63	69	17	62	68	67	54	59	62	70
		Modern	55	57	52	33	57	61	13	52	59	62	45	54	53	61
Traditional		8	8	7	9	6	9	4	10	9	6	9	5	9	8	
<u>Kyrgyz Rep., 1997</u>																
Any Method		60	66	57	44	62	66	20	46	64	69	45	61	58	63	
Modern		50	57	47	36	53	56	18	36	54	59	34	50	51	53	
Traditional		9	9	9	8	9	10	2	10	9	11	11	10	7	11	
<u>Turkmenistan, 2000</u>																
Any Method		55	58	52	30	54	67	5	30	60	69	47	53	60	64	
Modern		47	50	45	26	47	57	5	25	53	59	41	46	51	52	
Traditional		8	8	7	4	7	10	1	6	8	10	6	7	9	12	
<u>Uzbekistan, 1996</u>																
Any Method		57	57	56	32	62	70	6	35	62	71	48	55	61	59	
Modern		53	52	53	29	58	65	5	31	59	66	44	51	58	52	
Traditional	4	5	3	3	4	5	1	4	3	5	3	4	3	7		

* Technicum, specific to former Soviet Union countries, does not exist in the Czech Republic or Romania.

† Data for Russia pertain to three primarily urban areas as described in Chapter 2.

Romania and the Caucasus countries. This is likely a vestige of the Soviet health system, which limited the availability of other permanent or long-term contraceptive methods and did not encourage the use of hormonal methods, which were thought to carry with them negative health consequences and serious side effects. The only other modern method commonly used, at least in Eastern Europe, was the condom, the prevalence of which ranged from less than 5% in Central Asia to 14%–19% in Ukraine, the Russian areas surveyed, and Czech Republic. Russia and Ukraine had recent well-publicized upsurges in the prevalence of STIs and HIV, which may have contributed to the recent increase in condom use in those two countries.

Use of oral contraceptives was low in all countries, mainly because of widespread misperceptions about the health risks associated with using the pill and the lack of knowledge about its effectiveness. In the former Soviet Union countries, for example,

oral contraceptives were officially prescribed principally for selected medical benefits rather than for contraceptive purposes; dissemination of correct information about the pill was actively discouraged; and, when the topic was addressed, potential health risks and side effects were overstated. As a result of the negative propaganda, actively promoted by policy makers and the medical community, misconceptions about the pill's safety were universal (Popov AA et al., 1993). In addition, given the poor quality of locally produced hormonal formulations available until recently, it is likely that oral contraceptive users in these countries may have experienced more side effects than users in Western Europe and may have been more likely to discontinue use for this reason. Oral contraceptives were used by 7%–8% of women in union in the Czech Republic, Romania, and the Russian areas surveyed, but by no more than 3% elsewhere.

Generally, in countries where most contraceptive use is limited to traditional

Table 5.2.3
Percent of Women Currently Using Specific Methods of Contraception
Among Currently Married Women Aged 15–44
Eastern Europe and Eurasia: A Comparative Report

Region and Country	Modern Method							Traditional Method				Most Used Method	No. of Cases
	Any Method	Any Modern Method	Pill	IUD	Condom	Tubal Ligation	Other Modern	Any Traditional Method	Periodic Abstinence	Withdrawal	% Using Modern		
Eastern Europe													
<i>Czech Rep., 1993</i>	69	45	8	15	19	3	0	24	2	22	65	Withdrawal	3,217
<i>Moldova, 1997</i>	74	50	2	38	6	3	0	24	2	22	68	IUD	4,023
<i>Romania, 1999</i>	64	30	8	7	9	3	3	34	6	29	47	Withdrawal	4,846
<i>Russia, 1999*</i>	73	53	7	25	16	2	3	20	13	7	73	IUD	3,803
<i>Ukraine, 1999</i>	68	38	3	19	14	1	1	30	10	20	56	IUD	4,794
Caucasus													
<i>Armenia, 2000</i>	61	22	1	10	8	2	0	39	5	35	36	Withdrawal	3,566
<i>Azerbaijan, 2001</i>	55	12	1	6	3	1	0	44	3	41	22	Withdrawal	5,146
<i>Georgia, 1999</i>	41	20	1	10	6	2	1	21	10	11	49	Withdrawal	5,177
Central Asia													
<i>Kazakhstan, 1999</i>	62	55	3	44	5	3	1	8	5	3	89	IUD	2,567
<i>Kyrgyz Rep., 1997</i>	60	50	2	39	6	2	1	9	3	6	83	IUD	2,418
<i>Turkmenistan, 2000</i>	55	47	1	41	2	2	1	8	2	6	85	IUD	4,282
<i>Uzbekistan, 1996</i>	57	53	2	47	2	1	2	4	1	3	93	IUD	2,804

* Data for Russia pertain to three primarily urban areas as described in Chapter 2.

methods (i.e., withdrawal and periodic abstinence), the most widely used method was withdrawal. Thus, in the Czech Republic, Moldova and much more so in Armenia, Romania, and Azerbaijan, the use of withdrawal ranged from 22% to 41%, accounting for 31%–32% and 41%–75% of the contraceptive method mix, respectively.

Other modern methods (such as injectables, spermicides, and the diaphragm) were seldom used in the countries studied. In all surveyed countries in the region, there is extremely low prevalence of and lack of interest in contraceptive sterilization. Despite the fact that most respondents in each of the populations reportedly wanted no more children, only 1%–3% of women in union had been contraceptively sterilized and virtually no partners of respondents in any of the surveys had undergone vasectomy. In addition, among women wanting no more children, only 8%–11% of Czech, Moldovan, and Russian women and less than 1% of Romanian women said they would be interested in “tubal ligation” in the future (data not shown). By contrast, the majority of fecund women currently in union wanted to terminate childbearing after having two or more children (see also Chapter 6).

The low usage and lack of desire for voluntary sterilization may be partly explained by the various legal restrictions surrounding the procedure, many still in effect in several former Soviet bloc countries. Ranging from a total ban to restrictions stipulating a minimum age (30 or over) or a minimum number of children born (often at least 3 children), and including regulations about where the procedure should be made available (i.e., hospital vs. health clinic), these barriers have driven away many potential users and may have contributed to widespread mistrust and misinformation about the method in the general population. In addition, provider training in modern

sterilization techniques is very limited (especially training in laparoscopic sterilization and vasectomy), probably because of low interest and lack of information about these methods among both providers and family planning clients.

5.3 Source of Contraception

The public medical sector and commercial sales were the main sources of contraceptive supplies in all countries (Table 5.3). Between 32% (Romania) and 72% (Moldova) of clients of supplied methods reported obtaining their current method from the public medical sector (mostly from maternity hospitals, gynecologic wards, and women’s consultation clinics and less so from polyclinics, village hospitals, and dispensaries). Commercial sales, particularly through pharmacies, were the second largest source of contraceptive supplies (24%–59%). Clinics run by nongovernmental organizations (NGOs) and private clinics constituted an emerging source of contraception only in Romania. Other sources, such as partners, friends, and relatives, supplied fewer than 12% of users.

Sources varied greatly according to the contraceptive method used. The public medical sector, particularly governmental hospitals, was the primary source of IUDs (61%–99%). Pharmacies were the principal provider of condoms, supplying more than two-thirds of condom users; they were also the leading source of pills in all countries but Czech Republic, Ukraine, and Armenia, where pill users were more likely to obtain their method in the public medical sector. Not surprisingly, in many countries partners constituted the second source for condoms for women (18%–29% of users). With the exception of Ukraine and Turkmenistan, very few women reported obtaining condoms in the public medical sector.

Table 5.3
Percent of Women Receiving Modern Contraceptive Methods from Selected Sources by Specific Method
Among Currently Married Women Aged 15–44 Using Selected Contraceptive Methods
Eastern Europe and Eurasia: A Comparative Report

Region and Country	Public Medical Sector				Private Clinic/Office				Commercial Sales				Other			
	Any Method	Pill	Condom	IUD	Any Method	Pill	Condom	IUD	Any Method	Pill	Condom	IUD	Any Method	Pill	Condom	IUD
Eastern Europe																
<i>Czech Rep., 1993</i>	47	75	0	98	2	7	0	2	51	17	98	0	1	0	2	0
<i>Moldova, 1997</i>	72	49	8	71	0	0	0	0	24	52	62	18	4	0	29	1
<i>Romania, 1999</i>	32	28	2	61	8	4	1	28	51	67	73	10	8	1	24	1
<i>Russia, 1999†</i>	38	13	1	79	0	0	0	1	59	86	95	19	3	1	4	2
<i>Ukraine, 1999</i>	55	51	14	91	0	1	0	0	34	37	68	4	11	12	18	4
Caucasus																
<i>Armenia, 2000</i>	65	65	15	97	1	0	1	2	24	32	60	1	10	3	25	1
<i>Azerbaijan, 2001</i>	54	12	3	94	2	7	2	1	35	78	68	5	9	3	25	1
<i>Georgia, 1999</i>	54	18	3	94	1	0	0	2	37	79	76	3	7	1	20	1
Central Asia																
<i>Kazakhstan, 1999</i>	76	25	7	86	2	1	6	2	20	71	64	12	3	4	23	1
<i>Kyrgyz Rep., 1997</i>	83	44	10	95	0	0	0	0	14	47	79	4	2	9	11	1
<i>Turkmenistan, 2000</i>	95	70	26	99	1	1	8	1	4	30	60	1	0	0	7	0
<i>Uzbekistan, 1996</i>	92	63	4	97	0	0	0	0	6	28	93	2	1	9	3	1

* Considered to be 15–44 years in RHS and 15–49 years in DHS survey.

† Data for Russia pertain to three primarily urban areas as described in Chapter 2.

5.4 Reasons for Not Using Contraception

Women currently in union mentioned a broad variety of reasons for not currently using contraception (Table 5.4). The most common reasons given were related to pregnancy (either being currently pregnant or postpartum, or wanting to get pregnant right away), lack of current sexual activity (within the past month), and female fecundity impairment, including the presence of pelvic inflammatory disease. Female fecundity impairment includes surgical and medical causes that prevent pregnancy and failure to conceive after at least 2 years of effort (without using contraception). Very few women reported reasons related to contraception as contributing to their decision not to use a method; such reasons were fear of side effects, personal or partner opposition to contraceptive methods, and lack of access to family-planning services or lack of knowledge about contraception. Reasons for not using a method differed sharply by age

group (data not shown). Younger women in union were more likely to be either pregnant or in the postpartum period (52%), or were seeking to become pregnant, whereas women aged 35–44 years were more likely to not be able to get pregnant because of impaired fertility.

5.5 Intention to Use Contraception among Nonusers

Most of the RHS and DHS surveys asked women who were not using any contraceptive methods at the time of the interview if they planned to use any contraception soon (in the next 12 months) or later (Table 5.5). Intention to use contraception in the future among non-users has to be taken into account when forecasting potential need for family planning services. Overall, between about one-third and two-thirds of fecund married non-users intended to use a contraceptive method in the future, including 22%–48% who would like to start use within the next 12 months. Between

5% and 29% were undecided, and over one in five women in each country (up to almost one-half in Armenia) did not want to use contraception in the future.

5.6 Recent Trends in Contraceptive Use

All RHS and three DHS surveys (Armenia, Kazakhstan, and Turkmenistan) included a calendar of monthly contraceptive history for the 5 years prior to interview, to allow an examination of recent contraceptive patterns and trends. Clearly, month-by-month retrospective contraceptive histories do not provide perfect information for every month in the time period in question for every woman interviewed. However, mid-year prevalence at 1-year intervals could provide a good description of general short-term trends in contraceptive prevalence and method mix. Survey results for six of the countries with a monthly contraceptive history indicate that contraceptive prevalence among all women² increased steadily in the years leading up to the survey (Table 5.6). Overall use grew by an average of about one to two percentage points per year for 5 years in several countries and about twice as fast in Moldova. Generally, the increase in modern method use was much steeper over the 5 years—between 11% in Russia and Georgia and 54% in Romania—than the increase in traditional method use. Thus, most of the growth in contraceptive prevalence was the result of growing use of modern methods.

5.7 Contraceptive Failure and Discontinuation

Month-by-month contraceptive histories can also be used for estimating rates of

discontinuation of the use of a specific method, including those due to method failure. Estimates of discontinuation and failure rates based on retrospective calendar histories are subject to both under and over-estimation. If, for example, some women choose to not report pregnancies ending in abortions and they had been using contraception at the time of conception, their estimated failure rates will be underestimated because their interval of contraceptive use will not appear to be interrupted by the pregnancy event. If, on the other hand, users report that they become pregnant while using contraception when, in fact, a method was not used at the time of conception, their contraceptive failure may be overestimated. In addition, since retrospective monthly histories do not provide information on how correctly or consistently a method is used during a given month, estimates of method failure include both failures during imperfect use and perfect use (i.e. consistent and correct use), commonly known as “typical” use (Trussel J, 1991). These rates are likely to be higher than in prospective studies for methods that are more prone to inconsistent or incorrect use (e.g. condom, withdrawal) than for methods less affected by imperfect use (e.g. the IUD).

Overall, between 4% and 24% of women became pregnant during the first year of typical contraceptive use, with considerable variation among specific methods (Table 5.7). Users of withdrawal and periodic abstinence reported the highest failure rates at 12 months of use. In the case of several countries studied (Romania, Armenia, and Azerbaijan) withdrawal, the method most widely used, had a failure rate of 26%–30% at 12 months, followed by periodic abstinence which failed to protect against pregnancy in at least one in

² Since the contraceptive histories in some countries did not include month-by-month marriage histories, it was necessary to examine trends for all women, not just those in union.

Table 5.4
Most Commonly Cited Reasons for Not Currently Using Contraception
Among Currently Married Women Aged 15–44
(Percent Distribution)

Eastern Europe and Eurasia: A Comparative Report

Reason	Eastern Europe				Caucasus			Central Asia				
	Czech Rep. 1993	Moldova 1997	Romania 1999	Russia 1999*	Ukraine 1999	Armenia 2000	Azerbaijan 2001	Georgia 1999	Kazakhstan 1999	Kyrgyz Rep. 1997	Turkmenistan 2000	Uzbekistan 1996
No sexual intercourse within the last month	2	16	14	5	4	11	19	9	1	3	0	0
Currently pregnant	16	16	11	11	11	11	16	10	11	15	18	18
Wants to get pregnant soon	14	32	12	13	14	24	14	13	34	40	39	43
Postpartum/Breastfeeding	6	6	6	3	3	6	10	9	9	10	3	3
Female infecundity/ Subfecundity	21	19	40	22	20	8	10	17	1	7	1	3
Respondent uses douching	†	†	†	†	†	2	6	†	9	3	†	1
Pelvic inflammatory disease (PID)	†	†	3	†	†	†	5	6	†	†	†	†
Respondent doubts that she can get pregnant	7	1	4	9	12	6	8	6	9	11	3	3
Health concerns/fear of side effects	12	1	1	4	5	6	2	4	3	2	5	4
Neglected to use	2	†	3	12	2	1	2	14	0	†	0	†
Male infertility	†	1	1	†	†	†	0	0	†	†	†	†
Lack of access/Lack of knowledge of family planning services/Cost	2	6	1	4	3	1	0	3	3	1	0	3
Personal or partner objection to family planning	3	2	3	2	3	12	2	3	8	3	11	17
Other reasons	9	0	0	16	13	6	4	4	7	5	7	3
Do not remember/ Not sure	5	0	2	†	11	6	1	2	5	0	13	2
Total	100	100	100	100	100	100	100	100	100	100	100	100
Number of Cases	978	1,044	1,754	956	1,392	1,382	2,209	3,051	937	970	1,600	1,160

* Data for Russia pertain to three primarily urban areas as described in Chapter 2.

† Included in "Other reasons."

‡ Included in "Female Subfecundity."

Table 5.5
Desire to Use Contraception in the Future
Among Currently Married Fecund Women of Reproductive Age* Who Were Not Using Contraception
(Percent Distribution)
Eastern Europe and Eurasia: A Comparative Report

Region and Country	Desire to Use Contraception				Total	No. of Cases
	Wants To Use Within 12 Months	Wants To Use Later	Undecided	Does Not Want to Use		
<u>Eastern Europe</u>						
Moldova, 1997	29	16	18	37	100	995
Romania, 1999	48	18	13	21	100	1,018
<u>Caucasus</u>						
Armenia, 2000	†	36	17	47	100	1,629
Azerbaijan, 2001	44	19	11	25	100	1,899
Georgia, 1999	22	16	29	33	100	2,411
<u>Central Asia</u>						
Kazakhstan, 1999	†	45	10	45	100	1,023
Kyrgyz Rep., 1997	40	26	5	29	100	1,082
Turkmenistan, 2000	†	47	14	39	100	1,868
Uzbekistan, 1996	22	21	17	41	100	1,378

* Considered to be 15–44 years in RHS and 15–49 years in DHS survey.

† In some DHS surveys, it is not possible to identify non-users who intend to begin using a contraceptive method within the next 12 months.

eight couples and almost one in three in Azerbaijan.

Among supplied methods, the condom was reported to fail more often than other modern methods. Condom failure rates ranged from 3% in Turkmenistan to 21% in Azerbaijan. In many countries the failure rates for the IUD and the pill were consistent with those typically reported in the literature (1% and 6–8%, respectively).

Twelve-month discontinuation rates in all countries were very high for every method, except the IUD. For all methods combined, between 26% and 51% of women using contraception discontinue use by the end of first year of use. Discontinuation rates at 1 year were particularly high for oral contraceptives and condoms (47%–82% and 36%–67%, respectively) but method failure played a minor role in women's decision to stop using these methods. Partner-related reasons (among condom users) and side effects associated with pill use accounted for most of

the reasons for discontinuing these methods (data not shown). Even the IUD, although in theory a long-term method, was discontinued by approximately one in ten women within 1 year of use. Traditional methods had high discontinuation rates (33% to 63%), often because of the high failure rates associated with their use. The discontinuation rates presented are not adjusted for competing reasons of discontinuation.

Substantial reduction of the reliance on abortion and improvements in maternal morbidity and mortality in the region will depend not so much on further increases in contraceptive use as on improvements in the method selection, method quality, and consistency and correctness of use, which in turn will lower contraceptive discontinuation and failure rates.

5.8 Contraceptive Counseling

Although contraceptive prevalence rates increased throughout the region in the 5 years

Table 5.6
Trends in Percent of Women Using Contraception
By Type of Method of Contraception
Among Women Aged 15–44* During the Last 5 Years
(Mid-Year Prevalence at 1-Year Intervals)
Eastern Europe and Eurasia: A Comparative Report

Years Before the Survey	Eastern Europe				Caucasus	
	Moldova 1997	Romania 1999	Russia 1999†	Ukraine 1999	Azerbaijan 2001	Georgia 1999
Current						
<i>Any Method</i>	<u>54</u>	<u>51</u>	<u>64</u>	<u>56</u>	<u>33</u>	<u>25</u>
<i>Modern</i>	17	28	15	23	7	12
<i>Traditional</i>	37	23	49	33	26	13
1 Year						
<i>Any Method</i>	<u>54</u>	<u>50</u>	<u>63</u>	<u>54</u>	<u>33</u>	<u>24</u>
<i>Modern</i>	18	26	15	22	7	12
<i>Traditional</i>	36	24	48	32	26	12
2 Years						
<i>Any Method</i>	<u>51</u>	<u>48</u>	<u>62</u>	<u>53</u>	<u>31</u>	<u>24</u>
<i>Modern</i>	17	26	15	22	6	12
<i>Traditional</i>	34	22	47	31	25	12
3 Years						
<i>Any Method</i>	<u>49</u>	<u>46</u>	<u>60</u>	<u>52</u>	<u>29</u>	<u>22</u>
<i>Modern</i>	17	26	15	21	6	11
<i>Traditional</i>	32	20	45	31	23	11
4 Years						
<i>Any Method</i>	<u>45</u>	<u>42</u>	<u>59</u>	<u>51</u>	<u>27</u>	<u>21</u>
<i>Modern</i>	16	25	14	21	5	11
<i>Traditional</i>	29	17	45	30	22	10
5 Years						
<i>Any Method</i>	<u>41</u>	<u>39</u>	<u>57</u>	<u>50</u>	<u>25</u>	<u>19</u>
<i>Modern</i>	15	25	13	21	5	10
<i>Traditional</i>	26	15	44	29	20	9
Percent Change (Year 5 to Current)						
<i>Any Method</i>	32	29	12	12	32	32
<i>Modern</i>	13	14	15	10	40	20
<i>Traditional</i>	42	54	11	14	30	44

* Women aged 15–39 in Russia and Ukraine.

† Data for Russia pertain to three primarily urban areas as described in Chapter 2.

before each survey, many women continue to resort to legal abortion to delay or limit childbearing. Women who have had a recent abortion and do not adopt an effective contraceptive method afterwards are at high risk of another unintended pregnancy and represent an important group whose needs for family planning have not been satisfied. A wide range of contraceptive methods, together with accurate information and referral for ongoing family planning care, should be made available and accessible to all women who have

undergone abortions; both abortion providers and family planning health professionals should be able to offer contraceptive counseling and services. Unfortunately, many abortion providers either fail to understand the value of post-abortion counseling or lack the time and resources to help women receive such counseling.

In Eastern Europe, the Caucasus region, and the Central Asian republics, most reproductive health services are provided by doctors who

Table 5.7 12-Month Contraceptive Failure and Discontinuation Rates For Selected Methods of Contraception Among Women of Reproductive Age* Who Have Used Contraception During the Last 5 Years Eastern Europe and Eurasia: A Comparative Report														
Region & Country	Method Most Used	12-Month Failure Rates†					12-Month Discontinuation Rates					% Discontinuation Due to Method Failure	Segments of Use	
		Any Method‡		Periodic			Any Method‡		Periodic					
		Pill	IUD	Condom	Abstinence	Withdrawal	Method‡	Pill	IUD	Condom	Abstinence	Withdrawal		
Eastern Europe														
Moldova, 1997	IUD	13	6	2	13	23	24	56	6	50	44	42	41%	5,153
Romania, 1999	Withdrawal	18	4	2	9	29	26	47	9	59	52	50	36%	8,127
Russia, 1999§	IUD	12	8	2	11	23	17	58	12	46	46	54	27%	6,254
Ukraine, 1999	IUD	9	6	1	7	16	12	54	6	36	33	29	30%	9,065
Caucasus														
Armenia, 2000	Withdrawal	24	(10)	1	16	24	30	(48)	7	39	38	39	69%	3,137
Azerbaijan, 2001	Withdrawal	23	15	1	21	30	26	82	14	67	58	44	48%	6,865
Georgia, 1999	Withdrawal	13	5	2	9	19	17	73	10	54	40	37	31%	3,902
Central Asia														
Kazakhstan, 1999	IUD	11	16	3	15	25	25	64	11	58	48	63	29%	2,691
Turkmenistan, 2000	IUD	4	12	1	3	(11)	14	73	12	59	(33)	44	15%	2,439

* Considered to be 15–44 years in RHS and 15–49 years in DHS survey.

† Not adjusted for competing reasons of discontinuation.

‡ The overall 12-month failure and discontinuation rates include also users of other modern methods (injectables, spermicides, and tubal ligation).

§ Data for Russia pertain to three primarily urban areas as described in Chapter 2.

() Rates in parentheses are based on less than 125 segments of exposure.

traditionally have received little training in providing client-oriented counseling. An important component of the newly implemented reproductive health strategies in these countries is to develop family planning programs and train health professionals to provide family planning counseling, particularly post-abortion and postpartum counseling. The RHS surveys include a series of questions designed to capture the interactions between family planning providers and their clients. Specifically, these surveys ask about the extent to which health professionals provided basic information and services to women who have used a modern contraceptive method or have had an abortion during the 5 years prior to the interview. As shown in Figure 5.8.1, except in Romania, more than one out of two women (54% to 68%) was advised by an obstetrician/gynecologist to use her current or last modern method in every country.

Contraceptive counseling and receipt of contraceptive supplies at the time of an elective abortion are not mandatory in most countries of the region. As a result, many abortions are

performed without pre- or post-abortion counseling, despite widespread evidence that counseling could lead to contraceptive adoption and prevent repeat abortions (Brown SS and Eisenberg L, 1995; Ortayli N et al., 2001; Weisman CS et al., 2002). Among women of reproductive age who had an abortion in the 5 years before the survey, the proportion that received information about contraception at the time of the abortion procedure ranged from 15% in Georgia to 60% in Moldova; only 5%–38% of women received contraceptive supplies or prescription for supplies (Figure 5.8.2). Since these figures are reported for all abortions performed during the past 5 years, recent increases in contraceptive counseling may not be accurately reflected. Even so, the low percentages reported in Georgia and Romania are not encouraging.

The percentage of women who received a contraceptive method or a prescription for contraceptives was considerably lower (5% to 38%). Just 5% of Georgian women received a prescription or method at the time of abortion.

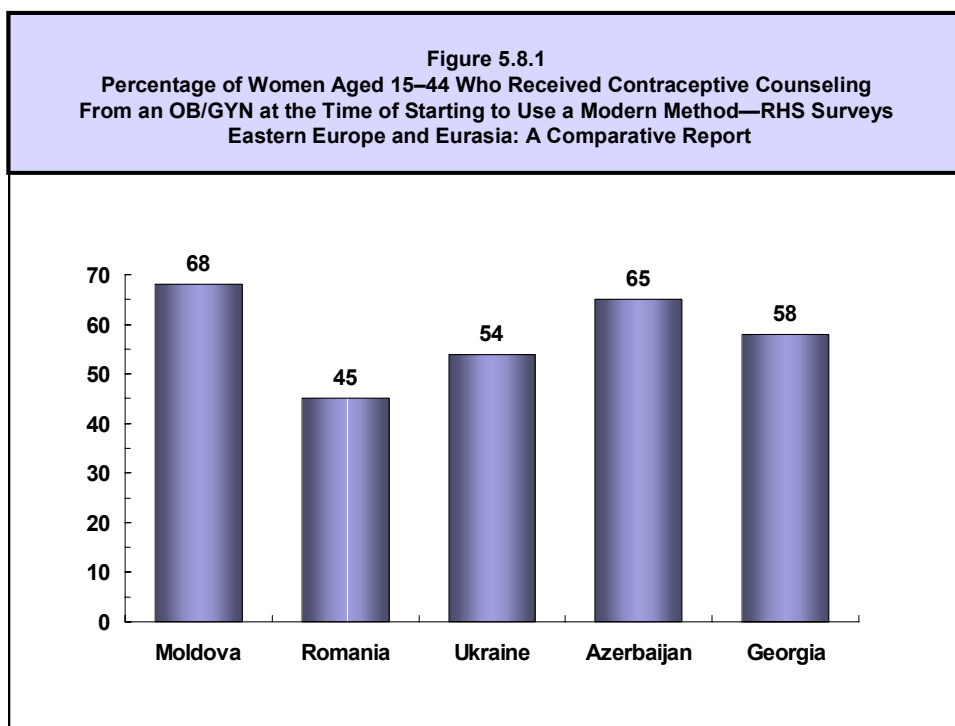
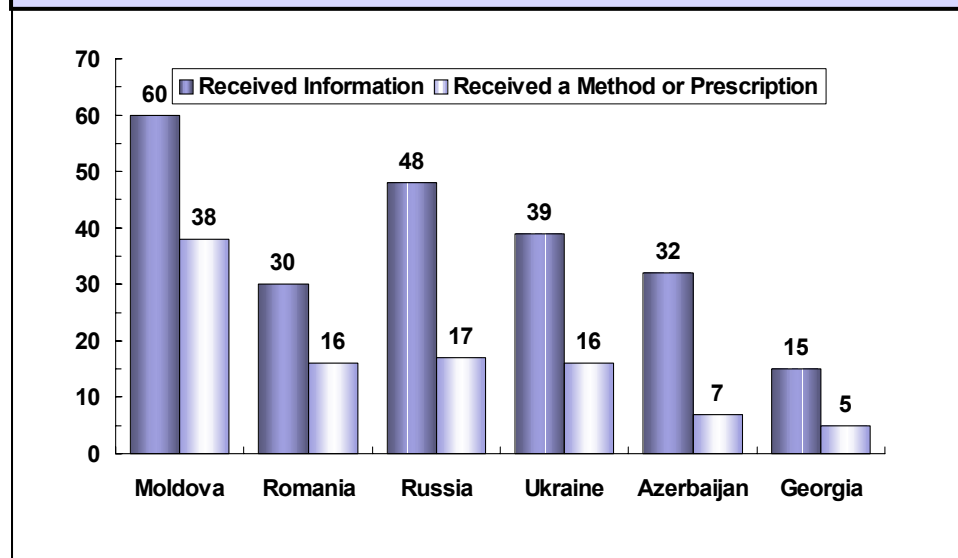


Figure 5.8.2
Contraceptive Counseling Before or After Having an Induced Abortion
Women Aged 15–44 With at Least one Abortion in the Last 5 Years—RHS Surveys
Eastern Europe and Eurasia: A Comparative Report



Moldovan women (38%) were most likely to receive a contraceptive method or prescription, with Romanian, Russian, and Ukrainian women in between (16%, 17%, and 16%, respectively).

5.9 Summary of Findings

Data on contraceptive use are important for several reasons: (1) population based survey data on contraceptive use has not been available for this region in the past; (2) contraceptive use is an important proximate determinant of fertility, and (3) as discussed in Chapter 4, contraceptive prevalence, method mix, and continuation of use in a country has a strong influence on the levels of unintended pregnancy and abortion. The key findings presented in this chapter are as follows:

- ◆ Awareness of modern contraceptive methods in this region is high; at least 87% of women of reproductive age in each country indicated that they have heard of

at least one modern method. However, in two of the three Caucasus countries and in three of the four Central Asian republics, less than 70% of women had heard of oral contraceptives. In Azerbaijan, Turkmenistan and Uzbekistan, less than 60% of women had heard of the condom.

- ◆ Although the overall level of family planning awareness was high, for the most widely known modern methods there is a serious gap between awareness of the method and how it should be used. Furthermore, many women throughout the region lack knowledge of contraceptive effectiveness of methods, pointing toward an immediate need for sustained IEC efforts.
- ◆ In four countries with data on the main source of information about contraception, the principal source is generally a friend or acquaintance (33%–51%), explaining in part, the poor quality of contraceptive information.

-
- ◆ Contraceptive prevalence varies from 41% in Azerbaijan to 74% in Moldova, with highest rates in Eastern Europe (67%–74%) followed by Central Asia (55%–62%) and the Caucasus (41%–61%). The use of modern methods, however, is the highest in Central Asia (47%–55%) followed by Eastern Europe (30%–53%) and the Caucasus (12%–20%). In several countries of the region the use of modern methods accounts for less than half of the contraceptive prevalence. The method most used in these countries is withdrawal. In countries where the use of modern methods is higher than that of traditional methods, the IUD is the most used method.
 - ◆ Modern method use is higher than traditional method use in urban areas in almost all national surveys; traditional method use is higher in rural areas in 6 of the 11 countries. As in other regions of the world, the prevalence of modern methods increases directly with the educational level of the women using contraception.
 - ◆ A substantial proportion (36%–66%) of fecund, married women not currently using contraception want to use contraception at some time in the future.
 - ◆ Overall, women using contraception in the region have a total risk of method failure within 12 months of starting use ranging from 9% to 23%. The risk of becoming pregnant during typical use of

contraception is higher in countries where reliance on traditional, less effective methods is high (e.g. Romania, the Caucasus countries) and lower where most contraceptive users rely on methods with high use-effectiveness (e.g. Central Asia). In every country, users of withdrawal and periodic abstinence report the highest failure rates at 12 months of use (rates are as high as 30% for periodic abstinence and 29% for withdrawal). Only IUD-users report low 12-month failure rates (1%–3%), while 2%–21% of condom-users and 4%–15% pill-users report that their method failed.

- ◆ Overall, 12-month discontinuation rates are also high, from 26% in Turkmenistan (where IUD is the method used the most) to 51% in Romania (where withdrawal is the most popular method). As a percentage of total discontinuation rate, method failure accounts for only 12% of discontinuations in Turkmenistan to 63% in Armenia. Method-specific discontinuation rates are high for all methods, excepting for the IUD (less than 15%). For other methods, discontinuation rates ranged from 29% (for withdrawal) to 82% (for pill).
- ◆ Substantial reductions on the reliance on abortion will depend not so much on increases in the total contraceptive prevalence rate as on improvements in method selection and reductions in contraceptive discontinuation and failure rates.

CHAPTER 6

NEED FOR CONTRACEPTIVE SERVICES

A standard approach for assessing the potential demand for family planning services, other than analyzing contraceptive behaviors among women currently in formal or consensual unions, is to define the contraceptive needs of women in relation to their fecundity and stated reproductive preferences.

The total potential demand for contraception is generally defined as the sum of current contraceptive use (met need) and the additional contraceptive use that would be required for all women/couples who are not using but are at risk of unintended pregnancy (unmet need). Thus, the unmet need for contraception is an estimate of the gap between desired fertility and the contraceptive practices adopted to ensure that fertility preferences are met in a population. The conventional definition of *unmet need* includes women currently married or in consensual unions who are currently sexually active (within the past month), currently exposed to the risk of pregnancy (women who are not sexually active, currently pregnant women, and women in postpartum abstinence or amenorrhea are excluded), fecund (neither they nor their partners have any subfecundity conditions), not wanting to become pregnant (at the time of the interview), and not using any form of pregnancy prevention (Bongaarts J, 1991). In the reproductive health surveys (RHS) the conventional definition extended to all women, not just those in union. In the demographic health surveys (DHS), pregnant and postpartum (who are not yet menstruating) women whose pregnancies were unwanted or mistimed at the time of conception and who did not use any method at the time of pregnancy are also considered to have unmet need.

6.1 Potential Demand and Unmet Need for Family Planning Services

Both RHS and DHS surveys asked all women questions about their sexual, contraceptive, and reproductive behaviors and about their fertility preferences, thus allowing for an examination of contraceptive need among both married and unmarried respondents (Table 6.1.1). This approach, however, is less useful in countries with strong traditions of premarital sexual abstinence, such as Georgia and Azerbaijan. Generally, the level of unmet need is higher among married respondents, since they are more likely to be currently sexually active and have a higher risk of unintended pregnancy. Overall, levels of unmet need were greatest among married women in Georgia (24%), Turkmenistan (19%), and Ukraine (18%). The potential demand for contraception—defined as the sum of current contraceptive use (met need) and the

additional contraceptive use that would be required to eliminate the risk of unwanted or mistimed births (unmet need)—was also higher among married women than among all women, which includes those not currently married. The potential demand for any contraception among married women ranged from a high of 85% and 86% in the Russian areas surveyed and Ukraine to a low of 64%–65% in Georgia and Azerbaijan.

In addition to the unmet need for any contraception, the RHS surveys also calculate the unmet need for modern contraception—an indicator particularly useful in countries where the use of traditional, less effective methods is high. If the use of non-supplied methods (i.e., withdrawal, periodic abstinence) is high, the standard definition of unmet need masks the real need for more effective contraception because these methods tend to have much higher failure rates than the

Region and Country	All Women			Currently Married Women		
	Unmet Need [†]	Met Need	Potential Demand	Unmet Need [†]	Met Need	Potential Demand
Eastern Europe						
<i>Czech Rep., 1993</i>	10	59	69	15	69	84
<i>Moldova, 1997</i>	7	53	60	6	72	78
<i>Romania, 1999</i>	5	49	54	6	63	69
<i>Russia, 1999‡</i>	11	59	70	12	73	85
<i>Ukraine, 1999</i>	15	54	69	18	68	86
Caucasus						
<i>Armenia, 2000</i>	10	37	47	15	57	72
<i>Azerbaijan, 2001</i>	7	31	38	12	53	65
<i>Georgia, 1999</i>	15	24	39	24	40	64
Central Asia						
<i>Kazakhstan, 1999</i>	10	44	54	15	60	75
<i>Kyrgyz Rep., 1997</i>	9	42	51	14	58	72
<i>Turkmenistan, 2000</i>	12	34	46	19	52	71
<i>Uzbekistan, 1996</i>	10	39	49	15	55	70

* Considered to be 15–44 years in RHS and 15–49 years in DHS survey.

† Women using folk methods or LAM were classified as having unmet need for contraception.

‡ Data for Russia pertain to three primarily urban areas as described in Chapter 2.

modern methods. For example, the 12-month failure rate among withdrawal users ranged from 17% in Georgia to 24% in Moldova, 26% in Romania, and 29% in Armenia compared to 2%–5% 12 month failure rates among IUD or pill users (data not shown). Though the unmet need for modern contraception carries the risk of overstating the unmet need in countries where traditional methods are used effectively and have low failure rates, it may be a better indicator for family planning program managers whose primary concern is to provide adequate coverage of supplied methods to their clients. Furthermore, the unmet need for modern methods may provide more accurate international comparisons, especially between countries of Western Europe, where the use of traditional methods is very low, and Eastern Europe and the former Soviet Union, where sometimes the use of traditional methods may account for most of the contraceptive prevalence. Among the countries in Eastern Europe and the Caucasus

region where population-based reproductive health or demographic health surveys have been recently conducted, Armenia and Azerbaijan have the highest unmet need for modern contraception (52%–53%), followed by Ukraine (47%) and Georgia (44%) (Table 6.1.2). Unmet needs for modern methods was lower in the Central Asian republics where modern contraceptive prevalence represents over 80% of the total contraceptive prevalence, and the IUD is the most prevalent method.

Some subgroups of married women exhibit much higher levels of unmet need for contraception than others (Tables 6.1.3 and 6.1.4). Generally, levels of unmet need, particularly levels of need for modern contraception, are higher among rural women than urban women and increase with the number of living children. Women with secondary education or lower levels of education have higher levels of unmet need than those with post-secondary education.

Table 6.1.2 Percent of Women with Unmet Need for Any Contraception and Unmet Need for Modern Contraception Among All Women and Currently Married Women of Reproductive Age* Eastern Europe and Eurasia: A Comparative Report				
Region and Country	All Women		Currently Married Women	
	Any Method	Modern Method	Any Method	Modern Method
Eastern Europe				
<i>Czech Rep., 1993</i>	10	31	15	39
<i>Moldova, 1997</i>	7	23	6	29
<i>Romania, 1999</i>	5	29	6	39
<i>Russia, 1999†</i>	11	28	12	33
<i>Ukraine, 1999</i>	15	37	18	47
Caucasus				
<i>Armenia, 2000</i>	10	34	15	52
<i>Azerbaijan, 2001</i>	7	31	12	53
<i>Georgia, 1999</i>	15	27	24	44
Central Asia				
<i>Kazakhstan, 1999</i>	10	16	14	22
<i>Kyrgyz Rep., 1997</i>	9	15	13	22
<i>Turkmenistan, 2000</i>	12	17	19	27
<i>Uzbekistan, 1996</i>	10	13	14	18

* Considered to be 15–44 years in RHS and 15–49 years in DHS survey.

† Data for Russia pertain to three primarily urban areas as described in Chapter 2.

Table 6.1.3 Percent of Women with Unmet Need for Any Contraception by Characteristics Among Currently Married Women of Reproductive Age* Eastern Europe and Eurasia: A Comparative Report													
Characteristic	Eastern Europe						Caucasus				Central Asia		
	Czech Rep. 1993	Moldova 1997	Romania 1999	Russia 1999†	Ukraine 1999	Armenia 2000	Azerbaijan 2001	Georgia 1999	Kazakhstan 1999	Kyrgyz Rep. 1997	Turkmenistan 2000	Uzbekistan 1996	
Total	15	6	6	12	18	15	12	24	15	13	19	14	
Residence													
Urban	13	6	5	†	20	15	16	22	13	12	17	14	
Rural	18	6	6	†	17	15	6	26	16	14	22	14	
Age													
15-19	23	9	11	16	24	28	5	9	28	12	30	16	
20-24	15	8	6	12	17	22	9	23	21	15	34	18	
25-29	10	6	5	10	16	17	8	25	17	10	25	15	
30-34	12	5	6	9	18	15	11	25	15	10	19	12	
35-39	16	5	5	13	15	14	13	26	12	10	14	10	
40-44	18	7	5	13	21	14	16	23	14	19	11	15	
45-49	†	†	†	†	†	10	†	†	8	22	9	13	
No. of Living Children													
0	10	5	4	10	10	6	5	3	9	3	10	5	
1	13	7	5	12	19	21	9	17	13	12	31	17	
2	16	5	5	11	17	14	12	27	16	13	20	16	
3+	14	7	9	17	24	16	14	31	15	15	16	14	
Education Level													
Secondary Incomplete	19	8	7	22	26	18	10	28	19	19	21	13	
Secondary Complete	9	6	5	15	21	16	12	27	17	13	20	15	
Technicum	§	6	§	11	17	15	12	24	14	13	18	14	
Postsecondary	9	4	3	6	11	13	11	18	11	11	14	12	

* Considered to be 15-44 years in RHS and 15-49 years in DHS survey.

† Data for Russia pertain to three primarily urban areas as described in Chapter 2.

‡ Not applicable.

§ Technicum, specific to former Soviet Union countries, does not exist in the Czech Republic or Romania.

Table 6.1.4 Percent of Women with Unmet Need for Modern Contraception by Characteristics Among Currently Married Women of Reproductive Age* Eastern Europe and Eurasia: A Comparative Report												
Characteristic	Eastern Europe					Caucasus				Central Asia		
	Czech Rep. 1993	Moldova 1997	Romania 1999	Russia 1999†	Ukraine 1999	Armenia 2000	Azerbaijan 2001	Georgia 1999	Kazakhstan 1999	Kyrgyz Rep. 1997	Turkmenistan 2000	Uzbekistan 1996
Total	39	29	39	33	47	52	53	44	22	22	27	18
Residence												
Urban	38	24	35	†	44	48	53	41	21	22	25	19
Rural	40	34	46	†	56	57	54	47	24	23	29	17
Age												
15–19	47	30	42	37	44	36	17	14	36	20	34	17
20–24	40	31	40	30	46	55	42	37	30	23	38	21
25–29	33	27	36	28	45	17	49	44	23	20	30	17
30–34	39	25	40	29	47	55	58	47	21	20	27	17
35–39	41	30	41	34	46	55	60	53	21	19	24	14
40–44	40	32	40	39	52	59	58	42	22	30	22	21
45–49	‡	‡	‡	‡	‡	49	‡	‡	14	29	16	17
No. of Living Children												
0	23	13	17	22	22	8	7	3	13	5	10	6
1	38	26	40	32	46	44	40	31	23	22	45	21
2	42	31	44	36	52	54	58	52	23	25	27	19
3+	37	37	47	39	60	58	65	54	20	25	21	19
Education Level												
Secondary Incomplete	44	34	44	41	54	53	50	45	27	29	27	16
Secondary Complete	33	31	38	35	50	55	55	47	22	24	27	19
Technicum	§	24	§	33	48	54	57	46	23	21	27	17
Postsecondary	35	26	23	27	41	40	46	38	20	22	28	16

* Considered to be 15–44 years in RHS and 15–49 years in DHS survey.

† Data for Russia pertain to three primarily urban areas as described in Chapter 2.

‡ Not applicable.

§ Technicum, specific to former Soviet Union countries, does not exist in the Czech Republic or Romania.

6.2 Unmet Need for Family Planning Services According to Fertility Preferences

The extent to which women and men are able to reconcile their contraceptive practices with their reproductive intentions is a crucial measure of success of a family planning program. Knowledge of reproductive intentions is essential for helping couples to choose the right contraceptive method that will allow them to control if and when to have children. Despite substantial differences in fertility between the European, Caucasus, and Central Asian countries examined, rates of childbearing have fallen substantially in all places and reproductive intentions, especially for couples with two or more children, are surprisingly similar (Table 6.2.1). The preference among women in all the countries for small families is reflected not only in low fertility and high abortion rates (as shown in the previous chapters), but also in the stated desires for additional children. Although strongly influenced by different social norms, cultural values, and economic circumstances, reproductive intentions in these countries

show a similar pattern. Among fecund women in union, between 50% and 77% want no more children. Desire to limit fertility is generally higher in Eastern European and Caucasus countries than in Central Asian countries. Regardless of the region, the desire for additional children decreases rapidly with the number of living children. By the time women have two children (three children in Central Asia), the majority of women are ready to terminate childbearing. In Eastern Europe and the Caucasus region, over 80% of women with two or more children (over 90% in Romania and the Russian areas surveyed) report they want no more children. In Central Asia most women with three or more children report they want to terminate fertility.

Such low levels of desired childbearing, especially with limited availability of effective long-term contraception and typically an early start (and finish) of childbearing, enhances the probability of unintended pregnancies and subsequent abortion. Public health officials and health care providers should always consider fertility preferences in their efforts to help couples satisfy their contraceptive needs.

Table 6.2.1
Percent of Currently Married Fecund Women of Reproductive Age*
Who Do Not Want A(nother) Child in the Future[†]
by Number of Living Children
Eastern Europe and Eurasia: A Comparative Report

	Eastern Europe					Caucasus			Central Asia			
	Czech Rep.	Moldova	Romania	Russia	Ukraine	Armenia	Azerbaijan	Georgia	Kazakhstan	Kyrgyz Rep.	Turkmenistan	Uzbekistan
	1993	1997	1999	1999 [‡]	1999	2000	2001	1999	1999	1997	2000	1996
Total	71	61	69	65	65	77	74	65	61	50	58	52
No. of Living Children[§]												
0	6	5	5	14	12	5	3	1	5	3	5	3
1	28	25	53	50	47	23	23	18	27	12	12	10
2	86	82	93	91	90	80	81	78	68	35	45	38
3	95	92	94	94	90	95	95	92	78	52	67	60
4+	89	91	93	90	70	98	97	90	87	86	92	84

* Considered to be 15–44 years in RHS and 15–49 years in DHS survey.

† Includes contraceptively sterilized women in numerator and denominator.

‡ Data for Russia pertain to three primarily urban areas as described in Chapter 2.

§ Includes current pregnancy.

Based on their stated reproductive intentions, respondents with unmet need for contraception (non-users of any contraception or non-users of modern contraception) could be further classified as having an unmet need for spacing or for limiting births. Those who do not want to get pregnant right away but want to have children sometime in the future (including those undecided whether to have children or not), could be classified as having unmet need for *spacing* births. Respondents who do not want a(nother) child in the future but were not doing anything to prevent pregnancy (or were using less effective methods) could be classified as having an unmet need for *limiting* births (Table 6.2.2). Generally, unmet need for limiting is higher than unmet need for spacing, regardless of the definition employed and the region studied. Among women currently in union in this

region, the unmet need for limiting is two to three times higher than the unmet need for spacing, concordant with the low ideal family size and future reproductive intentions. As a result, of the total unmet need, the percentage of unmet need for limiting ranges from 58% to 81% in Eastern Europe and from 73% to 84% in the Caucasus region. Only in Turkmenistan and Uzbekistan does the unmet need for limiting births not exceed the unmet need for spacing (Figure 6.2). By contrast, owing to the low use of long-term and permanent contraceptive methods, the need for limiting is less likely to be satisfied than the need for spacing in the majority of these countries.

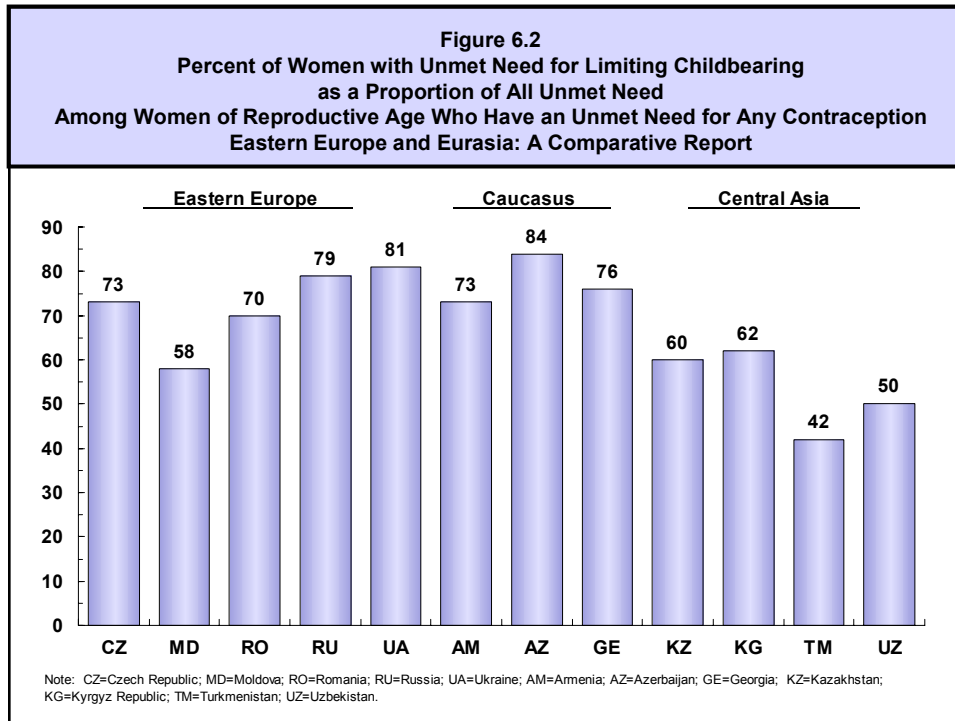
The distinction between potential demand for spacing and limiting has important programmatic implications for family planning services and programs that aim at increasing

Region and Country	Unmet Need for Any Contraception [†]			Unmet Need for Modern Contraception			% Unmet Need for Limiting	
	Total	For Spacing	For Limiting	Total	For Spacing	For Limiting	Any Method	Modern Method
Eastern Europe								
Czech Rep., 1993	15	4	11	39	12	27	73	69
Moldova, 1997	6	3	3	29	9	20	58	68
Romania, 1999	6	2	4	39	9	30	70	76
Russia, 1999‡	12	2	9	33	7	26	79	78
Ukraine, 1999	18	3	14	47	8	39	81	83
Caucasus								
Armenia, 2000	15	4	11	52	10	42	73	81
Azerbaijan, 2001	12	2	10	53	8	45	84	85
Georgia, 1999	24	6	18	44	10	34	76	78
Central Asia								
Kazakhstan, 1999	15	6	9	22	9	13	60	59
Kyrgyz Rep., 1997	13	5	8	22	9	13	62	59
Turkmenistan, 2000	19	11	8	27	14	13	42	48
Uzbekistan, 1996	14	7	7	18	8	10	50	56

* Considered to be 15–44 years in RHS and 15–49 years in DHS survey.

† Women using folk methods or LAM were classified as having unmet need for contraception.

‡ Data for Russia pertain to three primarily urban areas as described in Chapter 2.



contraceptive use. One reason is the different array of methods required by couples who need contraception for spacing (temporary methods) compared with those who need contraception for limiting births (long-term or permanent methods). Another reason is their different demographic characteristics: spacers tended to be younger, childless or with one child, and better educated than limiters, who are typically 30 years of age and older with two or more children (data not shown). Finally, the motivation for not using contraception is different between potential spacers and potential limiters. For example, among women with unmet need for spacing in Romania, the main reason for not using contraception was their intention to get pregnant at some point in the future whereas among women with unmet need for limiting births, the major barrier to contraceptive use was the belief that they were not at risk of getting pregnant (data not shown).

6.3 Summary of Findings on Unmet Need

As stated in many family planning program evaluations, the concept of potential demand defines the “market” for contraceptive use. It recognizes not only that family planning providers in the public and private sector must serve current users of contraception but also the non-users who want to prevent unintended pregnancy and would use contraception if it were more available or better promoted or if other barriers to use were removed (Robey B et al, 1992).

Some highlights from this chapter may be summarized as follows:

- ◆ In the countries reported on in this chapter, unmet need ranged from 6% (Moldova and Romania) to 24% (Georgia) of currently married woman and from 5% (Romania) to 15% (Georgia and Ukraine) of all women.

-
- ◆ If unmet need is extended to include users of traditional methods, 18% to 53% of currently married women are classified at risk of an unintended pregnancy because they do not use modern contraception. Unmet need for modern contraception is highest in the Caucasus region, ranging from 44% to 53% followed by Eastern Europe (29%–47%) and is lowest in the Central Asian republics (18%–26%).
 - ◆ Unmet need is generally higher in rural areas, and in Eastern Europe and the Caucasus, increases as the number of living children increase. In Eastern Europe, unmet need is inversely related to education; in the Caucasus, unmet need is lower for women with postsecondary education; there is no significant relationship in the Central Asian republics.
 - ◆ There appears to be a west to east continuum in the percentage of fecund women who want no more children. In Eastern Europe, at least 82% of women with two or more children want no more children; at least 65% in the Caucasus and Kazakhstan and from 35% to 45% in the remainder of central Asia.
 - ◆ Given the high proportions of women with two or more children who do not want another child in the future, it is no surprise that, with the exception of Turkmenistan and Uzbekistan, the majority of women with unmet need want to limit their childbearing. In Eastern Europe, of the total unmet need the percentage of unmet need for limiting ranges from 58% to 81%; in the Caucasus the range is from 73% to 84%; and in Kazakhstan and Kyrgyz Republic, the result is similar (60%–62%).

7 CHAPTER

ATTITUDES AND OPINIONS TOWARD CONTRACEPTION AND ABORTION

The countries of Eastern Europe and the former Soviet Union have experienced a sharp decline in fertility while abortion, although declining in some countries, has remained an important method of fertility control. This region's isolation from the West prevented both women and health providers from becoming aware of developments in modern contraception. The lack of awareness and availability of quality contraceptives reinforced dependence upon abortion to limit family size (Remenick L, 1991; Popov A, 1996).

The RHS measured women's perceptions of the advantages and disadvantages of contraceptive pill use in the Czech Republic, Moldova, Romania, Ukraine, Azerbaijan, Georgia, and selected areas of Russia. (The sub-national survey in Russia was conducted in three primarily urban sites in central Russia.) Assorted subsets of the RHS measured women's desire for more information about contraception, perceptions of the advantages and disadvantages of using an IUD, perceptions of the health risk associated with contraceptive use and abortion, whether they believe abortion is a woman's personal decision and under which circumstances abortion was acceptable, discussion of contraception with their spouses, and their husband's attitudes toward family planning. Not all questions were asked in all countries. The DHS measured women's perceptions of their partners' attitudes and the percentage of women in union who had discussed contraception with their partner.

7.1 Desire for More Information about Contraception

In this area of the world, where information about contraception has not always been available and may still be difficult to obtain, it is important to know whether women feel they

need more information and which segments of the population have the greatest need. The RHS surveys in Moldova, Romania, Azerbaijan, and Georgia addressed this issue with the question, “Do you want to have more information about contraceptive methods?”

More than 70% of all women responded that they wanted more information about contraception in every country but Georgia,

where just over half expressed a desire for more contraceptive information (Table 7.1). Desire for family planning information was evenly distributed between urban and rural areas, with some greater interest among urban women in Georgia. In general, the need for information was higher among younger women. In all of the countries, both never-married and currently married women reported a greater need for information than previously

Table 7.1 Percent Who Desire More Information About Contraception by Selected Characteristics Among Women Aged 15–44 Eastern Europe and Eurasia: A Comparative Report				
Characteristic	Eastern Europe		Caucasus	
	Moldova, 1997	Romania, 1999	Azerbaijan, 2001	Georgia, 1999
Total	75	72	73	53
Residence				
Urban	73	72	74	57
Rural	77	73	72	48
Age Group				
15–19	94	88	70	57
20–24	91	89	86	68
25–29	83	79	83	64
30–34	72	74	78	55
35–39	61	57	69	43
40–44	42	39	51	27
Marital Status				
Currently Married	71	67	77	53
Previously Married	55	57	48	33
Never Married	92	88	71	57
Number of Living Children				
0	86	84	71	56
1	75	74	78	60
2	68	62	76	51
3+	62	50	72	41
Education Level				
Secondary Incomplete	77	67	70	43
Secondary Complete	73	76	73	53
Technicum	74	*	76	52
University	77	81	76	61
Current Method Used[†]				
IUD	72	69	82	57
Condom	82	88	88	73
Pill	73	86	88	71
Traditional	75	69	82	59
None	78	70	69	51
No. of Cases	5,412	6,888	7,668	7,798

† Excludes a small percentage of women who were using other modern methods.

married women, but in Moldova (92%) and Romania (88%) the need was greatest among never-married women.

In all countries except Azerbaijan interest in information about contraception increased with the number of living children. Among current users of contraception, those with IUDs in Moldova, Romania, and Georgia were less interested in more contraceptive information. In Moldova, condom users and respondents who were using no method were the most interested in learning more about contraception, while in Romania and Georgia condom and pill users were the most interested. In Azerbaijan, interest was very high (82% to 88%) except among those not using any method (69%).

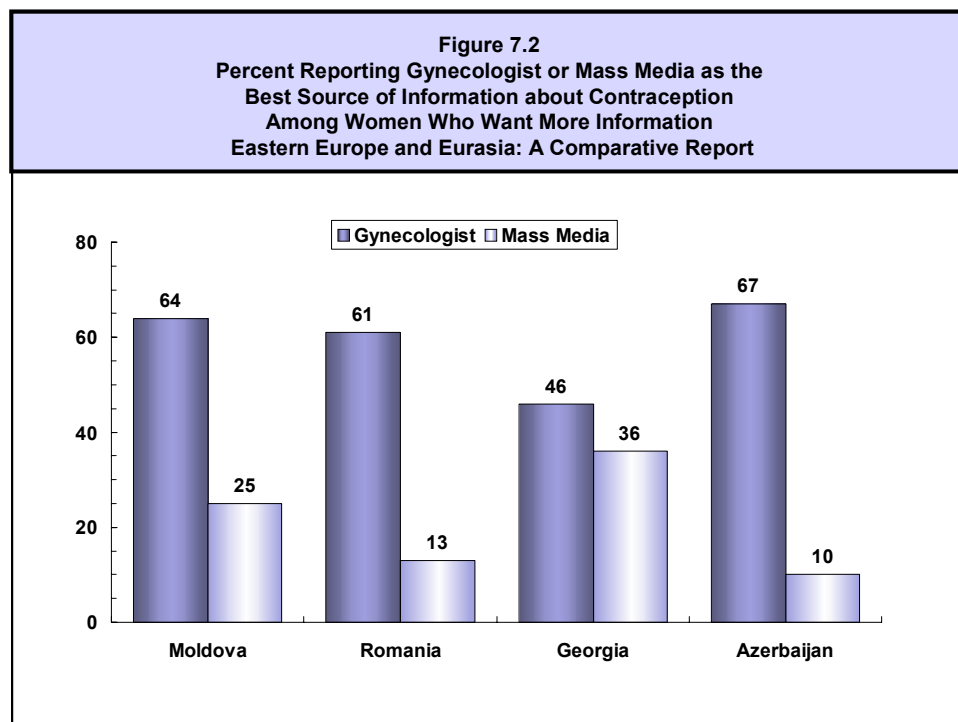
7.2 Opinion on the Best Source of Information About Contraception

In the countries where women were asked about their interest in receiving more information about contraception, those women

who answered “yes” were then asked their opinion on the “best source of information about contraceptive methods.” As shown in Figure 7.2, in all four countries, gynecologists were identified as the best source of information, followed by mass media. Women in Moldova, Romania, and Azerbaijan overwhelmingly preferred to receive information on contraception from gynecologists (64%, 61%, and 67%). Georgian women were more evenly split with 46% preferring to learn about contraception from a gynecologist and 36% preferring to hear about it through the mass media.

7.3 Opinions Regarding the Advantages and Disadvantages of the Pill and IUD

The RHS surveys in the Czech Republic, Moldova, Romania, Russia, Ukraine, Azerbaijan, and Georgia included statements of perceived advantages and disadvantages to using oral contraceptives. In four countries (Moldova, Romania, Azerbaijan, and Georgia)



similar statements appropriate to IUD use were included. Respondents who had heard of the pill and IUD were asked if they agreed with these statements (Table 7.3). The exact makeup of the statements varied among the questionnaires, as not every statement was included in every survey.

Women in the Czech Republic (53%), Romania (47%) and the surveyed areas of Russia (47%) were more likely than women in the other four countries to agree that the pill makes menstrual periods more regular. Women in Georgia were the least likely to agree with this statement (17%). Romanian women were more likely than women in the other countries to agree with positive statements that pills are easy to use (79%), easy to get (80%), and allow for spontaneity of intercourse (51%). Less than one third of women surveyed in any country were aware that pills protect against some gynecological cancers (8% to 27%), decrease blood loss during menstruation (11% to 30%), and decrease menstrual cramps and pain (10% to 29%). Georgian women were least aware of all of these advantages of contraceptive pills.

When asked if they agreed that pills cause weight gain, Russian women (67%) were most likely to agree, Georgian (31%), and Azeri (32%) women were least likely to agree. Russian (29%) and Ukrainian (35%) women were more likely to believe that prolonged pill use can cause infertility than women of the Czech Republic (16%). Belief that oral contraceptives can cause cancer was nearly equal among Russian, Czech and Ukrainian women (24% to 28%). Very few Georgian (10%) and Romanian (11%) women agreed that the pill is bad for blood circulation, but agreement was twice as high among women in Azerbaijan, Czech Republic, the Russian areas surveyed, and Ukraine (20% to 26%). About one quarter of women surveyed in the mostly urban Russian sites, in the Czech

Republic, and in Ukraine felt that the pill increases a woman's chance of getting cancer. Nearly half of the women in Moldova agreed that pills are too expensive, while approximately one woman in seven agreed with that statement in Georgia. About two out of every five women in Azerbaijan, Moldova, and Georgia felt that it was stressful to remember to take the pill every day, while fewer than one in three said so in Romania.

In general, agreement with the advantages of pill use was greater than agreement with the disadvantages. Georgian women showed less awareness of the advantages of pill use than the women in other countries, although more than half felt that pills are easy to get and use. Romanian women appeared to be more enthusiastic about the pill than the women of Moldova, Azerbaijan, and Georgia. Because Russia, Ukraine, and Czech Republic had fewer statements of advantages of pill use to compare, less can be inferred about the opinions of women in these countries.

The advantages of IUD use, asked about in Romania, Azerbaijan, and Georgia surveys, are that it is relatively inexpensive, easy to use, and decreases the risk of ectopic pregnancy. The Moldovan questionnaire included only the statement regarding expense. Again, these respondents were limited to those women who had heard of the IUD. Nearly three quarters of women in Moldova agreed that the IUD is inexpensive, while agreement in the other surveyed countries was much less (34% to 43%). Agreement that the IUD is easy to use was about a third in Azerbaijan and somewhat higher in Georgia (44%) and Romania (46%). Knowledge that the IUD decreases the risk of ectopic pregnancy was highest in Azerbaijan (33%) and lowest in Georgia (13%).

The disadvantages of IUD use asked about in the questionnaires included increased

Table 7.3 Percent Who Agree With Selected Statements Concerning Advantages and Disadvantages of the Pill and IUD Among Women Aged 15–44 Who Have Heard of the Pill or IUD Eastern Europe and Eurasia: A Comparative Report									
	Pill						IUD		
	Eastern Europe			Caucasus			Caucasus Region		
Advantages	Czech Rep. 1993	Moldova 1997	Romania 1999	Russia 1999*	Ukraine 1999	Azerbaijan 2001	Georgia 1999	Azerbaijan 2001	Georgia 1999
<i>The Pill Makes Periods More Regular.</i>	53	30	47	47	34	29	17		
<i>Pills Are Easy To Use.</i>	†	52	79	†	†	53	56		
<i>Pills Are Easy To Get.</i>	†	48	80	†	†	55	55		
<i>Pills Allow Spontaneity of Sexual Intercourse.</i>	†	36	51	†	†	†	45		
<i>Pills Protect Against Some Gynecological Cancers.</i>	†	27	26	†	†	20	8		
<i>Pills Decrease Blood Loss During Menstruation.</i>	†	30	28	†	†	23	11		
<i>Pills Decrease Menstrual Cramps And Pain.</i>	†	29	27	†	†	26	10		
Disadvantages									
<i>The Pill Makes You Gain Weight.</i>	42	†	54	67	48	32	31		
<i>Taking the Pill For Too Long Can Cause Infertility.</i>	16	†	†	29	35	†	†		
<i>Women Who Take the Pill Have a Higher Risk of Getting Cancer.</i>	25	†	†	24	28	†	†		
<i>The Pill Is Bad For Blood Circulation.</i>	21	†	11	23	26	20	10		
<i>Pills Are Too Expensive.</i>	†	48	21	†	†	26	14		
<i>It Is Stressful To Remember To Take the Pill Every Day.</i>	†	41	29	†	†	45	40		
No. of Cases	4,497	5,412	6,319	6,004	7,128	4,263	5,470		
Advantages	Eastern Europe			Caucasus Region					
	Moldova 1997	Romania 1999		Azerbaijan 2001	Georgia 1999				
<i>The IUD Is A Relatively Inexpensive Method To Use.</i>	72	37		34	43				
<i>IUD Is Easy to Use.</i>	†	46		35	44				
<i>IUD Decreases the Risk of Ectopic Pregnancy.</i>	†	23		33	13				
Disadvantages									
<i>The Use of IUD Can Cause Spotting Between Periods.</i>	†	34		47	28				
<i>The Use of IUD Increases Menstrual Pain.</i>	64	24		48	20				
<i>IUD Increases the Risk of Pelvic Inflammatory Disease.</i>	†	41		50	39				
<i>IUD Increases the Loss of Blood During Menses.</i>	53	28		50	27				
No. of Cases	5,412	6,340		6,688	7,395				

* Data for Russia pertain to three primarily urban areas as described in Chapter 2.

† Statement was not included in the questionnaire.

menstrual pain, increased menstrual flow, spotting between periods, and increased risk of pelvic inflammatory disease (PID). The last two statements were not part of the Moldovan questionnaire. Half of Moldovan woman agreed that the IUD increases blood loss during menses and nearly two thirds agreed that IUD increases menstrual pain. Approximately half of the women in Azerbaijan who had heard of the IUD agreed with all statements concerning disadvantages (47% to 50%). Agreement with disadvantages of the IUD was less for women in Romania and Georgia.

7.4 Opinions on Risks to Women's Health Due to Contraceptive Use

The RHS asked women in Moldova, Romania, the surveyed areas of Russia, Ukraine, Azerbaijan, and Georgia to rate selected methods of contraception with regard to their risk of health problems. Table 7.4 shows the percentage of women who rated the pill, IUD, condoms, tubal ligation and injectables as having a high risk of health problems for users,

and the percentage of those who either did not know or who had never heard of the method in question. A considerable proportion of women who are shown in the "Don't Know" column had never heard of the method.

The perception of risk associated with oral contraceptives is much higher in Ukraine (29%) than it is in the other countries (10% to 17%). The IUD is rated as a health risk by more women in Moldova (22%) and Ukraine (23%). Less than 9% of women in any of these countries feel there is a health risk with using condoms. One out of three women in Moldova, Russia, and Ukraine think that tubal ligation has a high risk of health problems. The perception of risk associated with injectables is highest in Ukraine (30%) and lowest in Romania (1%), where 84% of women do not know enough to rate risk of this method.

Of the countries of Eastern Europe, Romania had the largest percentage of women who were unable to rate the health risks of every method of contraception, indicating that women in Romania are the least knowledgeable about

Table 7.4
Percent Who Perceive of Specific Contraceptive Methods As Having
A High Risk of Health Problems Or Lack of Knowledge Enough to Rate Them*
Among Women Aged 15–44
Eastern Europe and Eurasia: A Comparative Report

Region and Country	Method										No. of Cases
	Pill		IUD		Condom		Tubal Ligation		Injectables		
	High Risk	Don't Know	High Risk	Don't Know	High Risk	Don't Know	High Risk	Don't Know	High Risk	Don't Know	
Eastern Europe											
Moldova, 1997	17	30	22	8	2	12	33	30	11	66	5,412
Romania, 1999	13	27	11	34	2	21	5	53	1	84	6,888
Russia, 1999†	17	12	15	11	3	6	32	33	20	47	6,004
Ukraine, 1999	29	18	23	16	8	12	35	40	30	43	7,128
Caucasus											
Azerbaijan, 2001	12	63	19	40	2	67	12	76	‡	‡	7,668
Georgia, 1999	10	47	10	25	1	32	U	U	U	U	7,798

* The majority of women in the "Don't Know" category have never heard of the method.

† Data for Russia pertain to three primarily urban areas as described in Chapter 2.

‡ The questionnaire for Azerbaijan did not include a question about the health risks of injectables.

U = Unavailable.

the health implications of contraceptive methods. The women of Ukraine have the highest rates of perception of risk for every method of contraception listed. Compared to Eastern Europe, the countries of the Caucasus have higher percentages of women who do not know whether contraceptive methods have health risks. The highest percentages of “Don’t Know” for every method occur in Azerbaijan.

7.5 Opinions About Abortion

In the Czech Republic, Moldova, Romania, Russia, Azerbaijan, and Georgia the RHS surveys questioned women about whether they believe that a woman always has the right

to make decisions about her pregnancy, including whether to have an abortion. The inclusion of questions about opinions of abortion was based on the fact that the abortion rate in these countries is high, despite the development of family planning programs and the efforts of non-governmental organizations to educate women on the use of contraceptive methods. Agreement that women have a right to make choices about abortion is greater than 75% in almost every country where this question was asked (Table 7.5.1).

Overall agreement was greatest in Czech Republic (85%) and lowest in Russia (72%).

Table 7.5.1 Percent Who Think that Whether to Have an Abortion Should Be a Woman's Personal Decision* by Selected Characteristics Among Women Aged 15–44 Eastern Europe and Eurasia: A Comparative Report						
Characteristic	Eastern Europe				Caucasus	
	Czech Rep. 1993	Moldova 1997	Romania 1999	Russia 1996†	Azerbaijan 2001	Georgia 1999
Total	85	81	78	72	80	79
Residence						
Urban	86	82	79	†	80	80
Rural	84	79	76	†	80	79
Age Group						
15–19	83	78	74	72	73	69
20–24	84	81	79	73	80	79
25–29	87	81	77	71	81	80
30–34	88	80	80	71	83	82
35–39	85	84	80	72	84	85
40–44	86	81	78	73	81	82
Marital Status						
Currently Married	86	81	78	71	82	83
Previously Married	88	85	78	73	80	86
Never Married	83	79	77	75	76	71
Education Level						
Secondary Incomplete	82	79	78	71	79	70
Secondary Complete	89	83	76	70	80	81
Technicum	‡	80	‡	71	81	85
University	91	79	81	76	81	78
No. of cases	4,497	5,412	6,888	5,997	7,668	7,798

* Do you think that (in any situation) a woman always has (or should have) the right to decide about her (own) pregnancy, including whether to have an abortion?

† Data for Russia pertain to three primarily urban areas as described in Chapter 2.

‡ Technicum, specific to former Soviet Union countries, does not exist in the Czech Republic or Romania.

Within most countries there were no significant differences between urban and rural women, between age groups, or according to marital status, level of education, or number of living children. In Georgia, acceptance of abortion under any circumstance had the greatest variation, with lowest percentages among women 15-19 (69%), never married women (71%), and those with less than complete secondary education (70%), three variables that are highly correlated. The pattern was similar but less pronounced in Azerbaijan.

With the exception of the Russian RHS, the minority of women who did not agree that abortion is always a woman's personal decision were asked if abortion would be acceptable under selected circumstances, including danger to the mother's life, deformity of the fetus, danger to the mother's health, pregnancy resulting from rape, inability to support the child financially, and pregnancy outside of marriage. Many of the circumstances have high rates of acceptance (Table 7.5.2).

In the Czech Republic, Azerbaijan, and Georgia the circumstance with the highest rate of acceptance of abortion was when the

pregnancy endangered the mother's life. In Romania and Georgia, acceptance of abortion was nearly equal for danger to the mother's life and fetal malformation. In Moldova, fetal malformation generated the highest rate of abortion acceptance. Across all countries except Azerbaijan, a pregnancy outside of marriage was least likely to be considered an acceptable reason for abortion.

In each country, different levels of acceptance of abortion were apparent for groups of circumstances. While the groupings varied somewhat between countries, generally, danger to the woman was the most acceptable circumstance. With the exception of the Czech Republic, fetal malformation was nearly as acceptable a reason or more so. The next level of acceptance was when there was danger to a woman's health, although it is only 38% of those who do not agree that a woman always has the right to have an abortion in Moldova. In every country but Georgia, rape was an acceptable reason to at least 40% of women who do not agree that a woman always has the right to decide to abort, and in Azerbaijan economic reasons were acceptable as well, to two-thirds of women. Generally, the situation resulting in the least acceptance for abortion was that of an unmarried woman.

Table 7.5.2
Percent Who Think that Abortion Is Acceptable Under Selected Circumstances
Among Women Aged 15–44 Who Do Not Believe Abortion Is Always Acceptable:
Eastern Europe and Eurasia: A Comparative Report

Circumstance	Eastern Europe			Caucasus	
	Czech Rep. 1993	Moldova 1997	Romania 1999	Azerbaijan 2001	Georgia 1999
<i>If the Pregnancy Endangers Woman's Life</i>	91	71	69	83	80
<i>If the Child Might Be Born Deformed</i>	74	88	70	80	80
<i>If Pregnancy Endangers Woman's Health</i>	72	38	52	70	70
<i>If Pregnancy Resulted from Rape</i>	71	43	42	67	40
<i>If Family Cannot Afford to Support the Child</i>	16	32	29	65	23
<i>If the Woman is Not Married</i>	8	16	23	66	22
No. of Cases	657	1,021	1,562	1,456	1,500

The Czech Republic had the greatest variation in acceptance rates depending on circumstance. While nine out of ten women who disagree that a woman always has the right to an abortion felt that danger to a woman's life was a good reason for an abortion, acceptance fell drastically for financial reasons (16%) and just 8% felt that being unmarried was an appropriate reason for abortion. Women in Azerbaijan exhibited the least variation in acceptance of abortion for any of the listed reasons, with 83% for danger to a woman's life and 65% as the lowest acceptance rate, for inability to support the child.

DHS surveys conducted in Central Asia included a different question: "Do you approve or disapprove of a woman having an abortion?" An analysis of the 1995 and 1999 DHS in Kazakhstan concluded that "as contraception gains in acceptance and prevalence, opposition to abortion as the primary form of birth control is rising" (Agadjanian V, 2002). The same analysis also found differences in approval of abortion across ethnocultural groups in Kazakhstan, with less approval among Kazakhs compared with Europeans.

7.6 Opinions on Risks to Women's Health Due to Abortion

In the RHS of Moldova, Romania, Russia, Ukraine, Azerbaijan, and Georgia, all women were questioned about their perception of the level of risk to a woman's health due to abortion (Table 7.6). Compared to the methods of contraception discussed in Table 7.4.1, few women had either not heard of abortion or did not have an opinion on the risks associated with abortion (5% to 31%). In Eastern Europe, Moldovan women (90%) showed the greatest fear of health problems resulting from abortion, and Romanian women showed the least (65%), although even in that country a clear majority perceived abortion as risky. In the Caucasus, about half of women surveyed saw a high level of risk in abortion.

The dependence on abortion in this region of the world exists despite the fact that anywhere from 50% to 90% of women in these countries feel that abortion presents a high level of risk to a woman's health. The belief of women in these countries that abortion is a risk to a woman's health is a sign that, with greater

Table 7.6 Opinion Regarding the Level of Health Risk Associated with Abortion Among Women Aged 15–44 (Percent Distribution) Eastern Europe and Eurasia: A Comparative Report							
Region and Country	Perception of Risk					Total	No. of Cases
	No Risk	Low Risk	Medium Risk	High Risk	Don't Know		
Eastern Europe							
Moldova, 1997	*	1	4	90	5	100	5,412
Romania, 1999	6	6	12	65	11	100	6,888
Russia, 1999 ^{†‡}	2	2	6	83	8	100	6,004
Ukraine 1999 [§]	2	2	5	84	8	100	7,128
Caucasus							
Azerbaijan, 2001	*	5	13	51	31	100	7,668
Georgia, 1999	1	5	25	50	19	100	7,798

* "No Risk" was not a response option in this question in Moldova and Azerbaijan.

† Data for Russia pertain to three primarily urban areas as described in Chapter 2.

‡ Opinion was measured on a ten-point Likert scale which was converted as follows for the purpose of this report: 10 = No Risk, 7–9 = Low Risk, 4–6 = Medium Risk and 1–3 = High Risk.

§ Opinion was measured on a five-point Likert scale which was converted as follows for the purpose of this report: 5 = No Risk, 4 = Low Risk, 3 = Medium Risk and 1–2 = High Risk.

efforts to disseminate both more information on contraception and more contraceptive supplies, abortion rates can be reduced.

7.7 Discussion of Contraception Between Partners

Reproductive health and family planning programs often target women without including men, which can reduce their effectiveness. The decision to use contraception and which form to use may depend on the husband, especially in countries with Muslim traditions. Because contraceptive use is greater among couples who have discussed family planning, DHS and

RHS surveys, in five and four countries, respectively, asked currently married women if they had discussed contraception with a partner in the last year (Bawah, 2002; Kimuna & Adamchak, 2001).

On the whole, women in Kyrgyz Republic (71%), Turkmenistan (70%), and Uzbekistan (73%) were most likely to have discussed contraception with their husbands in the last twelve months while women in Georgia (33%) were least likely to have done so (Table 7.7). On average, about half of the women in Moldova, Romania, Armenia, Azerbaijan, and Kazakhstan had talked about family planning with their partners.

Characteristic	Eastern Europe		Caucasus			Central Asia			
	Moldova 1997	Romania 1999	Armenia 2000	Azerbaijan 2001	Georgia 1999	Kazakhstan 1999	Kyrgyz Rep. 1997	Turkmenistan 2000	Uzbekistan 1996
Total	57	51	47	43	33	53	71	70	73
Residence									
Urban	58	52	50	42	36	56	72	71	76
Rural	55	49	43	45	29	50	71	70	71
Age Group									
15–19	64	66	39	35	18	52	58	42	47
20–24	70	70	53	53	37	67	77	71	63
25–29	61	62	57	54	43	62	79	75	75
30–34	60	53	48	50	38	54	77	74	79
35–39	50	44	45	40	32	54	68	67	80
40–44	44	29	38	25	19	35	55	65	74
Education Level									
Secondary Incomplete	54	45	34	39	22	52	54	59	67
Secondary Complete	53	57	43	43	29	46	71	68	70
Technicum	58	*	48	45	34	56	74	77	77
University	67	61	59	47	40	59	74	81	81
Current Method Used[†]									
IUD	88	54	54	53	39	51	73	77	88
Condom	54	82	64	81	81	80	92	94	90
Pill	90	76	71	57	44	74	99	92	90
Traditional	77	57	51	55	63	63	88	79	91
None	37	32	36	27	15	47	61	56	52
No. of Cases	4,433	4,846	3,566	5,146	5,177	2,567	2,418	4,282	2,804

* Technicum, specific to former Soviet Union countries, does not exist in Romania.

† Excludes a small percentage of women who were using other modern methods.

The percentage of women who had discussed contraception with their partners was distributed fairly evenly between urban and rural areas, with the greatest difference in the in the Caucasus. The rates of women reporting such discussion was lowest at the ends of the age spectrum surveyed, with women aged 15–19 (18% to 66%) and aged 40–44 (19% to 74%) less likely to have talked to their partners about family planning. The younger women may be more likely to want to get pregnant and the older women to believe they can no longer become pregnant. Among young women, family planning discussions were more frequently reported in Moldova (64%) and Romania (66%). Among women aged 40–44, talking about contraception was reported most often by women in Turkmenistan (65%) and Uzbekistan (74%). Women currently not using any method of contraception were the least likely to have discussed it with their husbands in the last year.

7.8 Perception of Husbands' Opinion of Contraception

In DHS and RHS surveys married women were also asked about their husbands' attitudes towards contraception. In RHS this question was answered only if a woman had discussed contraception with her husband in the last year. In DHS it was posed to all married women. Accordingly, the data are presented in two separate tables, as they are not exactly comparable.

The question of husbands' attitude toward contraception was included in the RHS of Moldova, Romania, Azerbaijan, and Georgia. In all four countries a large percentage of women reported that their husband approved of the use of contraceptive methods in general (Table 7.8.1). In Moldova, 95% of women reported that their husband approved of contraception, while the lowest percentage of

Table 7.8.1 Perception of Husbands' Attitudes Toward Contraception Among Currently Married Women Aged 15–44 Who Have Discussed Contraception With a Partner in the Last Year* (Percent Distribution) Eastern Europe and Eurasia: A Comparative Report						
Region and Country	Perception of Husband's Attitude				Total	No. of Cases
	Approves	Disapproves	Neither	Don't Know		
Eastern Europe						
Moldova, 1997 [†]	95	5	‡	§	100	2,275
Romania 1999 [†]	94	5	0	1	100	2,424
Caucasus						
Azerbaijan 2001	86	8	5	0	100	2,334
Georgia 1999 [†]	71	14	13	2	100	1,730

* Asked after the question about discussing contraception with a husband or partner in the last year.

† Generally, does your husband/partner approve or disapprove of the use of contraceptive methods?

‡ "Neither approve nor disapprove" was not an option in Moldova.

§ Less than 0.5%.

|| Generally, does your husband/partner agree or disagree with the use of contraceptive methods?

women reporting so was in Georgia, where nearly three quarters of women said their husbands approved of it. Women in Georgia were nearly twice as likely as those in Azerbaijan and almost three times as likely as those in Moldova or Romania to report that their partners disapproved of contraception. When women do discuss contraception with their husbands, they find that the men do not object in large numbers.

In Armenia, Kazakhstan, Kyrgyz Republic, Turkmenistan, and Uzbekistan, where DHS asked all currently married women their opinion of their husbands' attitude towards contraception, a majority believed that their husbands approved of pregnancy prevention (Table 7.8.2). Women in Kyrgyz Republic (85%) and Turkmenistan (84%) were most likely to believe that their husbands agreed with the use of contraception. The main difference between the RHS and DHS findings was in the area of unknown opinion. The women of Armenia (18%) and Uzbekistan (21%) (DHS respondents) were most likely to respond that they did not know their husbands' opinion, considerably higher than the 1–2% of RHS respondents who didn't know their husbands'

opinion. This difference could be due either to the placement of the question in the questionnaire, or to cultural differences.

7.9 Summary of Findings

Although there have been sub-national studies and qualitative research conducted in Eastern Europe and Eurasia, the RHS and DHS surveys provide the first national level population-based data in this region on attitudes and opinions toward contraception and abortion. As previously stated, since information about contraception has not always been available in this area of the world, the attitudes and opinions of women can be very important in designing information programs and improving the quality of care from health providers. A summary of findings from this chapter is listed below:

- ◆ About three-fourths of women in Moldova, Romania, and Azerbaijan desire more information about contraception; in Georgia, 53% desired more information. In general, a greater proportion of young women, never married women, and women using condoms desired more information,

Table 7.8.2 Perception of Husbands' Attitudes Toward Contraception* Among Currently Married Women Aged 15–44 (Percent Distribution) Eastern Europe and Eurasia: A Comparative Report					
Region and Country	Perception of Husband's Attitude			Total	No. of Cases
	Approves	Disapproves	Don't Know		
Caucasus					
Armenia, 2000	70	12	18	100	3,566
Central Asia					
Kazakhstan, 1999	77	12	11	100	2,567
Kyrgyz Rep., 1997	85	9	6	100	2,418
Turkmenistan, 2000	84	5	12	100	4,282
Uzbekistan, 1996	70	9	21	100	2,804

* "Do you think that your husband/partner approves or disapproves of couples using a method to avoid pregnancy?", asked before the question about discussing family planning shown in Table 7.7.

emphasizing the need for sex education programs and services designed for young adults.

- ◆ In the countries where respondents were asked whether they agree with statements about the pill and IUD, it is obvious that a high level of misconceptions and misinformation are common among women in Eastern Europe and the Caucasus. In three of four countries about one-half of women disagreed with the statement that “pills are easy to obtain”.
- ◆ The Caucasus countries have higher percentages than Eastern Europe of women who do not know whether contraceptive method use is associated with health risks.
- ◆ Most women agree that abortion is a woman’s personal decision (75%–85%). Of the women who do not believe abortion is a personal decision, most agree that

pregnancy termination is acceptable if the woman’s life is endangered (69%–91%) or if the child might be born deformed (70%–88%).

- ◆ In Central Asia, with the exception of Kazakhstan, about 70% of couples had recently discussed contraception. From 51% to 57% of couples had discussed contraception in Romania, Kazakhstan, and Moldova, but in the Caucasus region, only 33% to 47% had such discussions. As women’s education increased, the proportion discussing contraception increased.
- ◆ Although the questions in the RHS and DHS were sequenced differently, 70% or more of married women in all surveys said that their husband approves of contraception. Approval was greater than 90% in Moldova and Romania and ranged between 70% and 86% in the seven countries in the Caucasus and Central Asia.

CHAPTER 8

MATERNAL CARE

A number of factors can have a considerable impact on the health of a woman, the health of her baby, and the outcome of her pregnancy. The Demographic and Health Surveys (DHS) and Reproductive Health Surveys (RHS) looked at a number of these factors, such as: the use of health care services related to pregnancy; health-related behaviors during pregnancy; the place, type, and assistance at delivery; and postpartum behaviors. Changes in the health care systems and the financing available for health care since the fall of communism in the countries of this region may have affected some of these factors significantly. The DHS and RHS all contained considerable amounts of information regarding women's experience during pregnancy, delivery, and the postpartum period. In the absence of reliable official statistics, these data can be used to identify problems and to set program priorities, goals, and strategies related to improving the health of mothers and infants and pregnancy outcomes.

8.1 Prenatal Care

Prenatal (or antenatal) care is important for preventing, identifying, and treating conditions that can affect the health of an expectant mother or her baby. For the optimal health of mother and child, it is recommended that every pregnant woman start seeing a health care provider for prenatal care examinations during her first trimester of pregnancy. Current guidelines for Russia, which apply to most countries of the former Soviet Union, are that prenatal visits take place every two weeks between the twelfth and thirtieth weeks of pregnancy and then every 1–2 weeks after the thirtieth week (US DHHS, 1999).

All the DHS and RHS conducted in this region included questions about whether women

obtained prenatal care during recent pregnancies that resulted in a live birth, and the trimester or month in which care began. Many of the surveys also collected information on other aspects of prenatal care, such as the primary source of care, the type of person providing that care, the number of visits made during the entire pregnancy, and whether specific services were received as part of prenatal care.

Table 8.1.1 presents, for the 12 countries covered, the percent of recent pregnancies ending in a live birth during which respondents reported that they received no prenatal care at all.¹ In most of these countries, this percentage is low in comparison with developing countries. However, there is a considerable range, from less than 1% in the Czech Republic to 30% in Azerbaijan. In the latter country, the percentage was roughly triple the next highest percentages, 11% in Romania and 10% in Ukraine. Countries with high prenatal coverage were Moldova (1% receiving no care), Turkmenistan (2%), and the Kyrgyz Republic (3%). Differences between urban and rural populations tended to be small, except in the Caucasus countries, where 2-3 times more women received no care in rural areas than in urban areas. Receipt of prenatal care was positively correlated with education, most strongly in the Caucasus. The likelihood of receiving no care increased with birth order, except in countries with very high rates of coverage.

There was a strong correlation between whether women received prenatal care and when the first visit for care took place (Table 8.1.2). In the Czech Republic, 94% of women

began receiving care during their first trimester of pregnancy. At the other extreme, in Azerbaijan, only 45% started that early. Care tended to begin latest in the Caucasus. In Central Asia, care often began earlier in rural areas than in urban areas, while the opposite was found in the Caucasus. In almost all countries, care began sooner among better educated women, though the relationship was weakest in Central Asia. In those countries where there was a relationship between start of care and birth order, prenatal care tended to start earliest for first births.

It has been conclusively demonstrated that smoking cigarettes during pregnancy has clinically significant effects on the health of the newborn in many ways. Women who quit smoking before or during pregnancy can reduce the likelihood of various outcomes associated with cigarette use, including delays in conception, preterm premature rupture of membranes, preterm delivery, and low birth weight (US DHHS, 2001). In seven countries, respondents were asked if they smoked during recent pregnancies (Table 8.1.3). The results show a considerable range, from less than 1% in Azerbaijan to 12% in the Czech Republic, followed closely by Romania and the Russian areas surveyed (10%). The prevalence of cigarette smoking was highest among urban women and poorly educated women. There was no clear pattern between smoking and age or birth order.

In four of the six countries in which it was asked, a majority of women reported having at least one ultrasound examination during recent pregnancies. These figures, shown in Table 8.1.4, range from 92% in the Czech

¹ Because of slight differences in questionnaires (e.g., some surveys collected prenatal care information for all pregnancies in recent years while others did so for only the most recent pregnancy resulting in a live birth) and differences in how data were tabulated and presented in survey reports (e.g., some presented information for the previous three years while others used a five-year period and some included the small proportion of pregnancies resulting in a stillbirth in the denominator), there are slight differences in comparability across surveys that are unlikely to affect this report's conclusions.

Table 8.1.1 Percent of Women Receiving No Prenatal Care from a Medical Professional by Selected Maternal Characteristics Among Recent Pregnancies Ending in a Live Birth Eastern Europe and Eurasia: A Comparative Report												
Characteristic	Eastern Europe					Caucasus			Central Asia			
	Czech Rep. 1993*	Moldova 1997†	Romania 1999†	Russia 1999*‡	Ukraine 1999§	Armenia 2000§	Azerbaijan 2001†	Georgia 1999†	Kazakhstan 1999§	Kyrgyz Rep. 1997	Turkmenistan 2000§	Uzbekistan 1996
Total	1	1	11	4	10	8	30	9	5	3	2	5
Residence												
Urban	1	1	9	‡	10	5	21	4	8	1	2	3
Rural	1	2	13	‡	10	11	40	14	3	3	2	6
Age at Birth												
15–19	0	2	13	3	6	10	50	12	2	4	2	7
20–34	1	1	11	4	10	6	31	8	6	2	2	5
35–44	0	2	16	2	15	18	26	12	3	3	2	9
Education Level												
Secondary Incomplete	1	2	16	8	11	20	47	30	13	10	3	6
Secondary Complete	†	1	5	3	10	7	30	12	6	3	2	6
Technicum	#	1	#	5	10	7	21	4	5	2	1	3
Postsecondary	0	†	5	1	7	3	11	2	4	1	2	4
Birth Order												
1	1	1	7	3	9	3	22	6	4	3	2	5
2	1	1	11	5	11	6	32	8	6	1	2	4
3+	1	2	27	12	12	14	37	19	7	3	2	6
No. of cases	1,274	2,141	2,040	1,326	1,938	1,248	3,430	3,050	1,129	1,172	2,470	1,392

* Most recent live birth in last 5 years.

† All live and still births in last 5 years. Still births account for less than 2% of sample.

‡ Data for Russia pertain to three primarily urban areas as described in Chapter 2.

§ All live births in last 5 years.

|| All live births in last 3 years.

†† Less than 0.5%.

Technicum, specific to former Soviet Union countries, does not exist in the Czech Republic or Romania.

Table 8.1.2
Percent of Women Receiving Prenatal Care from a Medical Professional Beginning in the First Trimester
by Selected Maternal Characteristics
Among Recent Pregnancies Ending in a Live Birth
Eastern Europe and Eurasia: A Comparative Report

Characteristic	Eastern Europe					Caucasus			Central Asia			
	Czech Rep. 1993*	Moldova 1997†	Romania 1999†	Russia 1999*‡	Ukraine 1999*‡	Armenia 2000§	Azerbaijan 2001†	Georgia 1999†	Kazakhstan 1999§	Kyrgyz Rep. 1997	Turkmenistan 2000§	Uzbekistan 1996
Total	94	73	60	83	65	54	45	63	60	72	72	73
Residence												
Urban	94	74	67	‡	67	58	55	68	61	65	63	71
Rural	94	72	54	‡	63	50	35	58	59	74	79	74
Age at Birth												
15-19	92	66	53	78	56	54	39	61	52	73	71	74
20-34	95	75	62	83	66	55	46	63	61	75	73	73
35-44	89	62	59	79	66	42	48	62	64	59	70	64
Education Level												
Secondary Incomplete	93	68	53	72	65	42	32	43	43	65	67	74
Secondary Complete	96	71	69	80	63	51	43	57	53	74	73	71
Technicum	¶	78	¶	84	65	58	60	67	63	69	73	75
Postsecondary	95	77	77	88	72	60	60	74	71	77	73	75
Birth Order												
1	94	72	67	85	67	59	48	70	62	76	71	75
2	95	76	56	82	64	54	44	62	58	74	74	73
3+	92	70	45	67	55	49	43	47	60	70	72	71
No. of cases	1,274	2,141	2,040	1,326	1,938	1,248	3,430	3,050	1,129	1,172	2,470	1,392

* Most recent live birth in last 5 years.

† All live and still births in last 5 years. Still births account for less than 2% of sample.

‡ Data for Russia pertain to three primarily urban areas as described in Chapter 2.

§ All live births in last 5 years.

|| All live births in last 3 years.

¶ Technicum, specific to former Soviet Union countries, does not exist in the Czech Republic or Romania.

Table 8.1.3
Percent of Women Who Smoked Cigarettes During Pregnancy
by Selected Maternal Characteristics
Among Recent Pregnancies Ending in a Live Birth
Eastern Europe and Eurasia: A Comparative Report

<i>Characteristic</i>	Eastern Europe					Caucasus	
	Czech Rep. 1993*	Moldova 1997 [†]	Romania 1999 [†]	Russia 1999* [‡]	Ukraine 1999*	Azerbaijan 2001 [†]	Georgia 1999 [†]
Total	12	2	10	10	4	§	2
Residence							
<i>Urban</i>	13	3	14	‡	6	§	5
<i>Rural</i>	9	1	7	‡	2	§	§
Age at Birth							
15–19	12	2	13	20	4	1	§
20–34	11	2	10	10	4	§	3
35–44	14	3	1	6	6	1	5
Education Level							
<i>Secondary Incomplete</i>	18	2	11	20	7	1	§
<i>Secondary Complete</i>	6	1	8	15	6	§	§
<i>Technicum</i>		2		9	3	1	4
<i>Postsecondary</i>	2	2	10	4	4	0	4
Birth Order							
1	10	2	11	11	4	1	4
2	10	2	10	8	4	§	3
3+	21	2	6	10	4	§	2

* Most recent live birth in last 5 years.

[†] All live and still births in last 5 years. Still births account for less than 2% of sample.

[‡] Data for Russia pertain to three primarily urban areas as described in Chapter 2.

§ Less than 0.5%.

|| Technicum, specific to former Soviet Union countries, does not exist in the Czech Republic or Romania.

Republic to 26% in Azerbaijan. (No data are available from Central Asia). Ultrasound rates were highest among urban women, well educated women, and those having their first birth.

8.2 Pregnancy and Delivery

The health care system developed under the Soviet Union was very hospital centered. In Russia in 1996, for instance, there were 206 discharges per 1,000 population with an average length of stay of 16.9 days, both far higher than in other industrialized countries (US DHHS, 1999; Komarov, 1997). Because of the heavy reliance on hospitals, health care in the former Soviet Union has been relatively

expensive. Frequently women would be hospitalized, often for extended periods of time, even for minor complications during pregnancy. This practice is evident for the Eastern European countries in Table 8.2.1, which shows, for seven countries, the percentage of pregnancies during which women were hospitalized (not including hospitalization for delivery). In Eastern Europe, the percentage of women hospitalized ranged from 19% in Romania all the way to 50% in the Russian areas surveyed. (The reader should keep in mind throughout that the results presented for Russia represent only three, predominantly urban areas, not the entire country.) Hospitalization rates were only about 3% in Azerbaijan and Georgia,

Table 8.1.4
Percent of Women Receiving an Ultrasound Exam by Selected Maternal Characteristics
Among Recent Pregnancies Ending in a Live Birth
Eastern Europe and Eurasia: A Comparative Report

Characteristic	Eastern Europe				Caucasus	
	Czech Rep. 1993*	Moldova 1997 [†]	Romania 1999 [†]	Ukraine 1999*	Azerbaijan 2001 [†]	Georgia 1999 [†]
Total	92	75	47	78	26	54
Residence						
<i>Urban</i>	92	86	60	81	36	67
<i>Rural</i>	92	67	36	73	12	42
Age at Birth						
15–19	98	73	38	75	17	48
20–34	92	75	55	79	26	56
35–44	90	77	49	73	36	61
Education Level						
<i>Secondary Incomplete</i>	91	72	49	70	20	38
<i>Secondary Complete</i>	92	73	55	76	21	43
<i>Technicum</i>	‡	78	‡	79	30	54
<i>Postsecondary</i>	97	77	73	84	43	72
Birth Order						
1	94	78	50	81	27	58
2	90	76	48	78	22	53
3+	92	64	34	61	28	49

* Most recent live birth in last 5 years.

[†] All live and still births in last 5 years. Still births account for less than 2% of sample. Percentages for these countries assume that pregnancies without prenatal care did not receive ultrasounds.

‡ Technicum, specific to former Soviet Union countries, does not exist in the Czech Republic or Romania.

however. We do not know whether rates of hospitalization were substantially higher in the Caucasus during the Soviet era. Rates of reported complications requiring medical attention were 25% and 13% in Azerbaijan and Georgia, respectively. Thus the proportion of women with pregnancy complications who were hospitalized was only about 10% and 25%, almost certainly far lower than the other countries listed. The likelihood of hospitalization decreases slightly from urban to rural areas and as age and birth order increase. There appears to be little relationship with educational attainment.

Except in the Caucasus countries, deliveries outside of health facilities are relatively uncommon (Table 8.2.2). In Azerbaijan, 26%

of births occurred outside of health facilities, a figure more than three times higher than in Georgia and Armenia, the countries with the next highest rates. Such births were least common in Eastern Europe; only 1% of deliveries in the Czech Republic and Ukraine took place outside of health facilities. Not surprisingly, births outside of facilities were far more frequent in rural areas than in urban areas. In general, they were most common among older and higher parity women, as well as among poorly educated women throughout the surveyed countries.

Relatively few live births were not attended by a trained medical professional in the countries of Central Asia, ranging from under 1% in the Kyrgyz Republic to 3% in Uzbekistan (Table

Table 8.2.1
Percent of Women Hospitalized During Pregnancy for Reasons Other Than Delivery
by Selected Maternal Characteristics, Among Recent Pregnancies Ending in a Live Birth
Eastern Europe and Eurasia: A Comparative Report

Characteristic	Eastern Europe					Caucasus	
	Czech Rep. 1993*	Moldova 1997 [†]	Romania 1999 [†]	Russia 1999* [‡]	Ukraine 1999*	Azerbaijan 2001 [†]	Georgia 1999 [†]
Total	29	30	19	50	32	3	3
Residence							
<i>Urban</i>	29	32	22	‡	35	4	4
<i>Rural</i>	29	28	16	‡	28	2	2
Age at Birth							
15–19	34	32	20	54	36	2	3
20–34	29	29	20	51	33	3	3
35–44	28	31	8	45	29	5	4
Education Level							
<i>Secondary Incomplete</i>	27	26	20	48	33	3	3
<i>Secondary Complete</i>	31	29	19	45	29	2	2
<i>Technicum</i>	§	U	§	53	34	4	3
<i>Postsecondary</i>	30	U	18	51	34	5	5
Birth Order							
1	32	35	21	53	38	4	4
2	26	26	16	42	28	2	3
3+	29	24	18	38	14	2	2

* Most recent live birth in last 5 years.

[†] All live and still births in last 5 years. Still births account for less than 2% of sample.

[‡] Data for Russia pertain to three primarily urban areas as described in Chapter 2.

§ Technicum, specific to former Soviet Union countries, does not exist in the Czech Republic or Romania.

U = Unavailable.

8.2.3). By far, the greatest proportion of deliveries not attended by a trained medical professional took place in Azerbaijan about one in every eight births, almost four times the percentage in any other country listed. Those births that were not attended by trained personnel tended to be those that took place among rural women, less well educated women, and higher parity women. These differentials were especially marked in the Caucasus countries.

There was considerable variation across the countries in the proportion of births delivered

by Cesarean section, from 3% in Azerbaijan, Uzbekistan, and Turkmenistan up to 12% in the Russian areas surveyed and 11% in Romania (Table 8.2.4). Even the highest of these rates is exceeded by many other countries in the world. Cesarean sections were more common in urban areas than in rural areas for every country except the Czech Republic. Percentages also tended to increase with women's age but not birth order. In general, Cesarean section rates were higher in Eastern Europe than in the other two regions. There was wide variation across the Central Asian republics included.

Table 8.2.2
Percent of Deliveries Occurring Outside of a Medical Facility by Selected Maternal Characteristics
Among Recent Pregnancies Ending in a Live Birth
Eastern Europe and Eurasia: A Comparative Report

Characteristic	Eastern Europe					Caucasus			Central Asia			
	Moldova 1997*	Romania 1999†	Russia 1999*‡	Ukraine 1999*	Armenia 2000§	Azerbaijan 2001†	Georgia 1999†	Kazakhstan 1999§	Kyrgyz Rep. 1997	Turkmenistan 2000§	Uzbekistan 1996	
Total	1	2	2	1	9	26	8	2	4	4	6	
Residence												
Urban	0	¶	‡	1	1	17	2	1	1	1	2	
Rural	2	4	‡	1	16	36	13	2	5	6	8	
Age at Birth												
15–19	1	3	0	0	14	28	11	1	4	5	2	
20–34	1	2	1	1	7	26	7	1	3	4	6	
35–44	1	2	6	2	11	22	11	5	8	7	13	
Education Level												
Secondary Incomplete	3	3	2	2	26	39	25	4	15	7	6	
Secondary Complete	1	1	3	2	10	26	10	1	5	5	8	
Technicum	0	*	1	¶	5	18	2	1	3	1	2	
Postsecondary	¶	0	3	1	2	12	2	0	3	1	3	
Birth Order												
1	¶	1	1	¶	5	17	4	¶	2	3	2	
2	2	3	3	1	7	27	8	1	4	4	5	
3+	2	6	5	3	15	35	17	1	5	6	10	

* Most recent live birth in last 5 years.

† All live and still births in last 5 years. Still births account for less than 2% of sample.

‡ Data for Russia pertain to three primarily urban areas as described in Chapter 2.

§ All live births in last 5 years.

|| All live births in last 3 years.

¶ Less than 0.5%.

Technicum, specific to former Soviet Union countries, does not exist in Romania.

Table 8.2.3
Percent of Deliveries Not Attended by a Trained Medical Professional by Selected Maternal Characteristics
Among Recent Pregnancies Ending in a Live Birth
Eastern Europe and Eurasia: A Comparative Report

Characteristic	Eastern Europe	Caucasus			Central Asia			
	Romania 1999*	Armenia 2000 [†]	Azerbaijan 2001*	Georgia 1999*	Kazakhstan 1999 [†]	Kyrgyz Rep. 1997 [‡]	Turkmenistan 2000 [†]	Uzbekistan 1996 [‡]
Total	2	3	12	2	§	1	2	3
Residence								
Urban	§	1	6	0	§	1	1	0
Rural	3	6	17	3	§	2	3	4
Age at Birth								
15–19	2	3	12	2	0	1	3	0
20–34	1	3	12	1	§	1	2	2
35–44	1	7	10	5	0	4	3	10
Education Level								
Secondary Incomplete	2	12	18	5	0	4	4	0
Secondary Complete	§	3	12	2	§	1	4	3
Technicum		2	5	1	1	1	1	2
Postsecondary	0	1	4	1	0	1	1	0
Birth Order								
1	§	1	5	1	0	§	1	1
2	2	3	11	2	§	1	2	2
3+	4	7	19	4	1	2	2	4

* All live and still births in last 5 years. Still births account for less than 2% of sample.

[†] All live births in last 5 years.

[‡] All live births in last 3 years.

§ Less than 0.5%.

|| Technicum, specific to former Soviet Union countries, does not exist in Romania.

8.3 Birth Weight

The proportion of recently born babies who were reported to weigh less than 2,500 grams² at birth fell in a tight range, between 4% and 7%, with the exceptions of Azerbaijan and Romania, where 12% and 9%, respectively, of

babies were reported as having low birth weight (Table 8.3). Levels were similar for the three subregions examined. There were some considerable differentials by socioeconomic or demographic variables for individual countries, but no consistent differences across countries.

² By current convention, newborns are considered to be low birth weight (LBW) if they weigh under 2,500 grams (5 pounds, 8 ounces). Those weighing under 1,500 grams are classified as very low birth weight (VLBW). In this analysis, we present data on the proportion of newborns that mothers reported to be of low birth weight. We do not report on those of VLBW because there are so few who fell into this category and because it was felt that many such babies (a large proportion of whom die shortly after birth) are likely not reported as live births because of a former Soviet policy on the classification of birth outcomes. For a more detailed discussion of this issue, see section 14.7 of this report.

Table 8.2.4 Percent of Deliveries by Cesarean Section by Selected Maternal Characteristics Among Recent Pregnancies Ending in a Live Birth Eastern Europe and Eurasia: A Comparative Report												
Characteristic	Eastern Europe					Caucasus			Central Asia			
	Czech Rep. 1993*	Moldova 1997†	Romania 1999†	Russia 1999*‡	Ukraine 1999*	Armenia 2000§	Azerbaijan 2001†	Georgia 1999†	Kazakhstan 1999§	Kyrgyz Rep. 1997	Turkmenistan 2000§	Uzbekistan 1996
Total	8	6	11	12	9	7	2	6	10	6	3	3
Residence												
Urban	8	7	15	‡	11	8	3	7	12	7	4	5
Rural	8	5	8	‡	7	5	1	5	8	6	2	2
Age at Birth												
15–19	5	4	6	9	14	4	1	7	4	6	1	5
20–34	8	6	12	11	9	7	2	5	8	6	3	2
35–44	7	10	16	17	11	17	7	16	28	10	6	6
Education Level												
Secondary Incomplete	8	5	7	13	11	4	1	2	14	1	2	4
Secondary Complete	7	6	14	14	7	5	2	4	7	6	2	2
Technicum	††	7	††	10	10	7	2	6	10	4	5	4
Postsecondary	11	7	25	12	11	10	4	9	13	15	6	4
Birth Order												
1	10	7	12	13	10	8	2	7	11	8	4	3
2	6	6	11	8	9	7	2	6	9	5	3	3
3+	9	4	5	18	3	4	2	4	8	5	3	3

* Most recent live birth in last 5 years.

† All live and still births in last 5 years. Still births account for less than 2% of sample.

‡ Data for Russia pertain to three primarily urban areas as described in Chapter 2.

§ All live births in last 5 years.

|| All live births in last 3 years.

†† Technicum, specific to former Soviet Union countries, does not exist in the Czech Republic or Romania.

Table 8.3
Percent of Births with Low Birth Weight (Under 2500 Grams) by Selected Maternal Characteristics
Among Recent Live Births
Eastern Europe and Eurasia: A Comparative Report

<u>Characteristic</u>	<u>Eastern Europe</u>				<u>Caucasus</u>			<u>Central Asia</u>				
	Czech Rep. 1993*	Moldova 1997†	Romania 1999†	Russia 1999*‡	Ukraine 1999*	Armenia 2000§	Azerbaijan 2001†	Georgia 1999†	Kazakhstan 1999†	Kyrgyz Rep. 1997§	Turkmenistan 2000†	Uzbekistan 1996§
<u>Total</u>	6	5	9	6	5	6	12	6	7	6	6	4
<u>Residence</u>												
Urban	6	5	10	‡	5	4	10	6	6	6	5	3
Rural	5	6	8	‡	4	8	14	5	8	5	6	5
<u>Age at Birth</u>												
15–19	9	6	9	2	4	8	14	7	8	12	9	6
20–34	5	5	9	6	4	5	12	5	7	5	6	4
35–44	7	12	10	7	9	8	13	6	12	7	5	2
<u>Education Level</u>												
Secondary Incomplete	6	6	12	6	6	10	16	5	9	10	9	1
Secondary Complete	5	6	4	8	5	7	12	7	8	5	6	6
Technicum		4		5	5	6	9	4	7	5	4	3
Postsecondary	3	5	8	6	3	3	6	6	7	9	3	4
<u>Birth Order</u>												
1	6	7	9	7	5	6	12	7	7	9	8	5
2	4	3	8	4	4	6	9	5	8	2	5	4
3+	7	6	12	8	8	6	15	5	7	3	4	4

* Most recent live birth in last 5 years.

† All live births in last 5 years.

‡ Data for Russia pertain to three primarily urban areas as described in Chapter 2.

§ All live births in last 3 years.

|| Technicum, specific to former Soviet Union countries, does not exist in the Czech Republic or Romania.

8.4 Postpartum Care

Information on whether women received a postpartum examination following their most recent live births was collected in five countries in Eastern Europe and the Caucasus (Table 8.4). There was tremendous variation across these countries in the proportions receiving postpartum care, from 74% in Moldova down to 11% in Georgia. Except in Moldova, postpartum care coverage was higher in urban areas than in rural areas. Coverage also tended to increase with education and decrease with age.

8.5 Summary of Findings

- ◆ The percentage of recent pregnancies ending in a live birth for which no prenatal care was reported is low with the exception of Azerbaijan, where 30% of respondents reported that they received no prenatal care. Otherwise, the absence of prenatal care ranged from 1% in the Czech Republic and Moldova to 11% in Romania. Differences between urban and rural populations tended to be small, except in the Caucasus countries, where 2 to 3 times more women received no care in rural areas than in urban areas.

Table 8.4 Percent of Women Receiving Postpartum Care of Mother by Selected Maternal Characteristics Among Recent Pregnancies Ending in a Live Birth Eastern Europe and Eurasia: A Comparative Report					
Characteristic	Eastern Europe			Caucasus	
	Moldova 1997*	Romania 1999*	Ukraine 1999†	Azerbaijan 2001*	Georgia 1999*
Total	74	32	58	25	11
Residence					
Urban	67	37	59	27	12
Rural	78	27	54	23	9
Age at Birth					
15–19	73	28	54	22	10
20–34	75	32	58	25	11
35–44	70	32	54	27	9
Education Level					
Secondary Incomplete	72	26	60	23	4
Secondary Complete	77	38	56	23	9
Technicum	76	‡	58	28	11
Postsecondary	71	48	57	33	15
Birth Order					
1	74	36	62	30	13
2	76	32	54	22	9
3+	74	17	46	23	8

* All live births in last 5 years.

† Most recent live birth in last 5 years.

‡ Technicum, specific to former Soviet Union countries, does not exist in Romania.

-
- ◆ Receipt of prenatal care was positively correlated with education, most strongly in the Caucasus.
 - ◆ With the exception of the Caucasus, deliveries outside of health facilities are uncommon. In the Caucasus, from 8% (Georgia) to 26% (Azerbaijan) of births occurred outside of a health facility. Only in Azerbaijan (12%) were more than 3% of births not attended by a trained medical professional.
 - ◆ In three of the five countries with data, less than 50% of women, and only 11% in Georgia, reported that they received a postpartum examination following their most recent live birth.
 - ◆ These surveys are typically not vehicles for collecting information on maternal mortality, clearly a topic about which more needs to be known in this part of the world as few of the countries in the region have verifiable estimates of levels of maternal mortality.

CHAPTER 9

HEALTH BEHAVIORS

Cancer is a leading cause of death in women, in both the developed and developing world. Among reproductive system cancers, breast and cervical cancer are the most common. A substantial proportion of these cancers in Eastern Europe, the Caucasus, and Central Asia are detected at an advanced and incurable stage due to the low perception of being at risk, lack of awareness of the symptoms of the disease, a fatalistic attitude towards cancer generally, lack of information or mistrust about the possibility of a cure, lack of or inefficient screening services, and a low priority for women's health issues among the governments of the region. Generally, women of the region have limited access to preventive health services, mainly because of providers' failure to recommend them, and lack of awareness about screening. Among these services, cervical cancer screening is particularly deficient.

Other potential health risks for women include the use of tobacco and alcohol. In recent years transnational tobacco companies have focused many of their efforts, including manufacturing, distribution and advertising, in less developed countries and Eastern Europe, where smoking-related diseases are on the increase. The prevalence of smoking is rising most rapidly among young women in many countries, including those of Eastern Europe. A recent worldwide review estimated that smoking prevalence in Europe and Central Asia was the highest in the world at 34% overall (53% among males and 16% among females) (Jha P et al., 2002). As well as causing lung cancer and cardiovascular diseases, smoking poses risks specific to women. It increases both the risk of cervical cancer and the risks associated with taking the contraceptive pill. It also affects women's reproductive health by increasing the risk of

early menopause, miscarriage, and low birthweight babies.

To examine these health issues, the CDC-assisted Reproductive Health Surveys (RHS) and the DHS survey in Armenia included questions regarding health behaviors. In seven countries, the RHS contained questions about routine gynecologic visits and cigarette smoking. Questions about breast self-exam, cervical cancer screening, diagnosis or treatment of pelvic inflammatory disease, and self-reports of vaginal discharge or genital ulcers and alcohol use were included in most of the surveys. Trend data are available for Romania, where two RHS surveys were conducted, one in 1993 and the second in 1999. The 1999 RHS survey in Romania also included a sample of men of reproductive age and those data are presented as well.

9.1 Prevalence of Routine Gynecologic Visits

Patient attitudes and behaviors regarding health care visits are important determinants of whether they receive routine screening, including cervical and breast cancer screening. Important barriers that can reduce individual utilization of routine health visits include: low perception of being at risk, a fatalistic attitude toward cancer generally, low awareness about benefits of screening, perceived discomfort, and fear of positive results. Lack of knowledge about health-related issues, noncompliance with doctors' recommendations, miscommunication between patient and provider, and socio-economic and geographic factors are also potential barriers to preventive care. Other factors limiting access to preventive health care visits include limited resources within the health system, inadequate number and/or maldistribution of health providers, and physician barriers

(knowledge, attitudes, and beliefs regarding routine screening, lack of time or expertise, and restrictive hours of service availability).

In the U.S. and Western Europe, it is recommended that women have a routine gynecologic examination every year after age 18, or earlier if sexually experienced. In several countries of Eastern Europe and the Caucasus region, a substantial proportion of sexually experienced women reported that they had never had routine gynecologic exams, or, they did not have such exams in the last 12 months (Tables 9.1.1 and 9.1.2). In seven RHS surveys, 58% to 93% of sexually experienced women reported that a gynecologist had ever examined them during a routine exam, but only 22% to 70% had been examined in the previous 12 months. Prevalence of routine exams within the last year was highest in Eastern Europe (65%–70%), with the exception of Romania (36%). The Caucasus region had much lower rates, 22% in Azerbaijan and 30% in Georgia. Rural residents, younger women, never-married women, and those with lower levels of education were less likely to have had preventive gynecologic exams. Older women and, with the exception of Ukraine, rural women were less likely to have done so in the last year. The low prevalence of routine exams could have a substantial negative impact on screening, counseling, and health education.

Between 1993 and 1999 in Romania, more women adopted the practice of having a routine gynecologic exam, increasing from 56% to 70%, and about half of these women were using gynecologic preventive care services yearly (27% to 36%). The increase was visible throughout various subgroups but young adult women, particularly those never married, reported greater rates of increase in annual routine gynecologic exams (Serbanescu F et al., 2001).

Table 9.1.1 Percentage of Women Who Ever Had a Routine Gynecologic Exam by Selected Characteristics Among Sexually Experienced Women Aged 15–44 Eastern Europe and Eurasia: A Comparative Report									
Characteristic	Eastern Europe			Caucasus					
	Czech Rep. 1993	Moldova 1997	Romania 1999	Russia 1999*	Ukraine 1999	Armenia 2000	Azerbaijan 2001	Georgia 1999	
Total	92	93	70	91	92	71	58	72	
Residence									
Urban	93	95	77	*	93	69	61	76	
Rural	91	91	59	*	91	74	53	67	
Age Group									
15–19	60	79	43	88	80	9	28	46	
20–24	89	90	59	89	89	52	46	65	
25–29	98	92	69	92	93	86	58	73	
30–34	98	95	74	90	95	94	57	73	
35–39	99	95	77	92	95	94	64	76	
40–44	98	95	80	93	95	93	63	77	
Marital Status									
Currently Married	97	93	72	91	93	98	57	72	
Previously Married	98	91	73	91	94	95	60	67	
Never Married	69	90	59	90	86	6	†	†	
Education Level									
Secondary Incomplete	90	90	64	87	85	U	51	54	
Secondary Complete	94	92	74	90	91	U	55	70	
Technicum	‡	95	‡	92	93	79	65	74	
Postsecondary	95	96	80	92	95	68	69	79	
Employment Status									
Currently Employed	94	93	77	92	94	U	64	76	
Not Currently Employed	86	91	63	89	89	U	55	70	

* Data for Russia pertain to three primarily urban areas as described in Chapter 2.

† Fewer than 25 cases in this category.

‡ Technicum, specific to former Soviet Union countries, does not exist in the Czech Republic or Romania.

U = Unavailable.

Table 9.1.2
Percentage of Women Who Had a Routine Gynecologic Exam Within the Last Year by Selected Characteristics
Among Sexually Experienced Women Aged 15–44
Eastern Europe and Eurasia: A Comparative Report

Characteristic	Eastern Europe					Caucasus		
	Czech Rep. 1993*	Moldova 1997	Romania 1999	Russia 1999†	Ukraine 1999	Armenia 2000	Azerbaijan 2001	Georgia 1999
Total	66	70	36	65	65	21	22	30
Residence								
<i>Urban</i>	67	71	41	†	65	19	26	33
<i>Rural</i>	62	68	27	†	65	24	17	26
Age Group								
15–19	47	66	31	74	66	6	21	35
20–24	70	76	40	67	69	32	26	45
25–29	74	73	39	65	68	39	26	37
30–34	69	72	40	64	66	32	22	30
35–39	64	68	35	61	63	20	21	25
40–44	64	61	29	65	59	15	17	16
Marital Status								
<i>Currently Married</i>	70	70	36	64	65	31	23	31
<i>Previously Married</i>	65	62	33	66	64	11	17	18
<i>Never Married</i>	48	73	39	70	65	2	‡	21
Education Level								
<i>Secondary Incomplete</i>	64	63	31	64	61	U	18	22
<i>Secondary Complete</i>	69	66	39	63	62	U	20	28
<i>Technicum</i>	§	76	§	67	66	23	26	28
<i>Postsecondary</i>	64	77	47	63	66	21	32	36
Employment Status								
<i>Currently Employed</i>	67	71	41	67	68	U	25	29
<i>Not Currently Employed</i>	62	65	31	60	57	U	21	30

* Data for Czech Republic are only for women who have been sexually active within the past 12 months and reported a routine gynecologic exam "yearly."

† Data for Russia pertain to three primarily urban areas as described in Chapter 2.

‡ Fewer than 25 cases in this category.

§ Technicum, specific to former Soviet Union countries, does not exist in the Czech Republic or Romania.

U = Unavailable.

9.2 Breast Self-Exam

Methods for early detection of breast cancer that can be used as screening tests include breast self-examination (BSE), clinical breast examination (CBE), and mammography (Last et al., 1986). While clinical trials have shown that mammographic screening can reduce breast cancer mortality in women over age 50 by 25%, there is insufficient evidence at the present time that BSE or CBE alone are effective in reducing mortality and morbidity from breast cancer (Latthe PM and Shafi MI, 2001). However, in populations where mammography is not readily available or is too

expensive (and thus unsuitable to be used in population-wide screening), BSE and CBE are responsible for detection of breast cancer in most women (Aubard Y et al., 2002; Rebentish DP et al., 1995). More studies are needed to assess if these screening tests should be promoted or not in settings where the majority of women lack access to mammography. BSE is a very simple self-care procedure that can detect early modifications of the breast and can be performed by women in the privacy of their homes after minimal instruction. Appropriate follow-up by a physician should be available and accessible for women who detect breast changes through self-examination.

Five RHS and one DHS surveys explored the level of awareness about BSE and how often the exam was performed. Overall, more than 60% of sexually experienced women in Eastern Europe had ever heard about this technique, but far fewer had ever performed BSE (Table 9.2). Levels of both awareness and usage were lower in the Caucasus; women in the Czech Republic (78%) were the most likely to have heard of BSE, while women in Azerbaijan (30%) were the least likely to have done so.

Awareness of BSE was slightly higher among urban than among rural residents and among women with complete secondary or postsecondary education. Awareness of BSE was higher among women who underwent routine gynecological exams compared to those who had never made such visits.

Overall, only 10% to 50% of women practiced BSE. The practice of BSE was most common among women in the Czech Republic and least

Table 9.2
Percentage of Women Who Are Aware of and Use Breast Self Exam by Selected Characteristics
Among Sexually Experienced Women Aged 15–44
Eastern Europe and Eurasia: A Comparative Report

Characteristic	Eastern Europe						Caucasus					
	Czech Rep. 1993		Moldova 1997		Romania 1999		Armenia 2000		Azerbaijan 2001		Georgia 1999	
	% Aware	% Ever Used	% Aware	% Ever Used	% Aware	% Ever Used	% Aware	% Ever Used	% Aware	% Ever Used	% Aware	% Ever Used
Total	78	50	69	48	61	39	15	9	30	10	47	23
Residence												
Urban	79	52	73	51	71	48	17	9	37	13	56	29
Rural	77	48	65	45	43	23	13	8	21	6	36	16
Age Group												
15–19	41	12	44	18	40	23	4	2	11	3	19	2
20–24	64	32	58	36	52	30	13	6	20	4	31	9
25–29	81	48	71	50	60	37	17	10	27	9	43	18
30–34	85	58	73	52	66	44	16	11	31	11	51	24
35–39	91	66	73	51	68	44	21	12	36	11	52	28
40–44	92	70	77	57	66	44	18	11	32	15	58	34
Marital Status												
Currently Married	83	56	71	50	60	39	18	11	30	10	47	23
Previously Married	83	54	67	42	60	35	17	11	28	8	47	22
Never Married	53	24	57	29	70	41	8	3	*	*	*	*
Education Level												
Secondary Incomplete	70	43	55	35	44	24	U	U	20	5	16	6
Secondary Complete	87	59	65	41	72	48	U	U	26	8	37	14
Technicum	†	†	78	59	†	†	18	11	36	13	54	26
Postsecondary	91	63	84	64	92	68	25	13	51	24	64	36
Employment Status												
Currently Employed	82	54	72	51	73	48	U	U	39	15	62	35
Not Currently Employed	67	39	62	40	49	29	U	U	27	9	42	19
Routine Gynecologic Exam												
Ever Had	81	53	71	49	68	46	U	U	34	13	50	26
Never Had	46	21	51	31	46	24	U	U	24	6	39	16

* Fewer than 25 cases in this category.

† Technicum, specific to former Soviet Union countries, does not exist in the Czech Republic or Romania.

U = Unavailable.

common among Azeri women. Women living in rural areas, those with less than complete secondary education, and young adults were less likely to practice BSE. Prevalence of BSE was higher among those who underwent routine gynecologic exams, compared with women without routine visits to a gynecologist. However, the fact that from 47% to 87% of women who had at least one routine gynecological visit did not report routine BSE suggests that health care providers did not adequately cover this preventive practice.

For Romania, between 1993 and 1999, the proportion of women who reported ever having done BSE increased by at least a third (from 23% to 39%). The rate of increase did not vary significantly by background characteristics.

9.3 Cervical Cancer Screening

Cervical cancer is the second most common cancer of women, with almost 450,000 new cases diagnosed each year worldwide (WHO, 1993). It is the most frequent cancer of women in developing countries, where 80% of cervical cancers are diagnosed (Parkin DM et al., 1993). Age-adjusted incidence rates range from 5–42 cases per 100,000 women, with high rates in Latin America, Africa, and Southeast Asia and lower rates in North America, Western Europe, Australia, and Israel. For 1994–1997, the age-adjusted mortality due to cancer of the cervix in Romania was 10.5 per 100,000, the highest rate in Europe and the fourth highest among 45 countries that report cancer statistics to the WHO, surpassed only by cervical cancer mortality reported by Mexico, Venezuela, and Chile (WHO, 1999).

In developed countries the incidence of in situ cervical cancer is increasing, whereas invasive cancer and cervical cancer mortality are declining. Much of the decline in mortality has been attributed to widespread use of

cervical cancer screening (Papanicolaou smear test), resulting in detection at an earlier and therefore more curable stage with the treatment of premalignant lesions. Data from large screening programs have shown that annual Pap smear screening reduces the probability of developing invasive cancer by 93%, whereas screening every 3 years reduces the probability by 91%, and screening every 5 years reduces it by 84% (Miller AB, 1986). Based on these estimates, experts recommend that women who are sexually active, or at least 18 years old, should have a Pap test annually or at least once every three years. Women over age 65 who have been regularly screened with normal results have the option of reducing the frequency of screening (ACOG, 1995; U.S. Preventive Services Task Force, 1996).

Risk factors for cervical cancer include a history of multiple sexual partners, early onset of sexual intercourse, smoking, infection with the human immunodeficiency virus, and infection with a certain serotype of the human papilloma virus.

Although the validity of self-reported rates of Pap testing cannot be established without examining medical records, survey results are often used to estimate the extent of cervical screening in the general population. The RHS surveys for Georgia, Moldova, Azerbaijan, and Romania included a series of questions for female respondents regarding Pap test history to determine if they had ever had a Pap test and, if so, when they had their most recent test.

As shown in Table 9.3 and Figure 9.3.1, among sexually experienced women the percentages who reported ever having a Pap test were low, ranging from 43% in Moldova to just 2% in Azerbaijan. Levels in Georgia and Romania were 4% and 17% respectively. The prevalence of cervical cancer screening was generally very low and does not allow the study

of potential determinants of preventive practices in the Caucasus region. In Romania and Moldova, Pap smear prevalence was higher among women who were ever married or employed, and increased slightly with level of education. It is worth noting, however, that, of women who have ever had gynecologic check-ups, few were ever screened for cervical cancer: 3% in Azerbaijan, 5% in Georgia, 23% in Romania, and 46% in Moldova. Routine gynecologic visits should be viewed as opportunities to educate patients about

healthy lifestyle choices and to promote appropriate screening for preventable diseases, such as cervical cancer.

In general, employed women, those residing in urban areas, and those with postsecondary education were more likely to report having had a Pap test within the past year than other subgroups. The exception is Moldova, where rural women were slightly more likely to report having had a Pap test in the last year.

Table 9.3 Percentage of Women Who Had Cervical Cancer Screening History by Selected Characteristics Among Sexually Experienced Women Aged 15–44 Eastern Europe and Eurasia: A Comparative Report								
Characteristic	Eastern Europe				Caucasus			
	Moldova, 1997		Romania, 1999		Azerbaijan, 2001		Georgia, 1999	
	% Within Last Year	% Ever	% Within Last Year	% Ever	% Within Last Year	% Ever	% Within Last Year	% Ever
Total	23	43	7	17	1	2	1	4
Residence								
Urban	22	45	9	21	1	2	2	5
Rural	25	41	4	10	*	1	1	3
Age Group								
15–19	9	11	3	4	0	0	*	*
20–24	18	24	4	6	1	1	1	2
25–29	23	40	7	15	1	1	1	3
30–34	25	50	9	19	1	2	1	4
35–39	23	50	10	23	1	2	2	5
40–44	30	55	8	27	1	3	1	5
Marital Status								
Currently Married	24	44	8	19	1	2	1	4
Previously Married	18	46	6	14	1	2	1	4
Never Married	11	16	5	8	†	†	†	†
Education Level								
Secondary Incomplete	20	34	5	12	*	1	0	*
Secondary Complete	20	40	8	19	*	1	1	3
Technicum	29	50	‡	‡	1	2	1	4
Postsecondary	26	48	14	27	2	4	2	6
Employment Status								
Currently Employed	25	46	10	22	1	3	2	6
Not Currently Employed	17	34	5	12	1	2	1	3
Routine Gynecologic Exam								
Ever Had	25	46	10	23	1	3	2	5
Never Had	1	6	*	3	0	0	0	*

* Less than 0.5%

† Fewer than 25 cases in this category.

‡ Technicum, specific to former Soviet Union countries, does not exist in Romania.

Figure 9.3.1
Prevalence of Cervical Cancer Screening (Pap Test)
Sexually Experienced Women Aged 15–44—Selected RHS Surveys
Eastern Europe and Eurasia: A Comparative Report

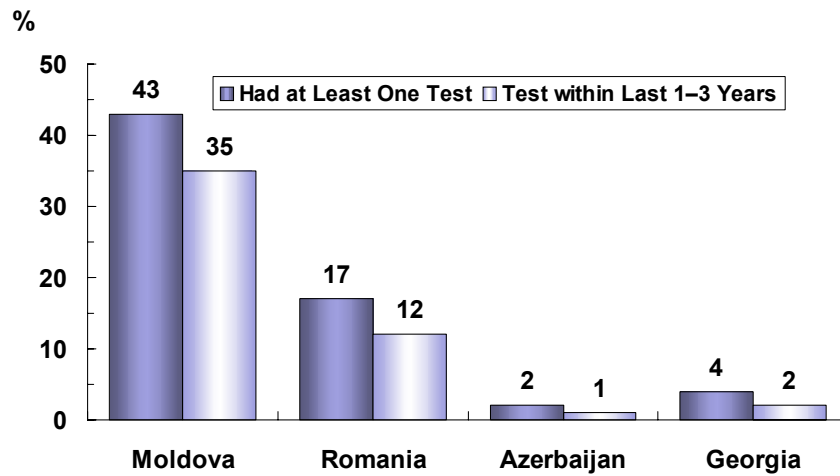
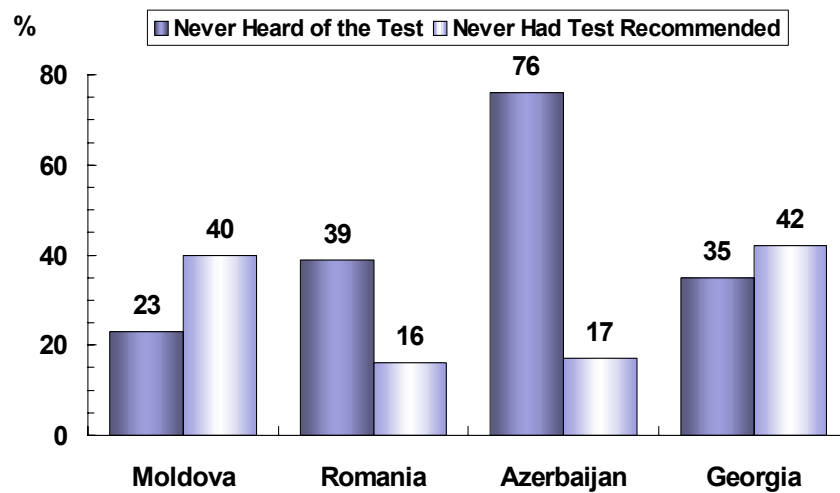


Figure 9.3.2
Main Reasons for Never Having a Cervical Cancer Screening (Pap Test)
Sexually Experienced Women Aged 15–44—Selected RHS Surveys
Eastern Europe and Eurasia: A Comparative Report



The most commonly given reasons for not having a test were lack of awareness (23%–70%) and lack of recommendation of the test by a health provider (16%–42%) (Figure 9.3.2). These findings reinforce the perception that there is a lack of awareness of gynecologic screening procedures among reproductive age women in Eastern Europe and the Caucasus, and a need for sustained educational campaigns for the public and changes in the practice of health care providers.

The proportion of sexually experienced women in Romania who reported at least one cervical cancer-screening test actually decreased between 1993 and 1999 from 28% to 17%. The proportion of women recently tested (within the past year) also decreased (from 13% to 5%). Although the proportion of respondents who reported recent gynecologic exams (within the past 3 years) increased recently from 35% to 50%, the content of these visits, at least with regard to pap-smear practices, did not improve (data not shown). On the contrary, cervical cancer screening deteriorated and lack of awareness of the Pap smear test appears to be a major determinant of this decline. Health information campaigns aimed at increasing public awareness about cervical cancer danger and its risk factors may help substantially to increase the demand for screening, even in the absence of provider recommendation.

9.4 Prevalence of Pelvic Inflammatory Disease and STI Symptoms

In six of the seven countries, all women were asked, “Has a doctor ever told you that you have had (selected health problems)?” These problems included pelvic inflammatory disease (translated as infections of the tubes or the uterus). Table 9.4.1 shows the responses from

sexually experienced women in Moldova, Romania, the areas surveyed in Russia, Ukraine, Azerbaijan, and Georgia.

These results provide minimum estimates of the true lifetime diagnosis of these health problems in the population of women of childbearing age, since self-reporting of health conditions implies that women had access to health care facilities, had visited these facilities, had been told by a physician about the existence of this health condition, and understood the diagnosis they received. Thus, the self-reported occurrence of health problems among different subgroups should be interpreted with caution because background characteristics may affect both the access to health care system, knowledge of conditions, and reporting. There are several other important limitations of survey reports on health conditions: 1) survey reports are lifetime estimates and some differences in prevalence of health conditions (e.g., prevalence by age group) are likely to be confounded by the length of exposure (e.g., older women have been exposed to the risk of developing a specific health problem for a longer time); 2) they do not reflect current health status; and 3) they cannot be temporally associated with other events. For all these reasons, the survey data on pelvic inflammatory disease (PID) among women may serve only as proxy estimates, in the absence of official statistics based on medical records or hospital discharge data.

On average, about one in four women had been told by a doctor that she had PID (17% to 44%). Women in Ukraine reported the highest lifetime PID incidence. The proportion of respondents reporting these infections increased directly with age. Except in Ukraine, urban women were more likely to report a diagnosis of PID than rural women. PID was almost non-existent among virgins (data not

Table 9.4.1
Percentage of Women Who Were Ever Diagnosed with PID by a Physician by Selected Characteristics
Among Sexually Experienced Women Aged 15–44
Eastern Europe and Eurasia: A Comparative Report

Characteristic	Eastern Europe				Caucasus	
	Moldova 1997	Romania 1999	Russia 1999*	Ukraine 1999	Azerbaijan 2001	Georgia 1999
Total	26	31	17	44	42	25
Residence						
<i>Urban</i>	29	34	*	38	44	27
<i>Rural</i>	22	25	*	46	40	24
Age Group						
15–19	13	11	8	22	18	8
20–24	19	18	13	37	35	19
25–29	25	31	20	43	41	23
30–34	29	35	17	47	44	25
35–39	28	38	18	50	48	31
40–44	30	37	21	49	42	30
Marital Status						
<i>Currently Married</i>	26	32	18	45	42	26
<i>Previously Married</i>	29	38	18	52	41	23
<i>Never Married</i>	14	18	12	26	†	†
Education Level						
<i>Secondary Incomplete</i>	24	28	15	43	38	16
<i>Secondary Complete</i>	23	34	13	38	41	25
<i>Technicum</i>	29	‡	17	48	47	28
<i>Postsecondary</i>	29	31	22	44	46	27
Employment Status						
<i>Currently Employed</i>	26	35	18	44	43	26
<i>Not Currently Employed</i>	25	26	16	43	42	25
Routine Gynecologic Exam						
<i>Ever Had</i>	27	38	18	45	65	32
<i>Never Had</i>	12	12	12	26	11	9
Number of Lifetime Partners						
1	23	28	14	§	42	25
2	31	33	15	§	42	35
3+	35	39	20	§	59	25

* Data for Russia pertain to three primarily urban areas as described in Chapter 2.

† Fewer than 25 cases in this category.

‡ Technicum, specific to former Soviet Union countries, does not exist in Romania.

§ Data on lifetime number of sexual partners were not collected in Ukraine.

shown) and increased with the number of lifetime sexual partners, from a range of 14% to 42% among monogamous women to a range of 20% to 59% among those with three or more sexual partners.

In an attempt to assess the prevalence of symptoms associated with sexually transmitted infections (STIs) among the general population, five of the seven RHS

included a series of questions about recent history of vaginal discharge and the presence or absence of any genital sores or ulcers. Table 9.4.2 shows the reported prevalence of vaginal discharge and genital sores/ulcers among sexually experienced women aged 15–44 during the 12 months prior to interview. This information may be useful to decide if a syndromic approach for the case management of STIs among the female population is

warranted. Syndromic case reports do not require laboratory diagnostic tests and are based on the identification of a combination of symptoms and signs (syndromes) suggestive of selected STIs. Syndromic case management combines the identified syndromes with knowledge about the most common causative organisms and their antibiotic susceptibility.

Several important limitations, however, reduce the usefulness of the syndromic approach for assessing STI incidence and prevalence or for monitoring the impact of STI prevention programs. First, STIs do not cause a high proportion of vaginal discharge cases and genital ulcers are often an indication of recurrent herpes virus infection, which may have been acquired years before. Second, a high proportion of STIs are asymptomatic in women. Third, syndromic case definitions are not pathogen-specific (WHO and UNAIDS, 1999). Fourth, treatment based on syndromic case definitions leads inevitably to over-treatment, promotion of antimicrobial resistance, and the social costs related to mislabeling individuals as infected with an STI. These drawbacks should be carefully balanced against the costs associated with STI complications, continued transmission and potential increased transmission of HIV infection, and medical costs such as laboratory testing and clinician diagnosis (van Dam CJ et al., 1998).

As shown in Table 9.4.2, the percentage of women reporting abnormal vaginal discharge in the past year varied across the five countries surveyed, from a low of 19% in Ukraine to a high of 32% in Azerbaijan. There was no statistically significant difference between urban and rural dwellers. Age had disparate effects on reported abnormal vaginal discharge across countries. Reports were highest among 15–24 year olds in Romania, 15–34 year olds

in Ukraine, 20–29 year olds in the areas surveyed in Russia, and 20–34 year olds in Georgia and Azerbaijan. Vaginal discharge reports increased with the number of sexual partners.

Azerbaijan, Romania, and Georgia (2%, 3%, and 5%, respectively) had very low reports of genital sores/ulcers, while Ukraine had the highest (13%). Reports of genital sores were roughly equal among urban and rural dwellers.

9.5 Cigarette Smoking

Tobacco is a potent human carcinogen that has been shown to be related to many cancers, including those of the respiratory and digestive tracts, bladder, cervix and kidney. Worldwide, cigarette smoking accounts for 87% of lung cancer deaths and 30% of all cancer deaths. Smoking is also a risk factor for atherosclerosis, which is a major risk factor for heart attacks, strokes, and blood clots of the legs and lungs. Smoking also contributes to asthma, emphysema, pneumonia, and osteoporosis. Maternal smoking has been linked to low birthweight babies, pre-term deliveries, miscarriages, sudden infant death syndrome, and respiratory problems of infants (DiFranza JR and Lew RA, 1996).

Among the countries of Eastern Europe and the former Soviet Union, Poland, Romania and Czech Republic report the highest smoking prevalence among women, while Hungary reports the highest prevalence among adult men (Piha T et al., 1993). Tobacco use in Eastern Europe has increased since 1990, concurrent with the transition toward market economies and the arrival of the international tobacco industry whose promotional campaigns for their products have thrived in the absence of legislative regulations. Facing increasing restrictions in the U.S. and Western Europe, transnational tobacco companies have

Table 9.4.2
Percentage of Women Who Had an Abnormal Vaginal Discharge or Genital Sores or Ulcers in the Past Year
by Selected Characteristics
Among Sexually Experienced Women Aged 15–44
Eastern Europe and Eurasia: A Comparative Report

Characteristic	Eastern Europe						Caucasus					
	Romania, 1999		Russia, 1999*		Ukraine, 1999		Armenia, 2000		Azerbaijan 2001		Georgia 1999	
	Vaginal Discharge	Genital Sores	Vaginal Discharge	Genital Sores	Vaginal Discharge	Genital Sores	Vaginal Discharge	Genital Sores	Vaginal Discharge	Genital Sores	Vaginal Discharge	Genital Sores
Total	23	3	22	11	19	13	23	9	32	2	24	5
Residence												
Urban	23	4	*	*	19	13	19	8	32	2	25	5
Rural	22	3	*	*	19	14	27	10	32	1	23	5
Age Group												
15–19	28	2	25	12	22	8	24	4	28	0	14	3
20–24	28	4	29	16	23	14	34	13	36	1	27	6
25–29	24	4	28	13	22	15	32	15	36	3	26	4
30–34	24	5	21	10	21	15	28	12	37	2	26	5
35–39	21	3	17	8	15	12	19	8	31	2	24	5
40–44	15	2	15	7	12	12	15	5	23	1	20	4
Marital Status												
Currently Married	22	3	22	11	20	14	23	9	32	2	25	5
Previously Married	21	4	20	8	13	10	18	5	33	†	18	2
Never Married	27	2	23	10	18	9	‡	‡	‡	‡	‡	‡
Education Level												
Secondary Incomplete	23	3	21	10	17	15	U	U	32	1	15	5
Secondary Complete	21	3	20	10	16	12	U	U	32	2	25	4
Technicum	§	§	22	11	20	14	22	10	32	2	25	6
Postsecondary	24	4	24	10	19	12	17	6	34	2	26	5
Employment Status												
Currently Employed	23	4	22	10	18	12	U	U	31	2	25	4
Not Currently Employed	23	3	22	13	21	15	U	U	33	2	24	5
Routine Gynecologic Exam												
Ever Had	25	4	22	11	19	13	U	U	38	2	28	6
Never Had	18	2	17	8	17	8	U	U	24	1	14	2
Number of Lifetime Partners												
1	21	3	19	10			U	U	32	2	24	5
2	26	5	18	11			U	U	38	1	26	1
3+	27	3	26	12			U	U	43	3	31	6

* Data for Russia pertain to three primarily urban areas as described in Chapter 2.

† Less than 0.5%.

‡ Fewer than 25 cases in this category.

§ Technicum, specific to former Soviet Union countries, does not exist in Romania.

|| Data on lifetime number of sexual partners were not collected in Ukraine.

U = Unavailable.

been expanding rapidly through local manufacturing and aggressive advertising in Eastern Europe and the former Soviet Union. Currently, tobacco control policies in former communist countries are neither comprehensive nor strongly enforced. Restrictions on tobacco advertising and

promotion have been recently imposed in some countries, but no systematic efforts have been made toward ensuring prohibition of smoking in public places, preserving smoke-free environments, restricting cigarette sales to children and teenagers, developing health promotion campaigns, or promoting smoking

cessation services (NATIONS, 2001). Because tobacco is such a profitable commodity and produces government taxes, economic interests often prevail against health interests. Gains from tobacco sales, however, are likely to be offset by the enormous cost of treating the health consequences of tobacco use in the future.

The RHS included questions for determining cigarette-smoking status: “Have you smoked at least 100 cigarettes in your entire life?” and “Do you currently smoke?” or only “Do you currently smoke?” Smoking prevalence among women of reproductive age varied from about

1% in Azerbaijan to 30% in Romania and the Czech Republic (Table 9.5). In all of the surveyed countries, women residing in urban areas were substantially more likely than rural women to be current smokers, and previously married women were most likely to smoke. Age affected smoking prevalence differently across countries. Smoking decreased with age in the Russian areas surveyed, increased with age in Czech Republic, and peaked among 20–29 year olds in Moldova, 25–34 year olds in Romania, women under 30 in Ukraine, and women over 20 in Georgia. Smoking varied by country with the educational attainment of women. Respondents who were currently

Table 9.5
Percentage of Women Who Smoke Daily or Almost Daily by Selected Characteristics
Among Women Aged 15–44
Eastern Europe and Eurasia: A Comparative Report

Characteristic	Eastern Europe					Caucasus		
	Czech Rep. 1993	Moldova 1997	Romania 1999	Russia 1999*	Ukraine 1999	Armenia 2000	Azerbaijan 2001	Georgia 1999
Total	30	6	30	28	19	3	1	6
Residence								
Urban	32	9	35	*	23	5	1	10
Rural	27	1	21	*	7	1	0	1
Age Group								
15–19	19	4	20	33	19	1	†	2
20–24	27	8	31	33	25	2	1	8
25–29	29	9	34	33	22	3	1	7
30–34	36	5	35	27	18	4	1	7
35–39	37	4	32	23	16	2	1	7
40–44	36	3	27	20	14	6	1	6
Marital Status								
Currently Married	32	5	31	25	16	3	1	5
Previously Married	48	13	47	35	29	11	3	20
Never Married	21	6	24	28	21	2	†	6
Education Level								
Secondary Incomplete	35	5	28	35	23	U	†	1
Secondary Complete	25	5	32	33	19	U	†	4
Technicum	‡	5	‡	27	17	3	1	5
Postsecondary	18	8	33	21	19	7	2	12
Employment Status								
Currently Employed	32	5	35	24	17	U	1	9
Not Currently Employed	26	7	26	36	22	U	1	5

* Data for Russia pertain to three primarily urban areas as described in Chapter 2.

† Less than 0.5%.

‡ Technicum, specific to former Soviet Union countries, does not exist in the Czech Republic or Romania.

U = Unavailable.

employed were more likely than those not employed to have ever smoked and to be current smokers, except in Moldova and Ukraine.

Trend data from the RHS surveys in Romania, as well as from the 1996 YARHS conducted there, showed a rapid increase in smoking prevalence, particularly among young adults (Figure 9.5.1). In the 1993 Romania RHS, 22% of women were current smokers. In the 1999 Romania RHS, current use of cigarettes increased to 30%. The increase was the highest among women aged 15–24, from 15% in 1993 to 26% in 1999. The percentage of current smokers increased among all young adults, but much faster among 18–19 year-

olds (from 10% in 1993 to 27% in 1999), rural women (from 16% to 25%), and unmarried women (from 16% to 29%).

While smoking prevalence for women had increased, the percentage of young males who had ever smoked and the percentage currently smoking remained basically unchanged between the 1996 YARHS and the 1999 RHS (Figure 9.5.2). Although both the initiation and the current smoking rates in 1999 were much higher for young men than for young women (58% vs. 33% and 45% vs. 26%, respectively), the gender gap for these rates narrowed substantially (from 37 to 29 percentage points for “ever smokers” and from 27 to 19 percentage points for “current smokers”).

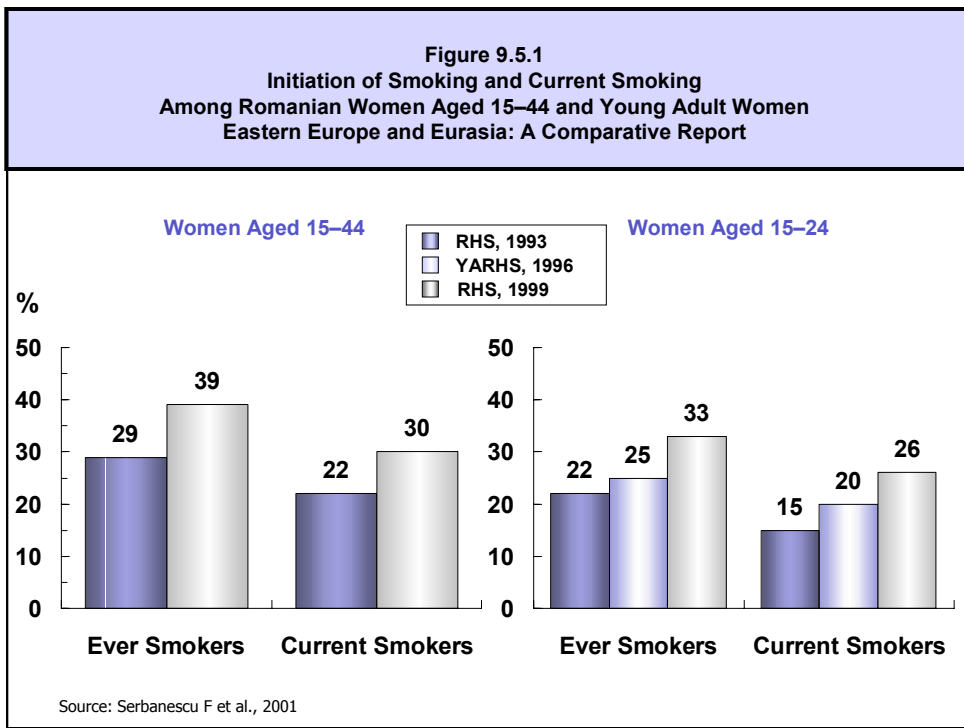
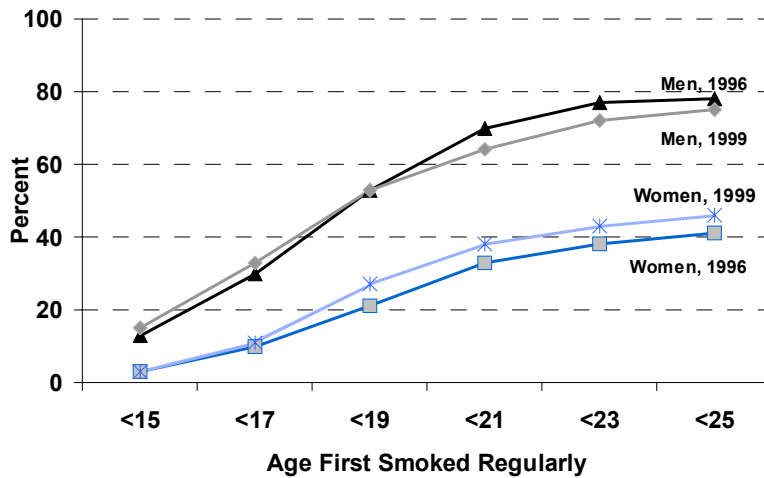


Figure 9.5.2
Percent Initiating Smoking Before Given Ages Among Romanian Young Adults
Aged 15–24 Years
YARHS and RHS Surveys in Romania
Eastern Europe and Eurasia: A Comparative Report



Source: Serbanescu F et al., 2001

9.6 Alcohol Use

Alcohol use among young adults has been shown to be related to risky sexual behaviors, violence, and academic problems (Hanson DJ and Engs RC, 1992). Episodic heavy drinking has been shown to be strongly correlated with serious injuries, particularly from motor vehicle accidents. Alcohol abuse among women of reproductive age has additional significance because of its potential harm to the fetus or children. It is known that the more alcohol a pregnant woman drinks, the greater the chances of birth defects (fetal alcohol syndrome). Even “social drinking” may cause minor developmental problems in an otherwise normal baby (Coles CD, 1993).

Eastern European nations have a long tradition of producing and drinking alcoholic beverages. Although alcohol consumption is perceived to be high, there are no reliable statistics on consumption after 1990, since the former tracking system, which was based on data on state-controlled sales, has yet to be

replaced with other assessment tools. Thus, four of the seven RHS surveys included a short module on alcohol consumption.

Alcohol use was measured by a variety of questions asking each respondent how frequently they drank, how many drinks they had at any given occasion during the past three months, and in some surveys, how often did they drink that amount. Respondents who had at least one drink every day or almost every day were defined as “current frequent drinkers” and those who consumed 4 or more drinks on at least one occasion (5 or more drinks for male respondents) at any given time during the three months preceding the survey were defined as “episodic heavy drinkers.”

As shown in Table 9.6, the percentage of women reporting that they consumed alcohol daily or almost daily (current frequent drinkers) ranged from only 1% and 3% in the Czech Republic and Georgia, respectively, to 28% in Romania. However, the situation reversed when women were asked if they had

had consumed 4 or more drinks on one occasion during the three months preceding the interview. Current episodic heavy drinkers made up just 2% of Romanian respondents but 16% of those in Georgia.

Urban/rural residence did not play a uniform role in the prevalence of frequent or episodic drinking in reproductive age women among the countries surveyed. Current frequent drinking was more common among rural women in Moldova (14% vs. 19% of urban women) but there was little or no difference in the other three countries. Episodic heavy drinking was more prevalent among urban women in

Georgia (18% vs. 13% of rural women). Women who had never been married were more likely to be current episodic heavy drinkers in Georgia but were less likely to be frequent drinkers in all of the other three countries. Current employment was associated with higher rates of frequent alcohol use in Moldova. Although very few women reported episodic drinking, women in Georgia were almost twice as likely as Moldovan women and more than seven times as likely as Romanian women to say that they recently drank 4 or more drinks on an occasion. Frequent drinking increased with age in all surveyed countries.

Table 9.6
Percentage of Women Reporting Frequent or Episodic Drinking in the Last Three Months
by Selected Characteristics, Among Women Aged 15-44
Eastern Europe and Eurasia: A Comparative Report

Characteristic	Eastern Europe						Caucasus	
	Czech Rep., 1993*		Moldova, 1997		Romania, 1999		Georgia, 1999	
	% Current Frequent Drinkers	% Current Episodic Drinkers	% Current Frequent Drinkers	% Current Episodic Drinkers	% Current Frequent Drinkers	% Current Episodic Drinkers	% Current Frequent Drinkers	% Current Episodic Drinkers
Total	1	*	16	8	28	2	3	16
Residence								
Urban	1	*	14	9	27	2	3	18
Rural	1	*	19	7	28	3	2	13
Age Group								
15-19	†	*	5	3	17	3	2	15
20-24	†	*	14	6	24	2	2	19
25-29	1	*	18	8	27	2	3	17
30-34	2	*	20	10	33	1	4	17
35-39	3	*	22	10	35	2	3	14
40-44	2	*	22	13	33	2	3	12
Marital Status								
Currently Married	2	*	19	8	31	2	3	13
Previously Married	2	*	21	15	30	2	5	16
Never Married	†	*	7	5	21	3	2	20
Education Level								
Secondary Incomplete	1	*	17	9	26	2	2	7
Secondary Complete	1	*	18	9	30	2	2	18
Technicum	‡	*	16	6	‡	‡	3	16
Postsecondary	3	*	11	6	30	2	3	18
Employment Status								
Currently Employed	2	*	19	9	30	2	3	18
Not Currently Employed	1	*	11	7	25	3	3	15

* Data on number of drinks consumed per occasion were not collected in the Czech Republic.

† Less than 0.5%.

‡ Technicum, specific to former Soviet Union countries, does not exist in the Czech Republic or Romania.

Trend data from Romania showed that alcohol consumption is increasing, particularly among young adults. Total consumption of alcohol among young adults in Romania had substantially increased since 1996, but much more so for young women than for young men (Figure 9.6.1). The proportion of young women who consumed alcohol at least once within the past month (current drinkers) nearly tripled (from 16% to 45%) whereas the proportion of male current drinkers, which was already high, has further increased (from 65% to 86%). For both young females and males, the most alarming change occurred in the frequency of drinking. Compared to the 1996 YARHS, in the 1999 Romanian RHS the proportion of women who were classified as frequent drinkers increased ten times (from 2% to 20%) and the proportion of men who were classified as frequent drinkers tripled (from 19% to 65%). The recent increase in alcohol use is remarkable, particularly since the purchasing power of the population has substantially declined. Compared to the price of other commodities, however, the relative price of alcoholic beverages may have actually decreased. In addition, the loosened state control of the alcohol market since 1990, which facilitated smuggling, illicit production and trade, and counterfeiting of famous brands, may have contributed further to making alcohol beverages more accessible to all population groups, including youth.

9.7 Summary of Findings

One DHS and several RHS surveys investigated selected women's health behaviors, including the utilization of preventive services for reproductive cancers and tobacco and alcohol use. Routine gynecologic exams are recommended for all reproductive age women and preventive screening practices (e.g. pap smear test,

counseling for breast self-exams), counseling for family planning, and STD prevention, should be part of these exams. Survey findings summarized in this chapter reinforce the perception that, even when health exams are performed, they are not performed routinely and annual rates of screening are quite low. Furthermore, there is a general lack of awareness of gynecologic screening procedures among reproductive age women in Eastern Europe and the Caucasus region. Sustained educational campaigns for the public and changes in the practice of health care providers (e.g. more emphasis on preventive than curative approaches) are essential steps in reducing death and disability associated with gynecologic cancers and with health risk behaviors.

- ◆ In eight countries with data on utilization of routine gynecological exams, between two-thirds of sexually experienced women (in four countries in Eastern Europe) and one-fourth (in Armenia and Azerbaijan) reported having had a routine exam during the past 12 months. Generally, utilization of routine gynecologic exams was higher among urban women, older women, those with post-secondary education, and currently employed women.
- ◆ In the six countries with data, between 85% (in Armenia) and 22% of sexually experienced women (in Czech Republic) were not aware of BSE and only 10% (in Azerbaijan) to 50% (in Czech Republic) had ever practiced breast self-examination (BSE). The fact that 47% - 87% of women with at least one routine gynecologic visit did not report BSE suggests that many gynecologists in Eastern Europe do not encourage this preventive health care practice (whose role in early detection of breast cancer in this part of the world needs further studies).

◆ In Moldova (43%) and Romania (17%), less than one-half of sexually experienced women reported that they have ever had a Pap test for cervical cancer screening; in Azerbaijan and Georgia, less than 5% of women reported ever having a Pap test. The most important reasons for not having a test were lack of awareness (23%–70%) and lack of recommendation of the test by a health provider (16%–42%).

◆ About 30% of women reported current smoking in the Czech Republic, Romania and Russia, but prevalence was very low in Caucasus region and Moldova where, in each

country, 6% or fewer women currently smoke. Trend data from Romania, documented that smoking among women is increasing. The rate of increase is highest among young women (aged 15–19 years), unmarried women, and rural women.

◆ In the four countries with data on alcohol use, women reporting that they consumed alcohol daily or almost daily ranged from less than 4% in the Czech Republic and Georgia to 16% in Moldova to 28% in Romania. Between 2% and 16% of women reported current bingeing (4 or more drinks on a single occasion).

10 CHAPTER

KNOWLEDGE OF HIV/AIDS TRANSMISSION AND PREVENTION

Until recently, countries in Eastern Europe, the Caucasus, and Central Asia had not experienced the epidemic levels of HIV/AIDS found in other parts of the world. This situation is now changing dramatically. In 1998 there were an estimated 420,000 people infected with HIV in the region; by the end of 2001 this number had increased to one million. Between 1998 and 2001, the number of newly registered cases increased five-fold (UNICEF Press Release, 2002). Now it appears that HIV infection rates in Eastern Europe are rising faster than anywhere else in the world.

HIV infections in many countries of this region have been mainly confined to intravenous drug users (IDUs), and the main transmission route of the virus was sharing contaminated needles. In fact, most of the quarter of a million adults who became infected in 2001 were men who were injecting drugs. However, the types of people being infected by HIV and main transmission routes are quickly changing. Young people account for most new infections. The rising proportion of women (who are less likely to be intravenous drug users) infected with the virus suggests that the number of HIV infections spread by sexual contact is increasing. The increased infection rates of HIV among new subgroups is fueled by the growth of drug injections, increased sexual activity among young people, and the growing number of commercial sex workers (CSWs). From these subgroups, HIV is very likely to move into the general population. A UNICEF report warns that “HIV/AIDS is the greatest threat to [their] health as it moves -virtually unchecked- into the mainstream population in a number of countries.” (UNICEF, 2002) (Kaiser Network, 2001).

Currently Ukraine has the highest HIV prevalence in the region, with 1% of adults affected; moreover, all parts of the country have been affected (Kaiser Network, 2001). Most regions in Russia have been affected, and the Central Asian countries are experiencing their first outbreaks. It is estimated that in three or four years, a country such as Russia could have a generalized HIV/AIDS epidemic (www.avert.org). As the disease continues to spread to unaffected parts of the region and becomes less confined to specific groups such as IDUs and CSWs, it is important to examine the population's knowledge of the disease, how it is transmitted, what they can do to prevent it, and their self-perceived risk of infection.

This chapter will explore these issues using data available from the Eastern European countries of the Czech Republic, Moldova, Romania, three areas of Russia, and Ukraine; Caucasus countries of Armenia, Azerbaijan, and Georgia; and Central Asian countries of Kazakhstan and Turkmenistan.

10.1 Knowledge of HIV/AIDS

Respondents were asked if they had ever heard of a number of specific sexually transmitted infections (STIs) and of HIV/AIDS (Table 10.1.1). Knowledge of STIs was calculated by having heard of at least one STI, not including HIV/AIDS. Knowledge of HIV/AIDS was calculated separately. Awareness of other STIs ranged from almost all women in Moldova (99%) to slightly more than half of all women (58%) in Armenia. The STIs most commonly cited were gonorrhea, syphilis, and trichomoniasis. Respondents demonstrate greater knowledge about HIV/AIDS than about other STIs. Knowledge of other STIs in Armenia is comparatively low (as mentioned earlier), yet 94% of all women in Armenia have heard of HIV/AIDS. With the exception of Turkmenistan, knowledge of

other STIs is greater in urban areas, which suggests an increased need to promote awareness in rural areas. This urban/rural discrepancy is most pronounced in the Caucasus countries of Armenia and Azerbaijan. In all countries, with the exception of Turkmenistan, knowledge of HIV/AIDS is higher than knowledge of all other STIs. This is probably due to concentrated and, perhaps, more recent efforts to promote HIV/AIDS awareness compared to other STIs. However given the scientific evidence that some STIs increase risks of HIV/AIDS transmission, it is important to incorporate STI awareness into HIV/AIDS education initiatives (Renton, et al 1998). Since many countries of the former Soviet Union have experienced epidemics of STIs, particularly syphilis, which has increased 45–165 times during 1990–1998, education about STIs in general is urgently needed (Riedner G et al., 2000).

A similar analysis for men, using data available for Romania, Armenia, and Kazakhstan, is illustrated in Table 10.1.2. HIV/AIDS knowledge is greater than knowledge of at least one STI in all countries, however Armenia has a more pronounced difference in knowledge of STI and HIV/AIDS (85% versus 97%) which would also suggest the need to promote STI awareness with HIV/AIDS awareness among men. Urban men demonstrate a higher level of HIV/AIDS knowledge than do rural men, but the differences are not statistically significant.

Women who had heard of HIV/AIDS were asked whether they believed that a person could be infected with the HIV virus and be asymptomatic (or not show any clinical symptoms of disease). The knowledge that HIV/AIDS can be asymptomatic is an indication of women's knowledge of HIV/AIDS rather than simple awareness of the disease.

Table 10.1.1
Percent of Women Aware of STIs and HIV/AIDS
and Percent Who Know that HIV Infections Can be Asymptomatic, by Residence
Among Women of Reproductive Age*
Eastern Europe and Eurasia: A Comparative Report

Region and Country	Have Heard of STIs[†] (%)	Have Heard of HIV/AIDS (%)	Know HIV Can be Asymptomatic[‡] (%)	No. of Cases
<u>Eastern Europe</u>				
<i>Czech Rep., 1993</i>				
Urban	§	100	74	3,025
Rural	§	100	66	1,472
Total	§	100	72	4,497
<i>Moldova, 1997</i>				
Urban	100	100	85	2,828
Rural	98	99	72	2,584
Total	99	99	79	5,412
<i>Romania, 1999</i>				
Urban	99	100	72	3,914
Rural	91	99	57	2,974
Total	96	100	66	6,888
<i>Russia, 1999 </i>				
Urban	100	§	59	6,004
<i>Ukraine, 1999</i>				
Urban	§	§	67	7,128
Rural	§	§	70	5,544
Total	§	§	61	1,584
Total	100	§	59	6,004
<u>Caucasus</u>				
<i>Armenia, 2000</i>				
Urban	67	97	59	3,942
Rural	45	91	50	2,488
Total	58	94	56	6,430
<i>Azerbaijan, 2001</i>				
Urban	76	85	26	3,832
Rural	54	61	13	3,836
Total	66	74	21	7,668
<i>Georgia, 1999</i>				
Urban	95	99	62	4,759
Rural	82	87	39	3,039
Total	89	93	52	7,798
<u>Central Asia</u>				
<i>Kazakhstan, 1999</i>				
Urban	90	99	73	2,668
Rural	74	96	62	2,132
Total	82	98	68	4,800
<i>Turkmenistan, 2000</i>				
Urban	85	80	58	3,691
Rural	87	67	43	4,228
Total	86	73	50	7,919

* Considered to be 15–44 years in RHS and 15–49 years in DHS surveys.

† Have heard of at least one STI, other than HIV/AIDS.

‡ This was asked only of women who had heard of HIV/AIDS, but all women are included in the denominator.

§ Question was not asked.

|| Data for Russia pertain to three primarily urban areas as described in Chapter 2.

10.1.2
Percent of Women Aware of STIs and HIV/AIDS
and Percent Who Know that HIV Infections Can be Asymptomatic, by Residence
Among Men of Reproductive Age*
Eastern Europe and Eurasia: A Comparative Report

Region and Country	Have Heard of STIs[†] (%)	Have Heard of HIV/AIDS (%)	Know HIV Can be Asymptomatic[‡] (%)	No. of Cases
<u>Eastern Europe</u>				
<i>Romania, 1999</i>				
Urban	99	100	76	1,342
Rural	97	99	65	1,092
Total	98	100	72	2,434
<u>Caucasus</u>				
<i>Armenia, 2000</i>				
Urban	91	99	66	1,024
Rural	75	94	46	695
Total	85	97	58	1,719
<u>Central Asia</u>				
<i>Kazakhstan, 1999</i>				
Urban	95	100	71	787
Rural	92	98	61	635
Total	93	99	67	1,422

* Considered to be 15–49 years in RHS and 15–59 years in DHS surveys.

† Have heard of at least one STI, other than HIV/AIDS.

‡ This was asked only of men who had heard of HIV/AIDS, but all men are included in the denominator.

Women who do not know that a healthy-looking person may be infected with HIV are less likely to recognize their risk of infection from apparently healthy sexual partners. The proportion of women with this knowledge was calculated for all women, not only those who had heard of HIV/AIDS. As shown in Table 10.1.1, almost 80% of all women in Moldova know that a person can be asymptomatic and have HIV. In other countries in the region, between 50% and 67% of women knew this, except in Azerbaijan, where only 21% did. With the exception of Ukraine and Armenia, there are wide gaps between urban and rural women in the knowledge that HIV can be asymptomatic.

Men also demonstrate less knowledge that a person can be infected with HIV and look healthy than they do of HIV in general, in the countries with available data. This knowledge among men is also characterized by urban and rural differentials.

10.2 Knowledge of HIV/AIDS Transmission

Respondents were asked whether they agree or disagree with specific statements on how HIV/AIDS is transmitted. Some of the statements were true, while others represented misconceptions about means of transmission. Table 10.2.1 shows the percentage of women who do not know the listed proven means of HIV transmission. If a woman responded “no” or “do not know” to a statement, her response was categorized as lack of knowledge. Lack of knowledge was calculated for all women, not only those who have heard of HIV/AIDS. Therefore, it is not surprising that lack of knowledge of proven transmission routes was highest in Azerbaijan, where levels of knowledge of HIV are lower, and lowest in Moldova and Romania, and that there are similar urban-rural differentials in knowledge as in the first table.

Table 10.2.1
Percent of Women Who Do Not Know About Selected Means of HIV Transmission, by Residence
Among Women of Reproductive Age*
Eastern Europe and Eurasia: A Comparative Report

Region and Country	Means of Transmission (%)							No. of Cases
	Homosexual Intercourse	Non-Sterile Needles	Blood Transfusions	Heterosexual Intercourse	MTCT† In Utero	MTCT† Delivery	MTCT† Breast-feeding	
<u>Eastern Europe</u>								
<i>Czech Rep., 1993</i>								
Urban	3	2	11	5	‡	‡	‡	3,025
Rural	7	3	11	9	‡	‡	‡	1,472
Total	4	2	11	6	‡	‡	‡	4,497
<i>Moldova, 1997</i>								
Urban	4	2	1	1	‡	‡	‡	2,828
Rural	13	4	5	2	‡	‡	‡	2,584
Total	8	3	3	1	‡	‡	‡	5,412
<i>Romania, 1999</i>								
Urban	18	2	4	2	7	‡	‡	3,914
Rural	41	9	13	6	13	‡	‡	2,974
Total	27	5	7	3	9	‡	‡	6,888
<u>Caucasus</u>								
<i>Armenia, 2000</i>								
Urban	§	§	§	§	24	31	38	3,942
Rural	§	§	§	§	34	41	41	2,488
Total	§	§	§	§	28	35	39	6,430
<i>Azerbaijan, 2001</i>								
Urban	45	24	33	30	32§		41	3,832
Rural	74	52	63	60	56§		58	3,836
Total	58	37	46	44	43§	 	48	7,668
<i>Georgia, 1999</i>								
Urban	7	6	7	3	11§		27	4,759
Rural	25	24	26	18	29§		36	3,039
Total	15	14	15	10	19§	 	31	7,798
<u>Central Asia</u>								
<i>Kazakhstan, 1999</i>								
Urban	§	§	§	§	17	24	45	2,668
Rural	§	§	§	§	23	29	43	2,132
Total	§	§	§	§	20	26	44	4,800
<i>Turkmenistan, 2000</i>								
Urban	§	§	§	§	68	64	62	3,691
Rural	§	§	§	§	55	52	53	4,228
Total	§	§	§	§	61	58	57	7,919

* Considered to be 15–44 years in RHS and 15–49 years in DHS surveys.

† Mother-to-child-transmission.

‡ Question was not asked.

§ In Georgia and Azerbaijan, "MTCT In Utero" refers to pregnancy and delivery.

|| Included in MTCT in Utero.

Women in Azerbaijan were the least informed about HIV transmission through homosexual intercourse (58% had no knowledge), compared to other transmission routes. Transmission through homosexual intercourse was also the least known route in Moldova and Romania. In fact, in these countries many women in rural areas did not know the meaning of the word “homosexual” or could not conceptualize that men could have sex with other men. Among all mother-to-child transmission (MTCT) routes, transmission from mother to baby by breastfeeding was the least known route in Azerbaijan, Armenia, and Georgia (48%, 39% and 31% respectively). Perhaps because of the more widely-known HIV prevalence among intravenous drug users in the Eastern European region, HIV transmission via non-sterile needles was commonly known, compared to other routes, across all countries except Azerbaijan. Transmission by heterosexual intercourse was also well known, except in Azerbaijan. This suggests that health education must increase efforts to improve knowledge of the various ways HIV/AIDS is transmitted.

Table 10.2.2 shows the percentage of women who have misconceptions about HIV/AIDS transmission. Across all countries in which questions were asked, the most widespread misconception was that HIV is contracted by donating blood. The relatively high knowledge that HIV/AIDS is transmitted by non-sterile needles may erroneously lead people to believe that the routine use of needles in blood donation poses a risk of HIV infection. The lack of trust in the healthcare system in many Eastern European countries compounds the issue. For these reasons, efforts should be made to provide accurate information and address misconceptions about HIV transmission and improve trust in the healthcare system. The belief that mosquitoes are vectors for HIV follows as the most

commonly held misconception in half the countries. Moldova has particularly high rates of misconceptions about how HIV is spread, with over 40% of surveyed women believing in 5 of the 6 incorrect routes, even in urban areas.

10.3 Knowledge of HIV/AIDS Prevention

Surveys in Moldova, Romania, Azerbaijan, and Georgia used a two-part question to ascertain women’s knowledge of HIV/AIDS prevention. Respondents were asked “What can a person do to reduce HIV infection?” Responses of individuals who spontaneously mentioned a prevention method were categorized as “spontaneous-yes”. Respondents were then probed about specific prevention methods that they did not spontaneously mention. These responses were categorized as “probed-yes”. The responses to this question are illustrated in Table 10.3.1.

In Moldova, use of condoms (48%), monogamy (60%) and limiting the number of sexual partners (48%) were spontaneously mentioned as prevention methods. However, after probing, another 84% and 76% of Moldovan women, respectively, said that asking a partner to get tested and using sterile needles are prevention methods. Fifty-two percent of women in Romania spontaneously mentioned condom use, while less than one-quarter of women spontaneously mentioned the remainder of prevention methods. In Azerbaijan, where a quarter of women have never even heard of HIV/AIDS, “monogamy” was the most commonly spontaneously mentioned prevention method, but was mentioned by only 14%. However, over 50% mentioned three other methods when probed. In Georgia, the most commonly spontaneously mentioned means of prevention were “monogamy” and “use condoms” (26% and

Table 10.2.2
Percent of Women with Selected Misconceptions about HIV/AIDS Transmission, by Residence
Among Women of Reproductive Age*
Eastern Europe and Eurasia: A Comparative Report

Region and Country	Misconceptions about Transmission (%)						No. of cases
	Shaking Hands	Sharing Objects	Using Public Restrooms	Kissing	Mosquito Bites	Donating Blood	
<u>Eastern Europe</u>							
<i>Czech Rep., 1993</i>							
<i>Urban</i>	3	20	15	29	19	44	3,025
<i>Rural</i>	3	24	14	25	19	50	1,472
Total	3	21	14	28	19	46	4,497
<i>Moldova, 1997</i>							
<i>Urban</i>	14	41	36	46	47	97	2,828
<i>Rural</i>	22	50	48	54	54	94	2,584
Total	18	45	42	50	50	95	5,412
<i>Romania, 1999</i>							
<i>Urban</i>	5	19	26	25	32	78	3,914
<i>Rural</i>	12	32	37	35	34	74	2,974
Total	7	24	30	29	33	76	6,888
<u>Caucasus</u>							
<i>Armenia, 2000</i>							
<i>Urban</i>	†	20	†	†	32	†	3,942
<i>Rural</i>	†	20	†	†	24	†	2,488
Total	†	20	†	†	29	†	6,430
<i>Azerbaijan, 2001</i>							
<i>Urban</i>	20	44	33	47	41	†	3,832
<i>Rural</i>	19	37	24	35	32	†	3,836
Total	20	41	29	42	37	†	7,668
<i>Georgia, 1999</i>							
<i>Urban</i>	6	35	24	33	47	75	4,759
<i>Rural</i>	12	43	29	37	42	60	3,039
Total	9	39	26	34	45	68	7,798
<u>Central Asia</u>							
<i>Kazakhstan, 1999</i>							
<i>Urban</i>	†	30	†	†	23	†	2,668
<i>Rural</i>	†	33	†	†	24	†	2,132
Total	†	32	†	†	23	†	4,800
<i>Turkmenistan, 2000</i>							
<i>Urban</i>	†	26	†	†	25	†	3,691
<i>Rural</i>	†	25	†	†	20	†	4,228
Total	†	25	†	†	22	†	7,919

* Considered to be 15–44 years in RHS and 15–49 years in DHS surveys.

† Question was not asked.

Table 10.3.1
Percent of Women Who Mentioned Possible Means of Preventing HIV/AIDS Transmission
Spontaneously and After Probing, Among Women Aged 15-44
(Percent Distribution)
Eastern Europe and Eurasia: A Comparative Report

Means of Prevention	Mentioned		Did Not Mention	Never Heard of HIV	Total
	Spontaneously	Probed			
<i>Eastern Europe</i>					
<i>Moldova, 1997</i>					
Use condoms	48	45	5	1	100
Avoid Injections	8	68	23	1	100
Monogamy	60	38	2	1	100
Ask Partner to be Tested	6	84	9	1	100
Limit Number of Sexual Partners	48	51	1	1	100
Sterilize Needles	22	76	1	1	100
<i>Romania, 1999</i>					
Use condoms	52	38	9	1	100
Avoid Injections	3	61	36	1	100
Monogamy	20	67	13	1	100
Ask Partner to be Tested	5	80	15	1	100
Limit Number of Sexual Partners	24	70	5	1	100
Sterilize Needles	22	71	6	1	100
<i>Caucasus</i>					
<i>Azerbaijan, 2001</i>					
Use condoms	8	32	34	26	100
Avoid Injections	2	36	36	26	100
Monogamy	14	53	7	26	100
Ask Partner to be Tested	2	57	15	26	100
Limit Number of Sexual Partners	6	58	9	26	100
Sterilize Needles	9	57	8	26	100
<i>Georgia, 1999</i>					
Use condoms	23	53	18	7	100
Avoid Injections	7	76	10	7	100
Monogamy	26	63	5	7	100
Ask Partner to be Tested	4	76	13	7	100
Limit Number of Sexual Partners	21	67	5	7	100
Sterilize Needles	3	75	16	7	100

23% respectively). After probing, another 53% and 63% mentioned these methods. In the countries surveyed, the failure to mention “avoid injections,” even after probing, ranged from 10% to 36%. Since knowledge of HIV/AIDS transmission by using non-sterile needles is relatively high, it is possible that women did not perceive risk of infection from all needle injections.

Table 10.3.2 compares only spontaneously mentioned prevention methods by residence in seven countries. In addition to the

countries in Table 10.3.1 this table includes Armenia, Kazakhstan, and Turkmenistan based on spontaneous responses to a question on ways to prevent HIV/AIDS. In Moldova, Romania, Armenia, Azerbaijan, and Georgia, knowledge of the use of condoms as a prevention method has the largest difference between urban and rural areas. This can be attributed to differences in gender norms and marital status in urban and rural areas and hence, the likelihood of sexually experienced women in these two areas using condoms with their sexual

Table 10.3.2 Percent of Women Who Spontaneously Mentioned Possible Means of Preventing HIV/AIDS Transmission, by Residence Among Women of Reproductive Age* Eastern Europe and Eurasia: A Comparative Report							
Region and Country	Means of Preventing Transmission (%)						No. of cases
	Avoiding Casual Sex Partners	Being Monogamous	Using a Condom	Avoiding Injections	Avoiding Sex with Prostitutes	Avoiding Bisexual Relations	
Eastern Europe							
<i>Moldova, 1997</i>							
Urban	49	58	59	8	22	3	2,828
Rural	47	61	37	7	23	2	2,584
Total	48	60	48	8	23	2	5,412
<i>Romania, 1999</i>							
Urban	26	20	62	3	8	2	3,914
Rural	22	19	36	3	6	1	2,974
Total	24	20	52	3	7	1	6,888
Caucasus							
<i>Armenia, 2000</i>							
Urban	8 [†]	27	37	5	6	1 [‡]	3,942
Rural	6 [†]	16	12	2	4	§ [‡]	2,488
Total	7 [†]	23	27	3	5	1 [‡]	6,430
<i>Azerbaijan, 2001</i>							
Urban	9	18	13	2	13	2	3,832
Rural	3	9	2	1	6	§	3,836
Total	6	14	8	2	10	1	7,668
<i>Georgia, 1999</i>							
Urban	24	27	31	9	23	3	4,759
Rural	17	23	13	5	20	2	3,039
Total	21	26	23	7	22	3	7,798
Central Asia							
<i>Kazakhstan, 1999</i>							
Urban	15 [†]	52	43	18	5	3 [‡]	2,668
Rural	9 [†]	44	27	11	3	1 [‡]	2,132
Total	12 [†]	48	36	15	4	2 [‡]	4,800
<i>Turkmenistan, 2000</i>							
Urban	11 [†]	26	25	13	27	1 [‡]	3,691
Rural	7 [†]	18	8	7	18	§ [‡]	4,228
Total	9 [†]	22	16	10	22	1 [‡]	7,919

* Considered to be 15–44 years in RHS and 15–49 years in DHS surveys.

† In Armenia, Kazakhstan and Turkmenistan “avoiding casual sexual partners” is equated with “limiting number of sexual partners.”

‡ In Armenia, Kazakhstan and Turkmenistan “avoiding bisexual relations” is equated with “avoiding sex with homosexuals.”

§ Less than 0.5%.

partners. For all other prevention methods, urban and rural women in Eastern European countries demonstrate similar patterns. However, women in the Caucasus vary substantially by residence on several prevention methods. This suggests again the need for concentrated efforts to improve HIV/AIDS education in the rural areas of these countries.

Table 10.3.3 illustrates the percentage of men who spontaneously mentioned means of preventing HIV/AIDS transmission for the three countries with data for males of reproductive age. Among men, use of condoms is the most commonly mentioned means of

preventing HIV/AIDS, although knowledge never exceeded 69%.

Table 10.3.4 shows the percentage of women who did not know any effective means of preventing HIV/AIDS after probing, by residence. This was calculated as women who said “no” or “don’t know” after probing, or had never heard of HIV/AIDS. In several countries, avoiding injections was not well known as a means of prevention. Most methods, including abstinence, were not well known in Azerbaijan. In Georgia, using a condom was the least known method of prevention. Again, lack of knowledge was greater in rural areas than urban areas in most countries.

Table 10.3.3 Percent of Women Who Spontaneously Mentioned Possible Means of Preventing HIV/AIDS Transmission, by Residence Among Men of Reproductive Age* Eastern Europe and Eurasia: A Comparative Report							
Region and Country	Means of Preventing Transmission (%)						No. of cases
	Avoiding Casual Sex Partners	Being Monogamous	Using a Condom	Avoiding Injections	Avoiding Sex with Prostitutes	Avoiding Bisexual Relations	
Eastern Europe							
<i>Romania, 1999</i>							
Urban	22	19	71	6	17	2	1,342
Rural	21	16	51	4	14	2	1,092
Total	22	18	63	5	16	2	2,434
Caucasus							
<i>Armenia, 2000</i>							
Urban	16 [†]	29	60	3	35	2 [‡]	1,024
Rural	8 [†]	22	42	2	24	1 [‡]	695
Total	13 [†]	26	53	2	31	2 [‡]	1,719
Central Asia							
<i>Kazakhstan, 1999</i>							
Urban	14 [†]	43	76	26	26	3 [‡]	790
Rural	15 [†]	46	61	29	30	1 [‡]	650
Total	15 [†]	44	69	27	28	3 [‡]	1,440

* Considered to be 15–49 years in RHS and 15–59 years in DHS surveys.

† In Armenia and Kazakhstan “avoiding casual sexual partners” is equated with “limiting number of sexual partners.”

‡ In Armenia and Kazakhstan, “avoiding bisexual relations” is equated with “avoiding sex with homosexuals.”

§ Less than 0.5%.

Percent of Women Who Lack Knowledge of Possible Means of Preventing HIV/AIDS Transmission After Probing*, by Residence Among Women of Reproductive Age† Eastern Europe and Eurasia: A Comparative Report												
Region and Country	Possible Means of Preventing HIV/AIDS Transmission (%)											No. of cases
	Avoiding Casual Sex Partners	Being Monogamous	Using a Condom	Avoiding Injections	Avoiding Sex with Prostitutes	Avoiding Bisexual Relations	Total abstinence	Avoid sex with partner with other partners				
Eastern Europe												
Moldova, 1997												
Urban	1	3	3	23	2	7	†	†	†	†	†	2,828
Rural	2	3	10	26	2	15	†	†	†	†	†	2,584
Total	2	3	6	25	2	11	†	†	†	†	†	5,412
Romania, 1999												
Urban	4	14	5	38	5	12	†	†	†	†	†	3,914
Rural	9	13	18	35	11	25	†	†	†	†	†	2,974
Total	6	14	10	37	7	17	†	†	†	†	†	6,888
Caucasus												
Azerbaijan, 2001												
Urban	22	21	47	54	20	43	58	20	20	20	20	3,832
Rural	51	48	75	72	48	72	74	49	49	49	49	3,836
Total	35	33	60	62	32	56	65	34	34	34	34	7,668
Georgia, 1999												
Urban	5	5	14	10	5	13	†	†	†	†	†	4,759
Rural	21	20	37	26	20	35	†	†	†	†	†	3,039
Total	12	12	24	17	12	23	†	†	†	†	†	7,798

* Numerator includes those who responded "no" and "do not know" and those who have never heard of HIV/AIDS.

† Considered to be 15–44 years in RHS and 15–49 years in DHS surveys.

‡ Question was not asked.

10.4 Self-Perceived Risk of HIV/AIDS

Respondents were asked about their perceived risk of contracting HIV/AIDS. This was calculated for all women whether they have heard of HIV/AIDS or not, and the results are presented in Table 10.4.1. The majority of respondents in the Czech Republic believe they have no risk of contracting HIV/AIDS (83%). This proportion is followed by 66% in Moldova, 61% in Azerbaijan, 60% in Georgia, and 57% in Romania. However, it is noteworthy that the Czech survey was conducted in 1993, which was earlier than other surveys conducted in the late 1990s.

Among women who perceive themselves to have high, some, or low risk, urban women have higher perceived risk than rural women in each category in most countries.

In surveys in Romania, Azerbaijan, and Georgia, women who responded that they felt they were either at high risk, some risk, or low risk of HIV infection were asked their reasons why they were at risk (Table 10.4.2). A large proportion of responses related to the utilization of health services. In Romania, Azerbaijan, and Georgia, the utilization of health services, which includes medical/surgical or dental treatment, was most women's reason for their HIV risk (69%, 47%

Table 10.4.1 Self-Perceived Risk of Contracting HIV/AIDS by Residence Among Women of Reproductive Age [†] (Percent Distribution) Eastern Europe and Eurasia: A Comparative Report									
Region and Country	Self-Perceived Risk of Contracting HIV/AIDS (%)					Do Not Know	Have Not Heard of HIV/AIDS	Total	No. of Cases
	High Risk	Some Risk	Low Risk	No Risk					
Eastern Europe									
<i>Czech Rep., 1993</i>									
Urban	4	†	6	83	8	‡	100	3,025	
Rural	2	†	4	85	9	‡	100	1,472	
Total	3	†	5	83	8	‡	100	4,497	
<i>Moldova, 1997</i>									
Urban	6	†	30	59	5	1	100	2,828	
Rural	5	†	15	74	5	1	100	2,584	
Total	5	†	23	66	5	1	100	5,412	
<i>Romania, 1999</i>									
Urban	4	9	28	55	5	‡	100	3,914	
Rural	6	6	17	61	10	1	100	2,974	
Total	4	8	24	57	7	1	100	6,888	
Caucasus									
<i>Azerbaijan, 2001</i>									
Urban	1	2	5	73	6	15	100	3,832	
Rural	0	1	2	46	12	39	100	3,836	
Total	0	1	4	61	8	26	100	7,668	
<i>Georgia, 1999</i>									
Urban	1	4	33	58	3	2	100	4,759	
Rural	1	2	18	62	5	13	100	3,039	
Total	1	3	26	60	4	7	100	7,798	

* Considered to be 15–44 years in RHS and 15–49 years in DHS surveys.

† Question was not asked.

‡ Less than 0.5%.

and 88%, respectively). In Romania and Azerbaijan, another 14% and 21% of women, respectively, did not trust their partner's sexual behaviors and felt that posed a risk of HIV infection. However, less than 5% of women in all the countries presented felt that they were at risk of infection due to unsafe sexual practices (5% in Romania, 1% in Azerbaijan and less than 1% in Georgia). Of the substantial proportion of women in Azerbaijan who stated other reasons (23%), about half of respondents were afraid of contracting HIV by receiving manicures or pedicures (data not shown), which suggests a persistent belief that HIV is transmitted by the use of shared, sharp objects. The remainder of women who stated other reasons were afraid of contracting HIV by breathing it in the air or by poor hygiene.

Women who believed they had no risk of HIV infection were asked why they were not at any risk (Table 10.4.3). Fifty-three percent of women in Romania believe they have no risk because they have "one partner who is also faithful." In Azerbaijan and Georgia, the most common reason women felt they were not at risk is that they have "a trustworthy partner" (40% and 46%). Belief that the risk of HIV can be eliminated by using condoms ranges from 2% in Romania to less than 1% in Azerbaijan and Georgia. The two responses, "trustworthy partner" and "only one faithful partner," suggest that women are relying on their partner's behaviors to protect them from HIV and this should be addressed in HIV/AIDS education to both married and unmarried women.

Table 10.4.2 Opinions about the Risk Factors of Contracting HIV/AIDS by Residence Among Women of Reproductive Age* Who Have Heard of HIV/AIDS and Believed That They Had a Risk of Contracting HIV/AIDS (Percent Distribution) Eastern Europe and Eurasia: A Comparative Report								
Region and Country	Factor Believed to Be Source of Risk (%)						Total	No of Cases
	Utilization of Health Services	Distrust in Partner	Blood Transfusions	Unsafe Sex [†]	Other	Do Not know		
Eastern Europe								
<i>Romania, 1999</i>								
Urban	72	12	3	5	4	4	100	1,590
Rural	61	17	2	4	7	9	100	880
Total	69	13	3	5	5	5	100	2,470
Caucasus								
<i>Azerbaijan, 2001</i>								
Urban	51	19	1	2	24	4	100	240
Rural	38	28	3	0	23	9	100	120
Total	47	21	2	1	23	6	100	360
<i>Georgia, 1999</i>								
Urban	89	3	3	‡	4	1	100	1,737
Rural	87	5	5	1	1	2	100	627
Total	88	4	3	‡	3	1	100	2,364

* Considered to be 15–44 years in RHS and 15–49 years in DHS surveys.

† Includes "many sexual partners", "trade sex for money" and "unprotected intercourse with partner."

‡ Less than 0.5%.

Table 10.4.3
Opinions about Factors that Protect from the Risk of Contracting HIV/AIDS by Residence
Among Women of Reproductive Age* Who Have Heard of HIV/AIDS and
Believed They Had No Risk of Contracting HIV/AIDS
(Percent Distribution)
Eastern Europe and Eurasia: A Comparative Report

Region and Country	Factor Believed to Protect Against Risk (%)						Total	No. of Cases
	Trustworthy Partner	Sexual Abstinence	Only One Faithful Partner	Use Condoms	Other	Do Not Know		
<u>Eastern Europe</u>								
<i>Romania, 1999</i>								
<i>Urban</i>	17	24	52	2	1	3	100	2,121
<i>Rural</i>	13	27	53	1	1	4	100	1,768
Total	16	25	53	2	1	3	100	3,889
<u>Caucasus</u>								
<i>Azerbaijan, 2001</i>								
<i>Urban</i>	41	38	18	†	†	3	100	2,782
<i>Rural</i>	39	33	23	†	†	4	100	1,876
Total	40	36	20	†	†	3	100	4,658
<i>Georgia, 1999</i>								
<i>Urban</i>	43	42	12	†	1	2	100	2,836
<i>Rural</i>	49	31	15	†	†	5	100	1,938
Total	46	37	13	†	1	3	100	4,776

* Considered to be 15–44 years in RHS and 15–49 years in DHS surveys.
† Less than 0.5%.

Although these countries vary significantly with respect to sexual behaviors, particularly with regard to age of sexual debut and the premarital/marital sexual experience (see chapter 14, Sexual and Contraceptive Behavior of Young Adults), it is still vital that HIV/AIDS education be promoted to all subgroups in all countries of the Eastern European, Caucasus, and Central Asian regions (Svenson, 1998). This is increasingly important as HIV/AIDS spreads beyond the intravenous drug user population to the heterosexual population in these areas.

10.5 Summary of Findings

Eastern Europe and the Former Soviet Union are among the last regions of the world to be challenged by the worldwide HIV/AIDS epidemic. For this chapter, we summarize findings from these unique population-based household surveys dealing with reproductive

health that included this topic, including awareness and knowledge of the infection, knowledge of HIV/AIDS transmission and prevention and self-perceived risk of the disease:

- ◆ With the exception of Armenia (58%) and Azerbaijan (66%), at least 86% of women of reproductive age have heard of at least one sexually transmitted infection, other than HIV/AIDS. Awareness of AIDS was at least 93% in 6 of the 8 countries with data.
- ◆ Only 21% (Azerbaijan) to 79% (Moldova) of women know that HIV/AIDS can be asymptomatic.
- ◆ In the three countries with male samples, almost all men say that they have heard of AIDS but, like their female counterparts, knowledge that a person with HIV/AIDS

can be well and not be sick is significantly lower; only 72% in Romania, 58% in Armenia and 67% in Kazakhstan.

- ◆ A significant minority, and sometimes a majority, of women lack knowledge of specific means of HIV transmission in 6 of the 8 countries with data, with generally important differences between urban and rural residents. Lack of knowledge is particularly high in Azerbaijan and Turkmenistan.
- ◆ The data also reveal that a significant portion of women have misconceptions about HIV/AIDS transmission, especially thinking that they can contract HIV by donating blood.
- ◆ About half of women in Moldova and Romania spontaneously mention using a condom as a means of preventing transmission. However, this same percentage is 36% or less in the other five countries with data. From 53% to 69% of men mention using a condom to prevent HIV/AIDS.
- ◆ Most women (from 57% to 83%) say they have no risk of getting HIV/AIDS. Most of the women who say they have no risk say they have a trustworthy partner or only one faithful partner (from 59% to 69%). The majority of women who say that they have some risk of contracting HIV/AIDS say that the utilization of health services (the use of non-sterile needles) is their biggest risk.

11 CHAPTER

INFANT FEEDING PRACTICES AND NUTRITION STATUS OF WOMEN AND CHILDREN

This chapter covers three topics: breastfeeding of infants, nutritional status of children, and nutritional status of women. The findings presented are from the Demographic and Health Surveys (DHS) in Armenia, Kazakhstan, Kyrgyz Republic, Turkmenistan, and Uzbekistan and the Reproductive Health Survey (RHS) in Azerbaijan.¹

11.1 Breastfeeding

Infant feeding practices influence the health of both the child and the mother. Breastfeeding is a primary determinant of an infant's nutritional status and its susceptibility to morbidity. Early initiation of breastfeeding—within an hour following birth—permits the newborn to benefit immediately from colostrum, which is highly nutritious and contains the antibodies necessary to protect babies from infection before their immune systems are fully mature. Early initiation also takes advantage of the newborn's sucking reflex and alertness immediately postpartum.

In early infancy, frequent breastfeeding, including night feeds, is important to ensure that the infant both receives sufficient breast milk and regains its birth weight as soon as possible. Current recommendations are that infants should be breastfed 8–10 times every 24 hours, and even more frequently during the first month of life. Frequent feeding also

¹ Information on breastfeeding practices and the nutritional status of children was obtained for births occurring in two different retrospective time periods in the DHS surveys. The surveys in Uzbekistan (1996) and the Kyrgyz Republic (1997) collected this information for births occurring in the 3 years preceding the survey. The surveys in Kazakhstan (1999), Turkmenistan (2000), and Armenia (2000) collected the data for births in the 5 years preceding the survey. For the sake of comparability, this chapter presents findings pertaining to the births in the 3-year period preceding each survey, for the DHS surveys.

ensures that a mother maintains her ability to produce sufficient quantities of breast milk.

The health of a woman is also affected by breastfeeding because it delays the return of ovulation and provides a period of time in which she is not susceptible to the risk of another pregnancy.

Optimal breastfeeding of infants includes:

- ◆ Initiation of breastfeeding within about 1 hour of birth;
- ◆ Frequent, on-demand feeding (including night feeds);
- ◆ Exclusive breastfeeding (defined as breast milk only and no other foods or liquids until the infant is about 6 months of age).

In the DHS, respondents were asked questions concerning breastfeeding practices for their recent births. Mothers were asked if they had breastfed their child and, if so, how soon after birth breastfeeding was initiated. Women were also asked if their children were still breastfeeding and the age at which supplemental feeding began. For children no longer breastfeeding, the age of the child at which breastfeeding stopped was asked.

Initiation of Breastfeeding

Table 11.1.1 indicates that 95% or more of infants in Azerbaijan, Kazakhstan, the Kyrgyz Republic, Turkmenistan, and Uzbekistan were breastfed, as were almost 90% in Armenia. Sixty percent or more of infants in each country except Azerbaijan (51%) and Uzbekistan (40%) received breast milk within the first day of life. However, less than 30% of children were breastfed within the first hour except in the case of the Kyrgyz Republic (41%).

Table 11.1.1 indicates that 85% or more of children under 6 months of age received breast

milk six or more times in the 24 hours before the survey. In the five countries with data, the mean number of episodes of breastfeeding in the 24 hours before the survey was eight or more, with both daytime and nighttime feeding being the norm.

Duration of Breastfeeding

Table 11.1.2 shows data on the median durations of breastfeeding. The duration of any breastfeeding was shorter in Armenia (9 months), Azerbaijan (12 months) and Kazakhstan (14 months) than in the Kyrgyz Republic, Turkmenistan, and Uzbekistan (about 17 months in each). However, the duration of exclusive breastfeeding was short in each country (1 month or less). The durations of predominant breastfeeding (either exclusive breastfeeding or breastfeeding and plain water) were between 3 and 5 months in Armenia, Azerbaijan, Kazakhstan, and Turkmenistan but only 1 to 2 months in the Kyrgyz Republic and Uzbekistan.

11.2 Nutrition of Children

In order to objectively assess the nutritional status of children, the height and weight of children were measured in the surveys. Those measurements, in conjunction with a child's age, allowed for the calculation of three standard measures of physical growth: height-for-age, weight-for-height, and weight-for-age.

The nutritional status of children as measured by these indices can be evaluated by comparing their distributions on a specific index to that of a well-nourished, healthy population of children. The use of a reference population to evaluate the nutrition status of children is based on the findings that well-nourished children in all populations exhibit similar distributions by height and weight for a given age (Habicht JP et al., 1974; Martorell R, and Habicht JP, 1986). The reference

11.1.1 Initiation and Frequency of Breastfeeding Among Children Eastern Europe and Eurasia: A Comparative Report			
Prevalence of Breastfeeding Time of Initiation			
<i>Region and Country</i>	Ever Breastfed	Breastfed within 1 Hour	Breastfed within 1 Day
Caucasus			
<i>Armenia, 2000</i>	89	27	77
<i>Azerbaijan, 2001*</i>	95	13	51
Central Asia			
<i>Kazakhstan, 1999</i>	95	27	62
<i>Kyrgyz Rep., 1997</i>	95	41	65
<i>Turkmenistan, 2000</i>	97	19	76
<i>Uzbekistan, 1996</i>	96	19	40
Frequency of Breastfeeding and Mean Number of Feeds			
<i>Region and Country</i>	Percent breastfed 6 or more times in last 24 hours	Mean number of feeds	
		During daytime	During nighttime
Caucasus			
<i>Armenia, 2000</i>	85	5	3
Central Asia			
<i>Kazakhstan, 1999</i>	89	6	3
<i>Kyrgyz Rep., 1997</i>	89	6	3
<i>Turkmenistan, 2000</i>	96	6	3
<i>Uzbekistan, 1996</i>	92	6	4

* For Azerbaijan, prevalence among children under 60 months of age.

11.1.2 Median Duration of Breastfeeding Among Children under 36 Months of Age Eastern Europe and Eurasia: A Comparative Report			
Median Duration in Months*			
<i>Region and Country</i>	Exclusive Breastfeeding	Predominant Breastfeeding [†]	Any Breastfeeding
Caucasus			
<i>Armenia, 2000</i>	1.4	3.1	9.1
<i>Azerbaijan, 2001[‡]</i>	0.4	3.7	11.6
Central Asia			
<i>Kazakhstan, 1999</i>	0.7	3.2	13.6
<i>Kyrgyz Rep., 1997</i>	0.7	1.8	16.9
<i>Turkmenistan, 2000</i>	0.5	4.5	17.5
<i>Uzbekistan, 1996</i>	0.4	0.7	17.3

* Medians are based on current status.

[†] Either exclusive breastfeeding or breastfeeding and plain water only.

[‡] Mean duration in months.

population used in this study is that developed by the U.S. National Center for Health Statistics (NCHS) and accepted by the World Health Organization (WHO, 1995).

Height-for-age is a measure of physical growth over the child's life. A child whose height is more than 2 standard deviations below the median of the NCHS reference population is considered stunted or very short for his or her age. Stunting is a condition that results from prolonged inadequate food intake or from recurrent episodes of illness.

Weight-for-height indicates the appropriateness of a child's weight given his/her height. A child whose weight is more than 2 standard deviations below the NCHS reference median is referred to as wasted or too thin. This condition may reflect a recent period of inadequate food intake or a recent episode of illness.

Weight-for-age is a general indicator of a child's nutritional status. A child who falls more than 2 standard deviations below the NCHS reference median on this index is referred to as underweight. The child may have suffered from chronic malnutrition (stunting) or acute malnutrition (wasting) but this index does not distinguish between those conditions.

Even in the well-nourished NCHS reference population, 2% of children fell more than 2 standard deviations below the median value and 0.1% of children fell more than 3 standard deviations below the median value.

Anthropometric Data Collection

Height and weight measurements were made by specially trained members of the interviewing team. Children were weighed with a Seca digital scale graduated in units of 100 grams. Height was measured using a board

manufactured by Shorr Productions graduated in tenths of a centimeter. Children age 24 months and older were measured standing, while children under age 24 months were measured lying down (recumbent length). Age was determined from the reported date of birth and date of the interview.

Malnutrition among Children

Table 11.2.1 shows the three indices of nutritional status for children under 3 years of age in five countries and under 5 years of age in Azerbaijan. The statistic shown for each index is the percentage of children who were more than 2 standard deviations below the median value for the NCHS reference population.

Approximately 10% of children were classified as stunted in Armenia and Kazakhstan while more than 20% were stunted in the Kyrgyz Republic, Turkmenistan, and Uzbekistan (25%, 24%, and 31%, respectively). The percentage of children found to be underweight in Armenia and Kazakhstan (2% and 5%) did not differ greatly from the 2.3% value in the NCHS reference population, but the percentages were much higher in Azerbaijan, the Kyrgyz Republic, Turkmenistan, and Uzbekistan (7%, 11%, 13%, and 19%). Finally, in terms of weight-for-height, the percentage of children suffering wasting in Armenia, Azerbaijan, Kazakhstan, and the Kyrgyz Republic (3%, 2%, 2%, and 3%) were essentially the same as for the NCHS reference population, while the levels of wasting were much higher in Turkmenistan and Uzbekistan (6% and 12%).

It is quite clear that substantially fewer children were classified as undernourished on these indices in Armenia, Azerbaijan, and Kazakhstan than in the Kyrgyz Republic, Turkmenistan, and Uzbekistan.

11.2.1 Percent of Children Classified as Undernourished by Three Anthropometric Indices* Among Children under 36 Months of Age Eastern Europe and Eurasia: A Comparative Report			
<u>Region and Country</u>	<u>Anthropometric Index</u>		
	<u>Stunted (height-for-age)</u>	<u>Wasted (weight-for-height)</u>	<u>Underweight (weight-for-age)</u>
<u>Caucasus</u>			
Armenia, 2000	11	3	3
Azerbaijan, 2001 [†]	13	2	7
<u>Central Asia</u>			
Kazakhstan, 1999	10	2	5
Kyrgyz Rep., 1997	25	3	11
Turkmenistan, 2000	24	6	13
Uzbekistan, 1996	31	12	19

* Percentages are for children at least 2 standard deviations below the median of the NCHS/CDC/WHO International Growth Reference Population (WHO, 1995).

† Children aged 3–59 months.

Comparative International Data

Table 11.2.2 shows mean values of child nutritional indicators from 19 DHS surveys conducted in less developed countries in various areas of the world in the late 1980s (Sommerfelt AE, and Stewart MK, 1994). Those indicators pertain to children 3–35 months of age rather than all children under 3 years of age as reported above. Thus, they are closely, but not perfectly, comparable to the statistics for Armenia and the Central Asian republics.

In the case of Armenia, Azerbaijan, Kazakhstan, the Kyrgyz Republic, and Turkmenistan, the nutritional status indicators, particularly the indicators of stunting and underweight, compare favorably with the mean values of the 19 other countries. The mean values for these 19 comparative countries are 29% of children stunted and 22% of children underweight. Those values are greater by a factor of 3 or 4 than the comparable statistics for Armenia and Kazakhstan and greater by a factor of 2 than the comparable statistics for Azerbaijan, the Kyrgyz Republic, and Turkmenistan.

On the other hand, for Uzbekistan the percentage of children who are stunted (31%) and underweight (19%) are about the same as the mean values for these 19 countries, while the level of wasting (12%) is decidedly higher than the mean value for these 19 countries (4%).

Malnutrition Differentials

Differentials in nutritional status of children by demographic characteristics (age, sex, and birth order) and socioeconomic characteristics (urban-rural residence) can provide information about population subgroups in particular need. Differentials in terms of the stunting and underweight indices are shown in Tables 11.2.3 and 11.2.4. Differentials in terms of the wasting index were minor and are not shown.

In terms of the stunting index, there is a clear trend of increasing levels of malnutrition between infants (less than 6 months and 6–11 months of age) and older children (12–23 and 23–35 months of age). The percentage of children classified as malnourished is typically

11.2.2 Mean Percentages of Children Undernourished by Three Anthropometric Indices* Among Children 3-35 Months of Age from DHS Surveys in 19 Countries Eastern Europe and Eurasia: A Comparative Report			
<u>Region</u>	<u>Anthropometric Index</u>		
	<u>Stunted (height-for-age)</u>	<u>Wasted (weight-for-height)</u>	<u>Underweight (weight-for-age)</u>
8 African Countries	33	6	27
5 North African/Asian Countries	24	5	20
6 Latin American Countries	29	2	15
19 Countries Worldwide	29	4	22

* Percentages are for children at least 2 standard deviations below the median of the NCHS/CDC/WHO International Growth Reference Population (WHO, 1995).

Source: Sommerfelt AE and Stewart MK, 1994.

11.2.3 Percentage of Children Classified as Stunted by Selected Characteristics Among Children under 36 Months Eastern Europe and Eurasia: A Comparative Report						
<u>Characteristic</u>	<u>Caucasus</u>		<u>Central Asia</u>			
	<u>Armenia 2000</u>	<u>Azerbaijan 2001*</u>	<u>Kazakhstan 1999</u>	<u>Kyrgyz Rep. 1997</u>	<u>Turkmenistan 2000</u>	<u>Uzbekistan 1996</u>
<u>Total</u>	11	13	10	25	24	31
<u>Age (months)</u>						
< 6	4	U	6	5	9	8
6-11	6	U	5	16	20	26
12-23	15	10	17	34	34	44
24-35	12	13	7	30	23	30
<u>Sex</u>						
Male	10	13	8	28	24	34
Female	12	14	11	22	23	29
<u>Residence</u>						
Urban	8	11	7	15	19	33
Rural	13	16	11	28	26	31
<u>Education Level</u>						
Secondary Incomplete	19	16	(14)	(29)	21	25
Secondary Complete	12	15	11	33	25	35
Technicum	10	9	9	15	21	29
Postsecondary	5	4	5	19	16	21
<u>Birth Order</u>						
1	8	U	7	22	22	27
2	12	U	8	24	24	31
3+	17	U	15	30	25	38

* Children aged 3-59 months.

() Numbers in parentheses may be unreliable estimates due to small sample size.

U = Unavailable.

twice as great among older children, especially for the age group 12–23 months where levels are as high as 34% to 44% in the Kyrgyz Republic, Turkmenistan, and Uzbekistan. Greater levels of malnutrition are also evident among children of higher birth orders and in rural as opposed to urban areas. As might be expected, the percentage of children classified as stunted was higher among children of less educated women than children of more educated women. Finally, differentials by the sex of the child were relatively minor and not consistent across countries.

In terms of the underweight index (Table 11.2.4), there are differences in the pattern of the differentials between Armenia,

Azerbaijan, and Kazakhstan, where levels of malnutrition are relatively low (3%, 5%, and 7%), and the Kyrgyz Republic, Turkmenistan, and Uzbekistan where levels are much higher (11%, 13%, and 19%). There is little pattern in the differentials for Armenia, Azerbaijan, and Kazakhstan. On the other hand, for the Kyrgyz Republic, Turkmenistan, and Uzbekistan, patterns similar to those observed for the stunting index are evident. The percentage of children classified as underweight increases with age and is especially high for children 12–23 months of age. Levels of underweight also tend to be greater among children who are higher order births, reside in rural areas, and whose mothers are less educated.

11.2.4 Percentage of Children Classified as Underweight by Selected Characteristics Among Children under 36 Months Eastern Europe and Eurasia: A Comparative Report						
Characteristic	Caucasus		Central Asia			
	Armenia 2000	Azerbaijan 2001*	Kazakhstan 1999	Kyrgyz Rep. 1997	Turkmenistan 2000	Uzbekistan 1996
Total	3	7	5	11	13	19
Age (months)						
< 6	2	U	4	0	5	6
6–11	2	U	5	10	14	18
12–23	3	9	6	19	20	25
24–35	3	6	3	9	11	18
Sex						
Male	3	6	5	13	13	21
Female	2	8	4	9	13	17
Residence						
Urban	2	6	6	6	12	17
Rural	3	8	4	13	14	20
Education Level						
Secondary Incomplete	7	11	(7)	(19)	11	20
Secondary Complete	1	7	4	12	14	25
Technicum	4	5	4	10	11	10
Postsecondary	0	2	7	8	10	5
Birth Order						
1	1	U	5	10	12	12
2	3	U	4	10	13	20
3+	8	U	7	14	17	27

* Children aged 3–59 months.

() Numbers in parentheses may be unreliable estimates due to small sample size.

U = Unavailable.

11.3 Nutrition of Women

The nutritional status of women in the childbearing ages is useful as an indicator of overall health, as a predictor of the risk of adverse pregnancy outcomes, and as an indicator of the risk of morbidity and mortality following childbirth. In the surveys, anthropometric measurements of the height and weight of all women aged 15–49 were made and, based on those data, two indices of nutritional status have been calculated: height and body mass index (BMI).

Maternal height is one measure of past nutritional status and reflects in part the cumulative effect of lack of access to nutritional foods during childhood and adolescence. It is a predictor of difficult deliveries, since small stature is often associated with small pelvis size and a greater likelihood of obstructed labor. Short stature is also correlated with low birth weight in infants and high risks of miscarriage and stillbirth. The height below which a woman is considered to be at nutritional risk is in the range of 140 to 150 centimeters.

Body mass index (BMI) is a measure which utilizes both the height and weight of a woman to determine if she is underweight, overweight, or obese. BMI is defined as weight in kilograms divided by the square of the height in meters (kg/m^2) and is considered to provide a better measure of nutritional status than weight alone. A value of BMI of less than 18.5 has been used to indicate chronic energy deficiency among nonpregnant women. Values of 24.0 to 29.9 are indicative of being overweight, and a value of 30.0 or higher is an indicator of obesity. To avoid bias in the measurement of nutritional status, pregnant women and women who had given birth in the 2 months preceding the survey were excluded from the analysis of maternal nutrition.

Malnutrition Among Women

Table 11.3.1 shows statistics on the mean height of survey respondents and the proportion of women that are less than 145 centimeters tall in the five DHS surveys. The mean height of women is similar in all of the surveys and varies only between 158 and 160 centimeters. Additionally, the proportion of women less than 145 centimeters tall is only about 1% in each of the surveys.

Table 11.3.1 also shows the values of the BMI for women age 15–49. The estimated level of chronic energy deficiency ($\text{BMI} < 18.5$) is lowest for Armenia (4%), intermediate for Kazakhstan and the Kyrgyz Republic (7% for each) and highest in Turkmenistan and Uzbekistan (10% each). These levels are somewhat higher than those found in surveys in South America and the North Africa but lower than those characteristic of sub-Saharan Africa (Loaiza E, 1997).

In terms of the obesity index ($\text{BMI} 30.0+$), a distinctly higher proportion of women were found to be obese in Armenia, Kazakhstan, the Kyrgyz Republic, and Turkmenistan (between 9% and 14%) than in Uzbekistan (5%).

Malnutrition Differentials

Table 11.3.2 shows the proportions of women classified as underweight or overweight by age, residence, and education. There is a strong pattern in each survey of decreasing levels of underweight with increasing age. Even more evident is the pattern of increasing levels of obesity with increasing age. To some extent, these patterns reflect the common weight gain experienced with age in virtually all populations. However, the levels of obesity among women 45–49 in these countries is very high, reaching approximately 30% in Armenia, Kazakhstan, the Kyrgyz Republic, and

11.3.1
Mean Height and Percent of Women under 145 Centimeters and
Mean Body Mass Index (BMI)* and Percent of Women Chronically Energy Deficient and Obese
Among Women Aged 15-49[†]
Eastern Europe and Eurasia: A Comparative Report

Region and Country	Anthropometric Index				
	Height		Body Mass Index		
	Mean (cm)	Percent < 145 cm	Mean (kg/m²)	Percent < 18.5	Percent > 30.0
<u>Caucasus</u>					
<i>Armenia, 2000</i>	157.7	1	24.9	4	14
<u>Central Asia</u>					
<i>Kazakhstan, 1999</i>	159.6	1	24.1	7	13
<i>Kyrgyz Rep., 1997</i>	157.9	1	23.4	7	9
<i>Turkmenistan, 2000</i>	159.0	1	23.5	10	10
<i>Uzbekistan, 1996</i>	159.3	1	22.7	10	5

* BMI is defined as weight in kilograms divided by the height in meters (kg/m²) and is considered to provide a better measure of nutritional status than weight alone.

† BMI statistics are exclusive of women who are pregnant or less than 2 months postpartum.

11.3.2
Percentage of Women 15-49 with a Body Mass Index of Less Than 18.5 or More Than 30.0
by Selected Characteristics
Eastern Europe and Eurasia: A Comparative Report

Characteristic	Body Mass Index (BMI) (%)									
	Armenia, 2000		Kazakhstan, 1999		Kyrgyz Rep., 1997		Turkmenistan, 2000		Uzbekistan, 1996	
	< 18.5	30.0+	< 18.5	30.0+	< 18.5	30.0+	< 18.5	30.0+	< 18.5	30.0+
Total	4	14	7	13	7	9	10	10	10	5
<u>Age</u>										
<i>15-19</i>	6	2	14	‡	15	‡	16	2	2	‡
<i>20-24</i>	7	3	13	2	8	1	12	3	12	2
<i>25-29</i>	4	7	12	7	7	2	11	7	12	3
<i>30-34</i>	3	13	3	13	6	9	8	12	8	6
<i>35-39</i>	1	17	4	16	3	15	6	15	4	8
<i>40-44</i>	1	27	2	25	3	17	5	21	3	12
<i>45-49</i>	1	33	2	30	1	28	3	28	6	18
<u>Residence</u>										
<i>Urban</i>	4	13	8	12	7	9	9	12	12	8
<i>Rural</i>	3	15	7	13	7	8	10	9	9	5
<u>Education Level</u>										
<i>Secondary Incomplete</i>	6	10	8	11	15	10	14	7	15	4
<i>Secondary Complete</i>	4	17	8	12	6	8	9	11	8	5
<i>Technicum</i>	3	15	7	15	5	9	8	13	11	7
<i>Postsecondary</i>	2	12	6	10	7	7	8	11	10	11

* BMI is defined as weight in kilograms divided by the height in meters (kg/m²) and is considered to provide a better measure of nutritional status than weight alone.

† BMI statistics are exclusive of women who are pregnant or less than 2 months postpartum.

‡ Less than 0.5%.

Turkmenistan and 19% in Uzbekistan. These levels of obesity are indicative of sedentary and unhealthy lifestyles.

Education also displays distinctive patterns, particularly in terms of the chronic energy deficiency indicator. Women who had not completed secondary school were decidedly thinner than women in the other education categories, among which there were no discernable differences.

There were no significant differences in BMI values between women residing in urban and rural areas.

11.4 Summary of Findings

- ◆ The chapter presents information on breastfeeding practices for births in recent years preceding each survey. In Azerbaijan, Kazakhstan, the Kyrgyz Republic, Turkmenistan, and Uzbekistan, in excess of 95% of infants were breastfed, and in Armenia almost 90% were breastfed. These levels of breastfeeding are similar to those characteristic of many countries of Asia, Latin America, and the Near East but somewhat lower than the levels in many countries of sub-Saharan Africa. Breastfeeding was initiated within the first day of giving birth for over 60% of births in each country, with the exception of Azerbaijan and Uzbekistan where only 51% and 40% of infants were given breast milk within the first day of life.
- ◆ Anthropometric measures of physical growth were presented to assess the nutritional status of children. Significant differences were found between Armenia,

Azerbaijan, and Kazakhstan as opposed to the Kyrgyz Republic, Turkmenistan, and Uzbekistan. In terms of the stunting index (children who are short for their age), 13% or fewer children were classified as malnourished in Armenia and Kazakhstan, while 24% or more children were classified as stunted in the Kyrgyz Republic, Turkmenistan, and Uzbekistan. Similarly, levels of underweight (weight-for-age) were less than 6% in Armenia and Kazakhstan but greater than 10% in the Kyrgyz Republic, Turkmenistan, and Uzbekistan.

- ◆ The level of undernutrition among certain groups of children is a matter of particular concern in the Kyrgyz Republic, Turkmenistan, and Uzbekistan. Undernutrition levels in terms of the stunting index were, in general, between 25% and 40% for children of birth order three and higher, children residing in rural areas, and children whose mothers did not complete secondary school. In terms of the underweight index, again in the Kyrgyz Republic, Turkmenistan, and Uzbekistan, relatively high percentages of children in these categories were underweight.
- ◆ Two nutritional status indicators for women were presented: height and the body mass index. The proportion of women measured as less than 145 centimeters, the cutoff for small stature which is associated with problematic pregnancy outcomes for both the mother and her child, was 1% in each of the five surveys. This is about the same as has been found for many countries in the Near East and North Africa and decidedly less than is typical of Latin America.

12

CHAPTER

ANEMIA AMONG WOMEN AND CHILDREN

Anemia is a condition characterized by inadequate red blood cell volume and a low concentration of hemoglobin in the blood. Commonly, anemia is the final outcome of a nutritional deficiency of iron, folate, vitamin B₁₂, and other nutrients. Although many other causes of anemia have been identified (such as hemorrhage, infection, genetic disorders, and chronic disease), nutritional deficiency, primarily due to a lack of dietary iron, accounts for most cases. (INACG, 1979, 1989; DeMaeyer et al., 1989; Hercberg and Galan, 1992).

Anemia is known to have detrimental health implications, particularly for mothers and young children. Unfavorable pregnancy outcomes have been reported to be more common in anemic women than non-anemic women (INACG, 1989). Women with severe anemia can experience difficulty meeting oxygen transport requirements near and at delivery, especially if significant hemorrhage occurs. This may be an underlying cause of maternal death and antenatal and perinatal infant loss (Fleming, 1987; Omar et al., 1994; Thonneau et al., 1992). Iron-deficiency anemia in children is associated with impaired cognitive performance, motor development, coordination, language development, and scholastic achievement (Scrimshaw, 1984; Lozoff et al., 1991). Anemia increases morbidity from infectious diseases because it adversely affects several immune mechanisms.

Anemia due to iron deficiency is recognized as a major public health problem throughout the world. According to the epidemiological data collected from multiple countries by the World Health Organization, 35% of women and 43% of young children are affected by anemia worldwide. In developing countries, about 50% of women and young children are anemic. In the United States and Europe, the prevalence of anemia is 7% to 12% among women and

children. The highest overall rates of anemia are reported in southern Asia and certain regions of Africa (DeMaeyer et al., 1989).

12.1 Design and Methodology of the Anemia Studies

Since 1995, the Demographic and Health Surveys (DHS) program has been involved in testing women and children for anemia. A capillary blood sample was collected for women between the ages of 15 and 49 years and children from 6 to 35 months of age in all surveys conducted in Central Asia, as well as in Armenia to measure hemoglobin levels. In addition, the Reproductive Health Survey (RHS) in Azerbaijan in 2001 tested hemoglobin levels in children from 12 to 59 months of age and in the mothers of children under five years of age to measure anemia status.

For hemoglobin measurement, capillary blood was taken from the finger using sterile disposable lancets. Hemoglobin was measured in the blood using the HemoCue system, which detects the level of hemoglobin within one minute. The procedure was performed by specially trained medical personnel and confirmed to be accurate, precise, and suitable for the various field conditions.

Levels of anemia were classified as severe, moderate, or mild based on the hemoglobin concentration in the blood, according to criteria developed by the World Health Organization (DeMaeyer et al., 1989). Anemia was classified as severe when hemoglobin concentration was less than 7.0 g/dl; moderate when the hemoglobin concentration was 7.0–9.9 g/dl, and

mild when the hemoglobin concentration was 10.0–11.9 g/dl (10–10.9 for pregnant women and children under the age of three years).¹

12.2 Anemia Among Women

Table 12.2 presents the anemia rates for women in all six countries. The prevalence of anemia in five of these countries was far higher than is typically found in developed countries. The highest overall rate of anemia was found in Uzbekistan (60%), the lowest in Armenia (12%). Forty-seven percent of women in Turkmenistan, and 40% in Azerbaijan (where only the mothers of young children were measured), 38% in the Kyrgyz Republic, and 36% in Kazakhstan, were diagnosed as having some degree of anemia.

In all six countries, women residing in rural areas were more likely to be anemic than women living in urban areas. Women with any postsecondary education were less frequently anemic than women with less education. In the surveys where ethnic comparisons were possible (the Kyrgyz Republic and Kazakhstan), the prevalence of anemia was much lower among women of Russian ethnicity than among others (data not shown).

The assessment of moderate-to-severe anemia (hemoglobin level less than 10 g/dl) in five of the six countries showed a similar pattern: the highest rate in Uzbekistan (15%), with only Armenia exhibiting low prevalence of less than 5% (only 2%).

Findings from local areas within Kazakhstan and Uzbekistan from the DHS surveys

¹The hemoglobin concentration in the blood is affected by the level of saturation of arterial blood with oxygen, and thus by altitude. Hurtado et al. developed altitude hemoglobin level adjustments for the CDC Pediatric Nutrition Surveillance System. For the population of the Kyrgyz Republic, which lives at altitudes that range from 488 meters to more than 3,000 meters above sea level, the high altitude is an important factor that could affect the level of hemoglobin in the blood and therefore should be considered in the calculation of anemia rates. For this reason, in the Kyrgyz Republic Demographic and Health Survey, the rates of anemia were calculated using high altitude adjustment equations.

Table 12.2 Percent of Women with Moderate-to-Severe Anemia and Any Anemia by Selected Characteristics Among Women of Reproductive Age* Eastern Europe and Eurasia: A Comparative Report											
Characteristic	Caucasus				Central Asia				Uzbekistan, 1996		
	Armenia, 2000	Azerbaijan, 2001†	Kazakhstan, 1999‡	Kyrgyz Rep., 1997	Turkmenistan, 2000	Uzbekistan, 2000	Uzbekistan, 2000	Uzbekistan, 1996	Moderate-to-Severe Anemia	Any Anemia	Any Anemia
Total	2	12	9	36	11	38	10	47	15	60	
Residence											
Urban	2	10	8	34	7	32	9	45	14	59	
Rural	3	17	10	37	12	41	10	49	16	61	
Age Group											
15-19	1	9	6	32	7	32	5	38	11	56	
20-24	2	11	7	34	10	34	8	46	18	63	
25-29	2	14	9	32	9	37	11	49	17	63	
30-34	1	11	8	38	14	44	11	54	18	63	
35-39	2	15	13	41	11	42	12	51	16	63	
40-44	4	13	13	42	13	39	13	51	12	58	
45-49	4	15	7	31	12	43	12	47	14	56	
Education Level											
Secondary Incomplete	2	13	9	40	11	39	7	41	15	61	
Secondary Complete	3	13	8	36	11	40	9	52	17	62	
Technicum	2	13	11	37	11	40	9	46	17	62	
Postsecondary	2	9	7	30	8	33	7	41	11	55	

* Considered to be 15-44 years in RHS and 15-49 years in DHS surveys.

† Only mothers of children aged 3-59 months were tested. Only results for all anemia are reported.

‡ Testing was limited to a subset of surveyed women.

§ Survey was limited to women aged 15-44.

|| Percentages for primary/secondary education level.

conducted there show that, in some areas, rates of anemia are substantially higher than the national rates. For instance, in severely environmentally damaged areas near the Aral Sea, anemia rates of over 70% were found among women of reproductive age (Sharmanov, 1998).

An analysis of DHS data from the countries in the region reveals differentials in anemia rates among women according to nutritional and reproductive health characteristics. These differences are shown only for Kazakhstan in Figure 12.2, although they exist in Uzbekistan, the Kyrgyz Republic, Turkmenistan, and Armenia as well. The prevalence of moderate-to-severe anemia is higher among women with a body mass index (BMI) under 18.5 than among women with a higher BMI. The prevalence of moderate-to-severe anemia among women with two or more births (11%) is almost twice as high as that among women with fewer than two births (6%). Women with average birth intervals of less than 24 months are more likely to have moderate-to-severe anemia (16%) than women with birth intervals of more than 24 months (12%). Among women using intrauterine devices (IUDs) as a method of contraception, the prevalence of moderate-to-severe anemia is twice as high as among women who are not using the IUD. This difference can be explained by the increased menstrual blood loss caused by using an IUD, which can lead to iron depletion and iron-deficiency anemia (INACG, 1989).

When iron deficiency is the main etiologic factor of anemia, population groups with high iron requirements are disproportionately affected and develop anemia more frequently. For this reason, when iron deficiency is highly prevalent in a population, pregnant women, who provide the fetus with a considerable amount of iron, are at greater risk of developing anemia than non-pregnant women. Hemoglobin data from the 1999 Kazakhstan

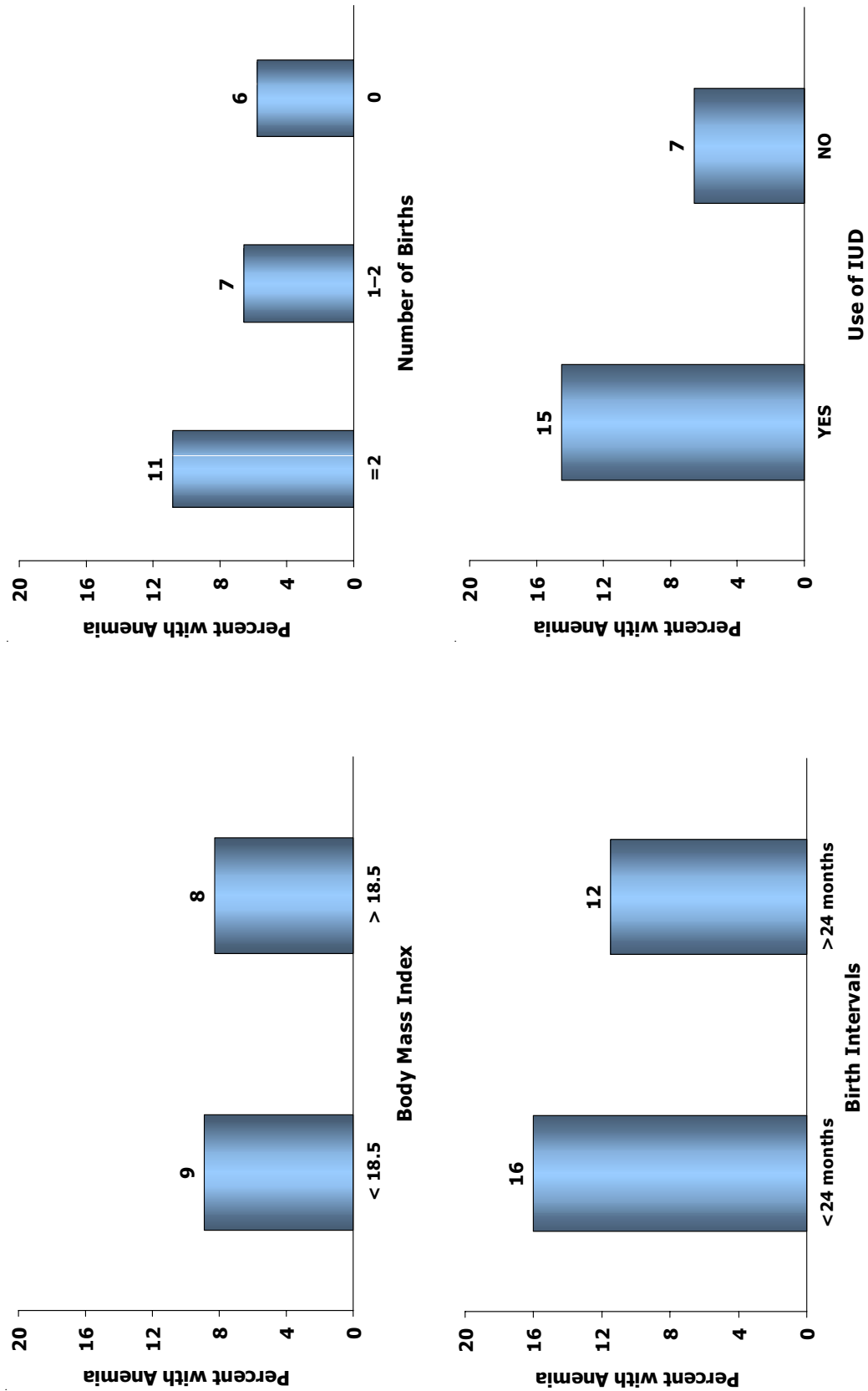
DHS show that the entire hemoglobin distribution for pregnant women is shifted downward (i.e., is much lower) compared with the distribution for non-pregnant women. The hemoglobin distribution for breast-feeding women is also shifted downward compared with the distribution for non-pregnant and non-breast-feeding women, but to a lesser extent than the distribution for pregnant women (data not shown). Because of the gap between very high iron requirements and limited body iron reserves during pregnancy, routine iron supplementation is indicated for pregnant and postpartum women.

In the 1999 Kazakhstan and 2000 Turkmenistan surveys, women were asked if they received iron pills during their last pregnancy. In Kazakhstan, 48% of women received iron pills, taking them for an average of 22 days. On average, women there took iron pills for 22 days. Iron supplementation is more common among women with a higher education (56%) and women residing in urban areas (54%) than among women with only primary or secondary education (40%) and those who reside in rural areas (43%). Thus, despite efforts promoting iron supplementation, more than half of women in Kazakhstan did not receive iron supplements during their last pregnancy. Even women who received iron pills tended to take them for a shorter period than recommended.

12.3 Anemia Among Children

Table 12.3 presents anemia rates for young children in Uzbekistan, the Kyrgyz Republic, Kazakhstan, Turkmenistan, Armenia, and Azerbaijan. As with women of childbearing age, the highest overall rate of anemia was observed in Uzbekistan (61%) and the lowest in Armenia (31%). The rates of anemia among children in the Kyrgyz Republic, Kazakhstan, Turkmenistan, and Azerbaijan were 50%, 48%, 44%, and 32%, respectively. While the

Figure 12.2
Nutritional and Reproductive Health Differentials of Anemia
in Kazakhstan
Eastern Europe and Eurasia: A Comparative Report



rates of moderate-to-severe anemia were lowest in Armenia (13%), they were quite similar in the four Central Asian republics, surveyed: ranging from 27% to 23%.

As with women, there were some differences in moderate-to-severe anemia rates among children according to sex, residence, and mother's education. In all countries for which data were available for moderate-to-severe anemia, boys were more likely to be anemic than girls. The prevalence of moderate-to-severe anemia among children living in rural areas was higher than among children living in urban areas, with the exception of Turkmenistan. Differences according to mother's education were inconsistent, though anemia rates tended to be higher for the children of women without postsecondary education. There were no substantial differences in rates of moderate-to-severe anemia among children by their mother's ethnicity, with the exception of Russian children living in Kazakhstan, whose rate of moderate-to-severe anemia (10%) was significantly lower than among the children of other ethnic groups (data not shown). There were no significant differences in the anemia rates among children by their birth order and birth intervals.

As with anemia among women, in Kazakhstan and Uzbekistan extremely high rates of anemia among young children were found in some environmentally damaged areas. Rates of anemia as high as 81% were found in some areas (Sharmanov, 1998).

12.4 Anemia Trends: Changes in the Prevalence of Anemia in Kazakhstan

Table 12.5 presents the rates of moderate-to-severe anemia among 15–49 year-old women and among children under age three in

Kazakhstan based on the surveys conducted in 1995 and 1999. The results indicate a decline in the prevalence of moderate-to-severe anemia between the surveys among both women and children, falling from 12% to 9% among women and from 39% to 26% among children.

Despite the overall decline in the anemia rates, demographic and socioeconomic differentials in the prevalence of moderate-to-severe anemia in the 1999 KDHS followed almost the same pattern as in the 1995 KDHS. For example, in both surveys, the rate of anemia was the highest among women and children living in the West region. It is also higher for Kazakh women and children than it is for women and children of Russian or other ethnicities. Women and children residing in rural areas were more likely to demonstrate moderate-to-severe anemia than those in urban areas. The most pronounced decline was observed in the South region, where the moderate-to-severe anemia rate declined from 11% to 7% among women and from 40% to 20% among children.

It is important to note that the 1995 survey was conducted mostly during the period June through August, one month earlier than the 1999 survey, which took place from July through late September. The availability and consumption of fresh fruits and vegetables, and thus of essential vitamins and minerals, tends to be higher during the later period. This seasonal difference in diet could be an explanation for at least part of the observed decline in the prevalence of anemia in both women and children between 1995 and 1999.

The decline in the prevalence of anemia could also be the result of the positive effects of the anemia control and prevention program. In particular, the intensive iron supplementation program, which has recently been implemented

Table 12.3 Percent of Children with Moderate-to-Severe Anemia and Any Anemia by Selected Characteristics Among Children Aged 6–35 Months Eastern Europe and Eurasia: A Comparative Report												
Characteristic	Caucasus				Central Asia				Uzbekistan, 1996			
	Armenia, 2000	Azerbaijan, 2001*	Kazakhstan, 1999	Kyrgyz Rep., 1997	Turkmenistan, 2000							
	Moderate- to-Severe Anemia	Any Anemia	Moderate- to-Severe Anemia	Moderate- to-Severe Anemia	Moderate- to-Severe Anemia	Moderate- to-Severe Anemia	Moderate- to-Severe Anemia	Moderate- to-Severe Anemia	Moderate- to-Severe Anemia	Moderate- to-Severe Anemia	Moderate- to-Severe Anemia	Any Anemia
Total	13	31	26	48	25	50	23	44	27	61		
Sex												
Boys	14	32	27	51	30	53	24	44	29	61		
Girls	12	30	25	45	21	47	21	43	24	61		
Birth order												
First	13	30	31	53	30	54	22	41	29	62		
2–3	13	30	21	45	25	47	22	45	25	58		
4–5	17	35	26	48	22	49	25	49	30	62		
6+	†	†	35	39	26	56	21	44	26	76		
Birth interval												
First	13	30	31	53	30	54	23	41	29	63		
<24 months	13	33	18	55	25	49	24	46	26	61		
24–47 months	13	32	28	44	25	48	21	44	26	58		
>48 months	14	28	23	39	22	47	23	48	27	65		
Residence												
Urban	7	21	19	40	18	39	26	50	25	58		
Rural	19	41	30	53	28	53	20	40	28	62		
Mother's Education Level												
Secondary Incomplete	27	44	14	47	26 [‡]	51 [‡]	19	47	28 [‡]	63 [‡]		
Secondary Complete	13	32	36	57	26	50	24	48	26	57		
Technicum	11	30	21	43	26	43	24	48	26	57		
Postsecondary	9	20	17	38	21	43	33	52	24	57		

* Includes children aged 12–59 months.
† Fewer than 25 cases in this category.
‡ Percentages for primary/secondary education level.
U = Unavailable.

by UNICEF's Area Office for the Central Asian Republics and Kazakhstan (UNICEF/CARK) and the Kazakhstan Academy of Nutrition in Kyzylorda oblast (part of the 1999 KDHS South region) may benefit the overall iron status of women and children living in that area.

It has been suggested that the main cause of anemia in Kazakhstan is iron deficiency (Sharmanov, 1998). In the 1999 Kazakhstan DHS, a new approach was used to determine whether anemia in Kazakhstan is primarily due to a negative iron balance. This approach is based on comparative analysis of

hemoglobin distribution curves for children, women, and men. In addition to women and children, the survey collected the hemoglobin data for a sub-sample of 539 men. The hemoglobin distribution curves for women and children are shifted downward compared with the curve for men, meaning men were less likely to have anemia (data not shown). This pattern is characteristic of populations where iron deficiency is the main cause of anemia, and confirms the suggestions that anemia among women and children in Kazakhstan is primarily due to negative iron balance.

Table 12.4				
Percent of Women and Children with Moderate-to-Severe Anemia by Selected Characteristics Among Women Aged 15–49 and Children Aged 6–35 Months in Kazakhstan, 1995 and 1999				
Eastern Europe and Eurasia: A Comparative Report				
Characteristic	Moderate-to-Severe Anemia Among Women Aged 15–49		Moderate-to-Severe Anemia Among Children Aged 6–35 Months	
	Kazakhstan, 1995 (%)	Kazakhstan, 1999 (%)	Kazakhstan, 1995 (%)	Kazakhstan, 1999 (%)
Total	12	9	39	26
Residence				
<i>Urban</i>	10	8	31	19
<i>Rural</i>	14	10	44	30
Region				
<i>Almaty City</i>	11	7	*	*
<i>South</i>	11	7	40	20
<i>West</i>	19	14	55	42
<i>North-East-Central</i>	10	9	34	28
Age Group				
15–19	7	6	NA	NA
20–24	12	7	NA	NA
25–29	11	8	NA	NA
30–34	14	8	NA	NA
35–39	14	13	NA	NA
40–44	11	13	NA	NA
45–49	16	7	NA	NA
(Mother's)				
Education Level				
<i>Primary/Secondary</i>	14	8	42	32
<i>Technicum</i>	12	11	38	22
<i>Postsecondary</i>	9	7	35	17
Ethnicity				
<i>Kazkh</i>	16	11	49	30
<i>Russian</i>	8	5	28	10
<i>Other</i>	9	8	20	23

* Fewer than 25 cases in this category.
NA = Not applicable.

12.5 Summary of Findings

These findings have provided important information for developing health intervention programs to prevent iron-deficiency anemia among women and children in these regions, particularly those subgroups of the population suffering the highest prevalence of anemia. On the basis of the results of the anemia studies conducted in Kazakhstan, Uzbekistan, and the Kyrgyz Republic in conjunction with the national DHS surveys, UNICEF proposed an integrated strategy of education, supplementation, fortification, and research to address the problem and called for donors' support.

The proposed strategy considered an intervention approach and includes the following elements (Gleason et al, 1998):

- ◆ National and area-wide education and training efforts aimed at affordable and acceptable change in the environments of economic transition;
- ◆ Fortification of cereal flour with iron;
- ◆ A major expansion of weekly iron supplementation for a period of two years to encompass women of reproductive age, children 6–24 months of age, and pregnant women;
- ◆ A research agenda of key studies and monitoring activities by the government and other institutions, beginning with a study of the effectiveness of weekly supplementation in all groups, and action research on communication channels, messages, and other factors that will be developed as part of the program.

13 CHAPTER

INFANT AND CHILD MORTALITY

This chapter presents survey-based estimates of infant and early childhood mortality for eight countries: four in Eastern Europe and the Caucasus (Romania, Armenia, Azerbaijan, and Georgia) and four in Central Asia (Kazakhstan, the Kyrgyz Republic, Uzbekistan, and Turkmenistan). Survey-based mortality data are a new resource for documenting mortality levels in these countries.

There is general consensus among demographers that government infant mortality rates for these countries are underestimated and a number of studies have provided mortality estimates that exceed government rates.¹ Those studies have relied on published mortality data from government registration systems, identified defects in those data and employed modeling techniques to re-estimate mortality rates. In contrast, the mortality estimates provided in this chapter are based solely on survey data and are fully independent of government published data. As shown below, the survey-based infant mortality estimates always exceed government rates-frequently by a factor of two or more.

The chapter begins with a discussion of the differences between the definitions of live birth and infant death used by the former Soviet Union and by the World Health Organization (WHO). Section 2 describes survey procedures used to collect data on live births and their survivorship. Sections 3 and 4 provide the survey-based estimates of infant and child mortality and compare those estimates to published government rates. Section 5 evaluates the quality of the survey data.

¹ For example see: Anderson BA and Silver BD, 1986 and 1997; Ksenofontova N, 1994; Velkoff VA and Miller JE, 1995; Kingade WW and Sawyer CC, 2001.

Section 6 shows mortality differentials and Section 7 tracks the trend of infant mortality for a recent period preceding each survey. The chapter concludes with a summary of findings.

13.1 Definitional Issues

There are significant differences in the definitions of live birth and infant death between countries using criteria established by the former Soviet Union and those recommended by the WHO. All the countries considered in this report used the Soviet definition of live birth and infant death prior to the collapse of the Soviet Union and, with the exception of Armenia, all continue to do so at present. Armenia formally changed to the WHO definitions in 1995, although it is not clear that those definitions are being widely implemented in Armenia (GOA, UNICEF, and SCF, 1999).

The WHO recommended definitions of live birth and infant death are relatively simple. Live birth is defined as a product of conception, irrespective of the duration of the pregnancy, which after separation from the mother, showed any sign of life (i.e., breathing, beating of the heart, or movement of voluntary muscles). An infant death is defined as the death of a child less than 1 year of age (WHO, 1993).

The Soviet definitions of these events differs from the WHO definitions both for preterm and for full term pregnancy terminations (Notzon FC, et. al., 1999). Preterm pregnancy terminations (those weighing less than 1,000 grams, less than 28 weeks gestation or less than 35 centimeters long) are classified as miscarriages, unless the child survives for 7 days. Full term pregnancy terminations (pregnancies with a gestation age of 28 weeks or longer) are classified as stillbirths unless breathing is evident at delivery.

These definitional differences mean that fewer pregnancy outcomes with a low survival probability will be classified as live births according to the Soviet definitions than according to the WHO definitions. It follows that mortality rates, especially early neonatal mortality rates (rates for less than 7 days) will be lower under the Soviet definitions than under the WHO definitions. However, if properly implemented, the two classification systems should only result in different rates for the early neonatal period and rates inclusive of that period (neonatal, infant and under-5 mortality rates). Postneonatal mortality and child mortality rates (exact ages 1 to 5) should not be affected by these definitional issues.

13.2 Data Collection Procedures

The objective of the surveys was to collect information on live births and their survival status according to the definitions recommended by WHO. When collecting mortality data from survey respondents, care must be taken to ensure that the respondents are clear about the events that they are to report. This is particularly important when collecting infant mortality data in a country where the definition of live birth used by the civil registration system and the medical community differs from that used in the survey. With the exception of Armenia, that was the situation in the other countries of the region at the time the surveys were conducted.

A full description of the survey procedures for collecting birth and child death data is given in the Appendix to this chapter. Here we only summarize the procedure used to convey to respondents which events that they were to report as live births. Although it differed in some surveys, an identical procedure was used in the majority of surveys. The procedure consisted of direct questions about the number

of deceased children to which a woman had given birth and the use of probing questions if she reported no deceased children. First, the question was asked, “Have you ever given birth to a boy or girl who was born alive and later died?” If the response was affirmative, the respondent was asked “How many boys and how many girls have died?” If the response was negative, a probing question was asked “Any baby who cried or showed signs of life but survived only a few hours or days?” These questions are consistent with the WHO definition of live birth and, judging by the neonatal and infant mortality rates computed from the survey data, they seem to have worked fairly well.²

Following the above questions, pregnancy history data were collected on an event-by-event basis. For each live birth reported in the pregnancy history, information was collected on the date of birth (month and year), sex, survival status, and current age (for surviving children) or age at death (for deceased children). These data are used for the direct calculation of mortality rates for the following age intervals:

- ◆ **Neonatal mortality (NN):** the probability of dying within the first month of life.
- ◆ **Postneonatal mortality (PNN):** the difference between infant and neonatal mortality.
- ◆ **Infant mortality (IMR):** the probability of dying between birth and exact age 1.
- ◆ **Child mortality (Child):** the probability of dying between exact ages of 1 and 5.
- ◆ **Under-5 mortality (Under-5):** the probability of dying between birth and exact age 5.

13.3 Survey Estimates of Infant and Child Mortality

Table 13.3 shows infant and child mortality estimates from the surveys. Rates are shown for a 5-year retrospective period in order to keep sampling variability at a manageable level. The infant mortality estimate was lowest for Romania and Georgia (32 and 36 deaths per 1,000 live births), progressively higher for Georgia, and Uzbekistan (42, and 49 per 1,000) and substantially higher for Azerbaijan, Kazakhstan, the Kyrgyz Republic, and Turkmenistan (74, 62, 61, and 74 per 1,000). In terms of under-5 mortality, the countries fall in the same rank order—Romania had the lowest rate (35 per 1,000 live births) and Azerbaijan and Turkmenistan, the highest rates (88 and 94 per 1,000).

These mortality estimates are much higher than was expected prior to the implementation of the surveys and they raise the long standing issue concerning the extent to which the government reported infant mortality rates are underestimated.

13.4 Survey and Government Mortality Rates Compared

Table 13.4.1 shows survey mortality estimates for the 5-year period preceding each survey and mortality rates from government sources for the same time period. The survey estimates of infant mortality exceed the government rates by about 50% for Romania, Georgia, and Uzbekistan and are more than twice as high for Armenia, Kazakhstan, Kyrgyzstan, and

² However, it should be pointed out that the series of questions is not fully satisfactory because the probing question was not asked to all women. It is quite possible that a woman who reported one child death in response to the first question could have had an additional live birth that died soon after childbirth but was not appropriately reported as a consequence of not receiving the probing question.

Table 13.3
Survey Infant and Child Mortality Estimates
(Five-Year Period Preceding the Survey)
Eastern Europe and Eurasia: A Comparative Report

Region and Country	Time Period	Mortality Rates (per 1,000)*					Ratio: Neonatal Mortality Rate/ Infant Mortality Rate
		Neonatal	Postneonatal	Infant	Child	Under-5	
<u>Eastern Europe</u>							
<i>Romania, 1999</i>	1995–1999	20.6	10.9	31.5	3.6	35.0	0.65
<u>Caucasus</u>							
<i>Armenia, 2000</i>	1996–2000	19.5	16.7	36.1	3.0	39.0	0.54
<i>Azerbaijan, 2001</i>	1996–2000	34.1	40.3	74.4	14.0	88.4	0.46
<i>Georgia, 1999</i>	1995–1999	25.3	16.2	41.6	3.8	45.3	0.61
<u>Central Asia</u>							
<i>Kazakhstan, 1999</i>	1995–1999	33.6	28.3	61.9	10.1	71.4	0.54
<i>Kyrgyz Rep., 1997</i>	1993–1997	31.6	29.7	61.3	11.7	72.3	0.52
<i>Turkmenistan, 2000</i>	1996–2000	33.8	40.1	73.9	22.0	94.3	0.46
<i>Uzbekistan, 1996</i>	1992–1996	22.8	26.3	49.1	10.7	59.3	0.46

* Neonatal, postneonatal, infant and under-5 mortality rates are per 1,000 live births. Child mortality rates are per 1,000 children surviving to age 1.

Turkmenistan. The survey rate of infant mortality for Azerbaijan is more than four times the government rate. Figure 13.4 displays the difference between the survey estimates of infant mortality and the government rates.

In almost every country, the survey estimates for both the neonatal and the postneonatal components of infant mortality exceed government rates. In the case of neonatal mortality, the survey estimates substantially exceed the government rates—always at least twice as high. No doubt, some portion of the neonatal differences is due to the definitional issues discussed earlier. However, the survey estimates of postneonatal mortality exceed the government rates in all but one country—typically by more than 50%. (In the case of Romania, postneonatal mortality rates from the two sources are essentially the same: 11 and 12 deaths per 1,000 live births). The finding of higher postneonatal mortality rates from the surveys is important because it can not be explained by differences in the definition of a live birth. The most probable explanation is that there is underreporting of postneonatal deaths in the government

registration systems—and that raises the possibility that there is also underreporting of neonatal deaths in the government systems.

The survey estimates of child mortality (mortality between exact ages of 1 and 5) and from government sources tend to be similar. In six of the eight countries, the absolute differences are 1 or 2 points per 1,000 live births. In two countries, the differences are larger—about 6 points per 1,000 in both Turkmenistan and Uzbekistan. The direction of the differences is interesting. In both cases, the survey estimates are less than the government rates (22 versus 28 deaths per 1,000 live births for Turkmenistan and 11 versus 16 per 1,000 for Uzbekistan).

Under-5 mortality rates are also shown in Table 13.4.1. The survey estimates exceed official rates by between 30% (Uzbekistan) and 190%(Azerbaijan).

The survey estimates of mortality rates are based on the number of births reported by a sample of female respondents and are subject to sampling error. Table 13.4.2 shows the

Table 13.4.1
Comparison of Survey Infant and Child Mortality Rates and Government Rates
(Five-Year Period Preceding the Survey)
Eastern Europe and Eurasia: A Comparative Report

Region and Country	Source	Mortality Rates (per 1,000)*				
		Neonatal	Postneonatal	Infant	Child	Under-5
<u>Eastern Europe</u>						
<i>Romania, 1999</i>	Survey rates	20.6	10.9	31.5	3.6	35.0
	Government rates	9.0	11.9	20.9	4.5	25.3
	Ratio	2.3	0.9	1.5	0.8	1.4
<u>Caucasus</u>						
<i>Armenia, 2000</i>	Survey rates	19.5	16.7	36.1	3.0	39.0
	Government rates	9.1	8.5	16.3	2.1	18.4
	Ratio	2.1	2.0	2.2	1.4	2.1
<i>Azerbaijan, 2001</i>	Survey rates	34.1	40.3	74.4	14.0	88.4
	Government rates	3.7	13.6	17.2	12.9	30.1
	Ratio	9.2	3.0	4.3	1.1	2.9
<i>Georgia, 1999</i>	Survey rates	25.4	16.2	41.6	3.8	45.3
	Government rates	11.0	4.1	15.1	3.9	18.9
	Ratio	2.3	4.0	2.8	1.0	2.4
<u>Central Asia</u>						
<i>Kazakhstan, 1999</i>	Survey rates	33.6	28.3	61.9	10.1	71.4
	Government rates	11.8	12.6	24.3	7.7	31.8
	Ratio	2.8	2.2	2.5	1.3	2.2
<i>Kyrgyz Rep., 1997</i>	Survey rates	31.6	29.7	61.3	11.7	72.3
	Government rates	9.7	19.2	29.3	12.6	41.5
	Ratio	3.3	1.5	2.1	0.9	1.7
<i>Turkmenistan, 2000</i>	Survey rates	33.8	40.1	73.9	22.0	94.3
	Government rates	8.6	23.3	31.9	27.6	58.6
	Ratio	3.9	1.7	2.3	0.8	1.6
<i>Uzbekistan, 1996</i>	Survey rates	22.8	26.3	49.1	10.7	59.3
	Government rates	9.3	21.2	30.1	16.3	45.9
	Ratio	2.5	1.2	1.6	0.7	1.3

* Neonatal, postneonatal, infant and under-5 mortality rates are per 1,000 live births. Child mortality rates are per 1,000 children surviving to age 1.

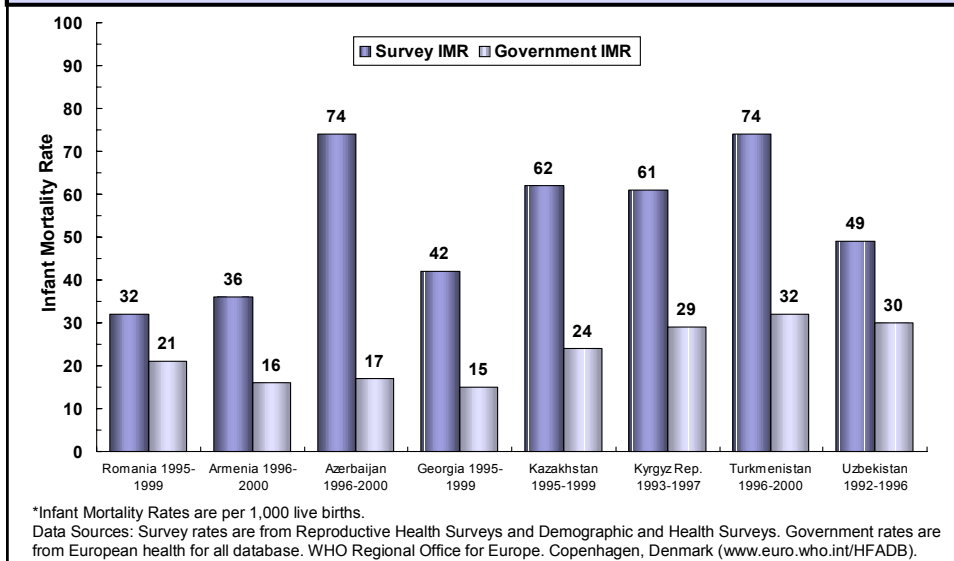
Sources: Survey rates; Country reports, Reproductive Health Surveys and Demographic Health Surveys. Government rates; European Health for All database. WHO Regional Office for Europe, Copenhagen, Denmark (www.euro.who.int/FADB).

survey estimates of infant mortality, their sampling error and 95% confidence interval, as well as government infant mortality rates. With the exception of Romania, the government infant mortality rates are less than the lower boundary of the confidence interval for the survey estimate—implying that sampling variability can not account for the differences in the rates. In the case of Romania, the government rate is only marginally greater than the lower boundary of the 95% confidence interval, so that, again, it is unlikely

that sampling error accounts for all of the difference between the survey and the government rate.

An advantage of the comparative analysis approach used in this report is evident from these findings. The consistency of the higher survey infant mortality estimates across all countries makes the finding for each individual country credible. The cumulative weight of these findings leaves no doubt that when infant mortality is measured according to the

Figure 13.4
Survey Estimates and Government Rates of Infant Mortality*
Eastern Europe and Eurasia: A Comparative Report



WHO recommended definitions, the rates are substantially higher than the reported government rates.

The finding of higher infant mortality from the surveys does not necessarily mean that the government rates are erroneous. It is possible that both sets of rates are valid given the different definitions of live birth. However, the completeness with which infant deaths are tabulated in the government registration systems, independent of the definitional issues, is being increasingly questioned, persuasively so by two studies soon to be published (Aleshina N and Redmond G, forthcoming; Wuhib T, et al., forthcoming).

The source of the differences between infant mortality rates was further investigated by determining the extent to which they arise from the early neonatal period of infancy (i.e., less than 7 days) or from the rest of infancy (i.e., day 7 to 1 year of age). Based on government reported rates (WHO, 2003) and rates calculated from the surveys, the necessary calculations were made for Armenia, Georgia, and Kazakhstan.³ In each case, the major part of the difference was due to survey rates that exceeded government rates for the period unaffected by definitional issues (day 7 to 1 year of age): Armenia (59%), Georgia (60%), and Kazakhstan (65%). This is compelling evidence that the major part of the

³ The contribution of the age interval from day 7 to 1 year of age to the overall difference between the survey-based and government reported infant mortality rates was computed as:

$$(Q_{7-365}^S - Q_{7-365}^G) / (IMR^S - IMR^G)$$

where Q_{7-365} is the probability of dying between day 7 and 1 year of age, and the superscripts S and G represent survey and government rates, respectively.

shortfall in the government rates is due to incomplete capture of infant deaths, independent of definitional issues.

Armenia, which changed from the Soviet to the WHO definition of live birth in 1995, offers an opportunity to review the impact of that change on early neonatal and overall infant mortality. The government rates of early neonatal mortality increased between 1995 (7.4 deaths per 1,000 live births) and 1996 (10.2 per 1,000) and remained at that new level through 2000 (10.7 per 1,000). However, the increase in the early neonatal mortality rate had a minimal impact on the government infant mortality rates (14.2, 15.5, and 15.7 per 1,000 for 1995, 1996, and 2000, respectively) (WHO, 2003). These rates are well below the survey estimate of infant mortality for 1996-2000 (36 per 1,000). The modest impact on government infant mortality rates is not surprising since time and effort are required to fully implement the new definitions and since there is probably underreporting of events in the civil registration system unrelated to the definition

of a live birth. However, a significant implication can be drawn from the Armenia experience. If, in Armenia and in the other countries of the region, mortality rates for infancy and its components are to be monitored in the future it will be necessary to do so by using population-based surveys.

13.5 Evaluation of Survey Data

The most satisfactory procedure for evaluating the quality of survey-based mortality estimates is by comparison with mortality rates of known accuracy. Lacking such a standard, an alternative procedure involves examining the internal consistency of the estimated rates. Typically, when survey data are defective it is due to underreporting of births and infant deaths especially when the death occurred in early infancy and when the birth and death of the child occurred many years before the survey date. Significant underreporting of this kind will result in a distortion of the observed age pattern of mortality with too few deaths reported in early infancy. The ratio of neonatal

Table 13.4.2
Survey Infant Mortality Estimates with Sampling Errors and Government Rates*
(Five-Year Period Preceding the Survey)
Eastern Europe and Eurasia: A Comparative Report

Region and Country	Survey Infant Mortality Estimates			Government Source	Ratio:
	Infant Mortality Rate	Standard Error	95% Confidence Interval	Infant Mortality Rate	Survey Estimate/ Government Rate
Eastern Europe					
<i>Romania, 1999</i>	31.5	6.0	19.5---43.5	20.9	1.5
Caucasus					
<i>Armenia, 2000</i>	36.1	5.4	25.3---47.0	16.3	2.2
<i>Azerbaijan, 2001</i>	74.4	6.4	61.6---87.2	17.2	4.3
<i>Georgia, 1999</i>	41.6	5.6	30.4---52.8	24.3	1.7
Central Asia					
<i>Kazakhstan, 1999</i>	61.9	8.3	45.3---78.5	24.3	2.5
<i>Kyrgyz Rep., 1997</i>	61.3	7.2	47.0---75.7	29.3	2.1
<i>Turkmenistan, 2000</i>	73.9	5.4	63.2---84.7	31.9	2.3
<i>Uzbekistan, 1996</i>	49.1	6.6	35.9---62.4	30.1	1.6

* Infant mortality rates are per 1,000 live births.

Sources: Survey rates; Country reports, Reproductive Health Surveys and Demographic Health Surveys.

Government rates; European Health for All database. WHO Regional Office for Europe, Copenhagen, Denmark (www.euro.who.int/FADB).

to infant mortality is employed here as a test of data quality. Values of this ratio substantially lower than international experience for countries that use the WHO recommended definitions of live birth and infant death will be taken as an indication of underreporting of early infant deaths.⁴

The value of the ratio of neonatal to infant mortality (NN/IMR) can vary depending on factors such as environmental conditions, availability and access to health services, the quality of those services, etc. Improvement in these factors lowers infant mortality levels and generally lowers mortality in later infancy, as infectious diseases are brought under control, more than in early infancy, where mortality from prematurity and congenital malformations is more resistant to decline. Thus, the expected value of the ratio of neonatal to infant mortality varies with the level of mortality, being greater at lower mortality levels. At a level of infant mortality of around 40 to 60 deaths per 1,000 live births, in countries known to have relative complete reporting of events, about half of all infant deaths occur in the neonatal period. A value of 0.50 for the neonatal/infant mortality ratio will be employed as a standard for detecting significant underreporting of early infant deaths in the surveys. Because of possible variability of this ratio between populations and the sampling variability of the survey rates, only a significant departure from this value can be taken as persuasive evidence of event underreporting in the surveys.

The neonatal/infant mortality ratios for each survey were shown in the last column of Table 13.3. All values of this ratio are close to or above 0.50. The test does not indicate severe underreporting of neonatal deaths in any of the surveys. This is reassuring, although it does not establish that there was complete and accurate reporting of mortality data in the surveys.

13.6 Mortality Differentials

This section considers neonatal, postneonatal and infant mortality rates by socioeconomic and demographic characteristics of respondents.⁵ The purpose is to identify population groups that are at a high risk of mortality and that would benefit from increased health and social services.

Urban/Rural Residence

Table 13.6.1 shows urban/rural mortality rates. Romania is the only country where urban infant mortality rates exceed rural rates—by about 30% (32 deaths per 1,000 live births as opposed to 27 per 1,000). In all other countries, the rural rates exceed urban rates. However, the excess of rural over urban infant mortality varies; it is small in the case of Azerbaijan, Georgia, and Uzbekistan (rural rates are higher by 10% or less) while it is much larger in the case of Armenia, Kazakhstan, the Kyrgyz Republic, and Turkmenistan (rural rates higher by between 30% and 50%).

⁴ The focus of the data quality evaluation is on the main problem associated with mortality data collected by surveys: the underreporting of events. It should be clear that while an abnormally low value of the NN/IMR ratio is suggestive of underreporting of neonatal mortality, the absence of such a finding does not establish that events are completely reported.

⁵ Differentials are not shown for child mortality because of the relatively low mortality rates between exact ages 1 and 5. Differentials for infant mortality are based on events occurring in the 10-year period preceding the survey so that sufficient observations are available by variable subcategory.

A recent study of infant mortality differentials involving 20 countries found that, on average, rural rates exceed urban rates by 40% (Bicego G and Ahmad OB, 1996). The pattern of the differentials for Romania, Azerbaijan, Georgia, and Uzbekistan differs from the pattern described by Bicego and Ahmad. Although this departure may be real, it is also possible that reporting of infant deaths was less complete in rural than in urban areas, perhaps related to some characteristic of respondents such as their level of education or the higher proportion of home deliveries in the rural areas.

The distinction is important because, based on the observed rates for Romania, Azerbaijan, Georgia, and Uzbekistan, the rural mortality disadvantage is not substantial and does not imply a need for a special effort to improve rural health services. Some insight can be obtained by considering neonatal mortality rates. As indicated earlier, when there is underreporting of infant deaths in a survey, typically it is most pronounced in the neonatal period. In each of the above-mentioned countries, neonatal mortality is lower in rural than in urban areas and those differences tend to offset higher postneonatal mortality rates in the rural than in the urban areas. But, relatively low neonatal mortality in the rural areas seems unlikely because it is known that rural women have less access to antenatal and delivery care than urban women and when they do, the quality of care tends to be less adequate (see also Chapter 8). These considerations suggest the possibility of underreporting of events in the rural areas. If that was the case, the survey data in these countries underestimated both rural and overall infant mortality rates.

Mother's Education

Table 13.6.2 shows infant mortality rates by mother's education. With the exception of Uzbekistan, infant mortality rates show a

consistent inverse relation with mother's education; the higher the level of education, the lower the infant mortality rate. The differentials are substantial in five of the eight countries; infant mortality among children born to women with a primary/secondary education exceeds that of children born to women with a postsecondary education by more than 60%.

Postneonatal mortality rates also show a very pronounced inverse relation with mother's education. The same is not true in the case of neonatal mortality. For example, the neonatal mortality rate for the children of the least educated women in Romania (14 deaths per 1,000 live births) is substantially less than among children of the most educated women (20 per 1,000). The education-specific rates for Uzbekistan show the same pattern. This pattern is unlikely and suggest the possibility of underreporting of early infant deaths among less educated respondents.

Sex of the Child

Table 13.6.3 shows infant mortality rates by sex of the child, mother's age at the time of birth and length of the preceding birth interval. Male rates of infant mortality are greater than female rates in every survey, with the excess the male mortality varying from a low of 10% for Armenia to a high of 50% for Georgia.

Maternal Age

Infant mortality rates are shown for three categories of mother's age. Mortality is lowest among children of mothers age 20-29, the prime ages of childbearing. Relative to those mortality rates, the excess infant mortality for children born to women under age 20 varies from 10% in Georgia to 60% in Kazakhstan. Similarly, in the majority of countries, there is excess mortality for births to women age 30 and older.

Table 13.6.1
Survey Infant Mortality Rates by Residence
(Ten-Year Period Preceding the Survey)
Eastern Europe and Eurasia: A Comparative Report

Region and Country	Mortality Rates (per 1,000)*			Risk Ratio Reference: Urban		
	Neonatal	Postneonatal	Infant	Neonatal	Postneonatal	Infant
<u>Eastern Europe</u>						
<i>Romania, 1999</i>						
<i>Urban</i>	24.0	8.2	32.2	1.0	1.0	1.0
<i>Rural</i>	14.1	13.1	27.2	0.6	1.6	0.8
<u>Caucasus</u>						
<i>Armenia, 2000</i>						
<i>Urban</i>	23.1	12.8	35.9	1.0	1.0	1.0
<i>Rural</i>	29.5	23.3	52.7	1.3	1.8	1.5
<i>Azerbaijan, 2001</i>						
<i>Urban</i>	44.4	35.0	79.4	1.0	1.0	1.0
<i>Rural</i>	31.3	51.2	82.5	0.7	1.5	1.0
<i>Georgia, 1999</i>						
<i>Urban</i>	26.4	10.5	36.9	1.0	1.0	1.0
<i>Rural</i>	21.2	20.3	41.5	0.8	1.9	1.1
<u>Central Asia</u>						
<i>Kazakhstan, 1999</i>						
<i>Urban</i>	25.5	18.2	43.7	1.0	1.0	1.0
<i>Rural</i>	30.7	33.0	63.8	1.2	1.8	1.5
<i>Kyrgyz Rep., 1997</i>						
<i>Urban</i>	29.4	25.0	54.3	1.0	1.0	1.0
<i>Rural</i>	34.4	36.0	70.4	1.2	1.4	1.3
<i>Turkmenistan, 2000</i>						
<i>Urban</i>	32.2	27.9	60.1	1.0	1.0	1.0
<i>Rural</i>	33.4	46.5	79.9	1.0	1.7	1.3
<i>Uzbekistan, 1996</i>						
<i>Urban</i>	23.5	19.4	42.9	1.0	1.0	1.0
<i>Rural</i>	20.9	22.9	43.8	0.9	1.2	1.0

* Neonatal, postneonatal, infant and under-5 mortality rates are per 1,000 live births. Child mortality rates are per 1,000 children surviving to age 1.

Preceding Birth Interval

Studies in many countries have found that the length of the preceding birth interval is strongly associated with infant mortality risks; births occurring after a short birth interval (i.e., less than 24 months) having substantially higher mortality than births occurring after a longer interval (Hobcraft JN, et al., 1985). Results from the surveys are consistent with these studies.

Table 13.6.3 shows infant mortality rates for second and higher order births by length of the preceding birth interval. In every country, births occurring within a birth interval of less than 24 months are at a higher risk of infant mortality than births occurring after an interval of 24-7 months. The excess mortality associated with a short birth is more than 40% in Georgia, Turkmenistan, and Uzbekistan and more than 80% in Romania, Kazakhstan, and the Kyrgyz Republic. Armenia is the only

Table 13.6.2
Survey Infant Mortality Rates by Education*
(Ten-Year Period Preceding the Survey)
Eastern Europe and Eurasia: A Comparative Report

Region and Country	Mortality Rates (per 1,000)[†]			Risk Ratio		
	Neonatal	Postneonatal	Infant	Reference: Postsecondary[‡]		
	Neonatal	Postneonatal	Infant	Neonatal	Postneonatal	Infant
<u>Eastern Europe</u>						
<i>Romania, 1999[‡]</i>						
<i>Primary or less</i>	14.3	25.4	39.7	0.7	1.3	1.8
<i>Secondary Incomplete</i>	20.3	11.3	31.6	1.0	0.6	1.4
<i>Secondary Complete & Higher</i>	19.9	2.5	22.3	1.0	1.0	1.0
<u>Caucasus</u>						
<i>Armenia, 2000</i>						
<i>Primary/Secondary</i>	31.1	23.7	54.8	1.8	5.6	2.6
<i>Technicum</i>	23.9	16.5	40.4	1.4	3.9	1.9
<i>Postsecondary</i>	17.1	4.2	21.3	1.0	1.0	1.0
<i>Azerbaijan, 2001</i>						
<i>Primary/Secondary</i>	38.1	52.7	90.8	1.2	6.5	2.3
<i>Technicum</i>	41.8	22.4	64.1	1.3	2.8	1.6
<i>Postsecondary</i>	31.9	8.1	40.0	1.0	1.0	1.0
<i>Georgia, 1999</i>						
<i>Primary/Secondary</i>	24.8	23.7	48.5	1.0	3.3	1.6
<i>Technicum</i>	26.2	11.5	37.7	1.1	1.6	1.2
<i>Postsecondary</i>	24.1	7.1	31.2	1.0	1.0	1.0
<u>Central Asia</u>						
<i>Kazakhstan, 1999</i>						
<i>Primary/Secondary</i>	28.0	29.0	57.0	1.1	1.3	1.2
<i>Technicum</i>	30.2	26.0	56.2	1.2	1.2	1.2
<i>Postsecondary</i>	24.8	22.3	47.1	1.0	1.0	1.0
<i>Kyrgyz Rep., 1997</i>						
<i>Primary/Secondary</i>	38.7	42.9	81.7	2.1	1.5	1.7
<i>Technicum</i>	30.5	19.5	50.1	1.7	0.7	1.1
<i>Postsecondary</i>	18.4	29.0	47.5	1.0	1.0	1.0
<i>Turkmenistan, 2000</i>						
<i>Primary/Secondary</i>	33.3	44.5	77.8	0.7	2.9	1.3
<i>Technicum</i>	28.4	30.2	58.6	0.6	2.0	1.0
<i>Postsecondary</i>	(45.9)	(15.2)	(61.2)	1.0	1.0	1.0
<i>Uzbekistan, 1996</i>						
<i>Primary/Secondary</i>	21.9	23.5	45.4	0.6	1.4	0.9
<i>Technicum</i>	16.8	19.3	36.1	0.5	1.1	0.7
<i>Postsecondary</i>	34.2	16.8	51.0	1.0	1.0	1.0

* Figures in parentheses are based on between 250 and 499 unweighted births.

† Neonatal, postneonatal and infant mortality rates are per 1,000 live births.

‡ In the case of Romania, the reference population is "secondary complete and higher".

Table 13.6.3
Survey Infant Mortality Rates per 1,000 Live Births by Demographic Characteristics*
(Ten-Year Period Preceding the Survey)
Eastern Europe and Eurasia: A Comparative Report

Characteristic	Eastern Europe	Caucasus			Central Asia			
	Romania 1999	Armenia 2000	Azerbaijan 2001	Georgia 1999	Kazakhstan 1999	Kyrgyz Rep. 1997	Turkmenistan 2000	Uzbekistan 1996
<u>Sex of Child</u>								
Male	32.1	46.1	83.6	48.3	62.0	71.9	83.0	50.2
Female	26.3	41.9	77.8	31.5	47.3	60.2	59.7	36.7
<u>Age of Mother</u>								
Under 20	33.8	49.5	66.4	44.5	(79.5)	(98.1)	86.5	(45.0)
20–29	24.4	37.0	79.6	39.0	50.9	66.5	69.7	41.9
30 and older	52.0	69.0	93.8	41.9	50.3	48.0	73.3	46.1
<u>Length of</u>								
First Birth	24.1	32.3	76.6	36.3	51.0	73.0	67.0	41.9
Under 2 years	41.8	55.6	U	52.8	82.6	87.1	94.2	50.8
2–3 years	21.8	50.1	U	43.2	45.8	48.0	63.9	35.4
4 years and longer	46.0	44.5	U	32.5	40.1	50.5	49.0	47.5

* Figures in parentheses are based on between 250 and 499 unweighted births.
U = Unavailable

country where the excess mortality of a short birth interval is less pronounced, about 10%.

Approximately one-third of all second and higher order births in the surveyed countries occur within a birth interval of less than 24 months. This indicates a continuing need for education programs promoting the benefits of improved child spacing in addition to greater availability of reliable, temporary methods of contraception.

13.7 Time Trends in Mortality

Table 13.7 shows survey estimates of infant and child mortality rates for three 5-year periods preceding each survey.⁶ Our discussion will focus primarily on infant mortality estimates. There is essentially no difference in the two mortality estimates for Romania (28 and 32 deaths per 1,000 live

births for consecutive time periods) or for Georgia (40 and 42 per 1,000) and no indication of a trend in mortality. Kazakhstan and Uzbekistan both show a U-shaped pattern in the series of three infant mortality estimates. However, the series of estimates in both Kazakhstan (55, 50, and 62 per 1,000) and Uzbekistan (46, 38, and 49 per 1,000) are within the 95% confidence interval of the most recent estimate (45 to 78 per 1,000 for Kazakhstan and 36 to 62 per 1,000 for Uzbekistan [Table 13.4.2]). Thus, based on the survey estimates, firm conclusions can not be made concerning recent mortality trends in those countries.

In Armenia, Azerbaijan, the Kyrgyz Republic and Turkmenistan, the evidence for a recent decline in infant mortality is stronger (Figure 13.8). The estimates for Armenia increase

⁶ For Romania, Azerbaijan, and Georgia, mortality rates are shown for only two 5-year time periods. This was necessary because the oldest women interviewed in those survey were age 44, so that for time periods more than 10 years before the survey there are no observations for births to women older than 35. Thus, mortality rates for time periods more than 10 years before the survey are not comparable to the rates for more recent time periods and are not shown.

between 1986-1990 (46 deaths per 1,000 live births) and 1991-1995 (51 per 1,000) and decline in 1996-2000 (36 per 1,000). The credibility of this trend is supported by the sharp deterioration of economic circumstances in Armenia following the breakup of the Soviet Union in 1991 and the ensuing hostilities with Azerbaijan, a conflict that disrupted Armenia's supply of oil and resulted in a sharp curtailment of electricity throughout the country.

In Azerbaijan, the Kyrgyz Republic, and Turkmenistan, the trend of infant mortality estimates is also declining. The strongest trend is in the Kyrgyz Republic where the

estimates decline from 82 deaths per 1,000 live births (1982-1987) to 61 per 1,000 (1992-1997). This decline is further supported by decline in the child mortality rates (from 19 to 12 per 1,000 over the same period). The declines in infant mortality are less pronounced in Azerbaijan and Turkmenistan than in the Kyrgyz Republic and child mortality rates are essentially flat in both countries and do not particularly suggest a declining trend in mortality. Nevertheless, the survey results are, in a statistical sense, the "best estimates" of infant mortality and in all three countries they indicate mortality declines between the earliest and the most recent time period.

Table 13.7						
Time Trends in Infant and Child Mortality Estimates						
(Ten- and Fifteen-Year Periods Preceding the Survey)*						
Eastern Europe and Eurasia: A Comparative Report						
Region and Country	Time Period	Mortality Rates (per 1,000)[†]				
		Neonatal	Postneonatal	Infant	Child	Under-5
<u>Eastern Europe</u>						
<i>Romania, 1999</i>	1994–1999	20.6	10.9	31.5	3.6	35.0
	1989–1994	17.5	10.5	28.0	2.3	30.2
<u>Caucasus</u>						
<i>Armenia, 2000</i>	1996–2000	19.5	16.7	36.1	3.0	39.0
	1991–1995	31.6	18.9	50.5	4.7	55.0
	1986–1990	24.6	20.9	45.6	5.8	51.1
<i>Azerbaijan, 2001</i>	1996–2000	34.1	40.3	74.4	14.0	88.4
	1991–1995	41.2	44.7	85.9	10.9	96.8
<i>Georgia, 1999</i>	1995–2000	25.3	16.2	41.6	3.9	45.3
	1990–1994	24.7	15.2	39.9	4.8	44.5
<u>Central Asia</u>						
<i>Kazakhstan, 1999</i>	1994–1999	33.6	28.3	61.9	10.1	71.4
	1989–1994	24.6	25.1	49.7	7.4	56.7
	1984–1989	29.3	25.6	54.9	11.9	66.1
<i>Kyrgyz Rep., 1997</i>	1992–1997	31.6	29.7	61.3	11.7	72.3
	1987–1992	34.6	36.2	70.8	9.0	79.2
	1982–1987	26.8	55.2	82.0	18.5	99.0
<i>Turkmenistan, 2000</i>	1996–2000	33.8	40.1	73.9	22.0	94.3
	1991–1995	32.1	37.4	69.5	14.2	82.7
	1986–1990	26.9	56.8	83.7	17.6	99.8
<i>Uzbekistan, 1996</i>	1991–1996	22.8	26.3	49.1	10.7	59.3
	1986–1991	20.6	17.2	37.8	13.8	51.1
	1981–1986	21.7	24.6	46.3	19.9	65.3

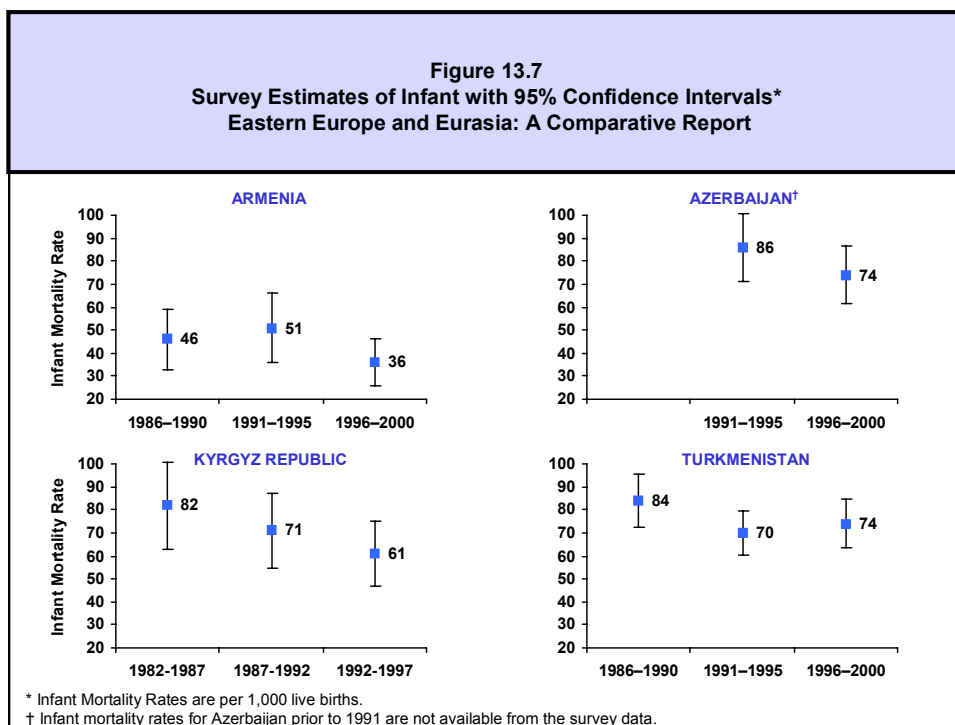
* See footnote 6 on page 176.

† Neonatal, postneonatal, infant and under-5 mortality rates are per 1,000 live births. Child mortality rates are per 1,000 children surviving to age 1.

Figure 13.7 also shows the 95% confidence interval associated with each estimated rate for these four countries. The point to be made is that there is considerable overlap between the confidence intervals for each series of estimates. Certainly, surveys are useful for measuring large declines in mortality rates which occur over long time periods. However, their usefulness for the purpose of monitoring the overall impact of health programs or to signal the need for health interventions depends on their ability to detect more modest changes in mortality levels over short time periods. The results shown in Figure 13.7 are not encouraging in this respect as there is overlap between the confidence intervals of the series of rates for each country.

The sampling error associated with infant mortality estimates based on survey data

depends on the survey design—primarily the sample size and the number of sample clusters. If surveys are to be used to monitor mortality trends in Eastern Europe and Eurasia in the future, larger samples of women will be needed than was the case in the surveys considered here. There are creative ways in which this can be achieved while avoiding unacceptable increases in survey costs. For example, to obtain larger numbers of births on which to base mortality estimates, it is only necessary to administer the pregnancy history section of the questionnaire, rather than the entire questionnaire, to a larger number of respondents. Of course, greater care must be taken to ensure the accuracy and completeness of data collection when increasing sample size and the complexity of survey design. Sacrificing data quality in the effort to reduce sampling error is a poor trade-off.



13.8 Summary of Findings

The surveys collected data using the WHO recommended definition of live birth; a pregnancy outcome which shows any sign of life (i.e., breathing, beating of the heart, or movement of voluntary muscles). The definition of live birth used in all of the surveyed countries at the time of the surveys, with the exception of Armenia, excludes preterm deliveries (i.e., pregnancy outcomes of less than 28 weeks gestation or weighing less than 1,000 grams or less than 35 centimeters in length) from the live birth category unless the child survives for 7 days. The result is that fewer births with a high risk of mortality are classified as live births in these countries and rates of early neonatal mortality are less than would be the case if the WHO definition were used. However, rates specific for ages subsequent to the early neonatal period should not be affected by these definitional issues.

- ◆ Survey estimates of childhood mortality were computed for the 5-year period preceding each survey. The mortality estimates apply to the mid- or late 1990s. Infant mortality estimates were lowest for Romania and Armenia (32 and 36 deaths per 1,000 live births), higher for Georgia and Uzbekistan (42 and 49 per 1,000) and substantially higher for Azerbaijan, Kazakhstan, the Kyrgyz Republic, and Turkmenistan (74, 62, 61, and 74 per 1,000).
- ◆ Based on survey data, infant mortality rates were calculated by respondent characteristics. As expected, mortality differentials by education were substantial. In five of the eight surveys infant mortality estimates were 60% higher for births to women with a primary or secondary education than to women with a postsecondary education.

- ◆ Infant mortality rates were between 30% and 50% greater in rural than in urban areas in Armenia, Kazakhstan, the Kyrgyz Republic, and Turkmenistan. However, in Romania the rural rate was less than the urban rate and, in Azerbaijan, Georgia, and Uzbekistan, rural rates were less than 10% higher than urban rates. Although subject to various interpretations, the observed differentials in the latter countries are suspect. The fact that antenatal care and delivery care are less accessible and less adequate in rural areas suggests the possibility of underreporting of infant deaths in the rural areas in the Romania, Azerbaijan, Georgia, and Uzbekistan surveys.
- ◆ The most significant infant mortality differentials were associated with the preceding birth interval. The excess mortality of a short birth interval (less than 24 months compared to 24-47 months) was 40% or more in Georgia, Turkmenistan, and Uzbekistan and 80% or more in Romania, Kazakhstan, and the Kyrgyz Republic. In these countries, approximately one-third of all births of order two and higher occur within 24 months of a previous birth. This indicates a continuing need for education programs which promote better birth spacing and for the availability of reliable, temporary methods of contraception.
- ◆ Infant mortality estimates from the surveys were compared with government rates for comparable time periods. The survey estimates were higher than the government rates by more than 50% for Romania, Georgia, and Uzbekistan and were more than twice as high for Armenia, Kazakhstan, the Kyrgyz Republic, and Turkmenistan. The survey estimate of infant mortality for Azerbaijan was four times the government rate.

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- ◆ Higher infant mortality rates from the surveys do not necessarily mean that the government rates are erroneous, given that they are based on a different definition of live birth. That issue was investigated by considering the contribution to the infant mortality differences of two subintervals of infancy: mortality rates for under 7 days and mortality rates for day 7 to 1 year of age. For the three countries investigated (Armenia, Georgia, and Kazakhstan), between 59% and 65% of the difference was attributable to the interval from day 7 to 1 year of age (i.e., the age interval where mortality rates are unaffected by differences in the definition of live birth). The conclusion is that the registration systems on which the government rates are based suffer significant defects independent of definitional issues.
 - ◆ Armenia adopted the WHO definition of live birth in 1995. A review of the series of government infant mortality rates for calendar years 1995 through 2000 revealed virtually no increase in the rates. The government infant mortality rate for calendar year 2000 (16 deaths per 1,000 live births) was well below the survey estimate for 1996-2000 (36 per 1,000). The significant conclusion is that, while it would be advantageous for Armenia and the other countries of the region to adopt the WHO definition of live birth, that alone will not correct the underreporting of infant deaths in the civil registration systems.
 - ◆ Based on survey data, infant mortality trends were examined. In four countries (Romania, Georgia, Kazakhstan, and Uzbekistan), the series of estimates showed no consistent trend. In the remaining four countries (Armenia, Azerbaijan, the Kyrgyz Republic, and Turkmenistan), a recent decline in mortality was indicated. The declining trend was sharpest in the Kyrgyz Republic where infant mortality declined from 82 deaths per 1,000 live births (1982-1997) to 61 per 1,000 (1992-1997). This is persuasive evidence of a mortality decline. Nevertheless, even in this case the 95% confidence interval of the estimates overlapped, which suggests the possibility that the observed trend in the rates could be due to sampling error.
 - ◆ In the surveyed countries, there is clear evidence that government infant mortality rates are unreliable and that population-based surveys may be the best means of monitoring infant mortality over the next decade and perhaps longer. The broad confidence intervals associated with the survey mortality rates presented in the chapter imply that future surveys should employ larger sample sizes. Of course, when conducting larger surveys, great care must be exercised to maintain data quality. Sacrificing data quality in the effort to reduce sampling error would be a poor trade-off.

Appendix

The Reproductive Section of the Survey Questionnaires

The infant and child mortality data were collected in the Reproductive Section of the Women's Questionnaire following a standard procedure. There were two phases to the collection of the data. First, information was collected in terms of the aggregate number of live births, abortions, miscarriages and stillbirths that the respondent has had and then in terms of a pregnancy history (specific information about each event).

One of the purposes of collecting information on the aggregate number of reproductive events was to inform the respondent about the events she was to report in the event-by event pregnancy history. A series of nine questions were asked. To obtain information on live births, the respondent was asked the number of her sons and daughters living with her, the number of sons and daughters living elsewhere and the number of sons and daughters that have died. If the respondent did not report any deceased children, a probing question is asked: "Have you ever given birth to a boy or girl who cried or showed any signs of life but survived only a few hours or days?" Questions

are then asked about the number miscarriages, the number of abortions and the number of stillbirths.

The intent of asking the probing question about deceased children was to obtain information about live births and infant deaths in terms of definitions recommended by the World Health Organization (WHO, 1993).

Following the collection of the aggregate data, an event-by-event pregnancy history was asked. For each live birth reported in the pregnancy history, information was collected on the date of birth (month and year), sex, survivorship, and current age (for surviving children) or age at death (for deceased children). Data on age at death was recorded in either days, months, or years; in days (for children dying under 1 month of age), in months (for children dying after the first month of life but before 2 years of age) and in years (for children dying at 2 years of age or older). These data allow the direct calculation of period-specific mortality estimates for various age intervals of infancy and childhood.

14 CHAPTER

SEXUAL AND CONTRACEPTIVE BEHAVIOR OF YOUNG ADULTS

The reproductive health knowledge of young adults and their sexual and contraceptive behavior have important implications for the future of a population's health and well being. Parents, teachers, and health professionals are often unable to communicate effectively with young adults about their sexual and reproductive lives. In many countries, young people are seldom prepared with the information, skills, and resources needed to make a healthy transition to adulthood. Inadequate programs and lack of sex education can leave youth at the mercy of mass media and misinformation from peers.

Worldwide, it has been estimated that almost half of new HIV infections and one-third of all new sexually transmitted infections occur to people younger than 25 years of age. In addition to the consequences of sexual and reproductive decisions on health, an unintended pregnancy can disrupt a young girl's life by interrupting further schooling and training. In most countries, adults and communities generally hold young women, and not young men, responsible for the consequences of unprotected sex (Greene, et al., 2002; UNAIDS, 1999; Mcauley and Salter, 1995).

A young adult module, for women 15–24 years of age, has been included in the Reproductive Health Surveys (RHS) in Eastern Europe and the Caucasus region to obtain data to address these concerns. The young adult modules have included questions related to family life education (which are presented in Chapter 15, Sexuality Education), first sexual experience, and current sexual behavior including contraceptive use. Additionally, several of these surveys have included questions on attitudes toward condom use and knowledge of reproductive health issues.

In each of the surveys, first sexual experience is classified as premarital or marital. This classification is ascertained by two questions in the survey instrument: (1) the date of the first sexual intercourse and the relationship to the partner at the time of first sexual intercourse, and (2) the date of first union for those women who have been or are in a marital union. If their partner was their husband, the dates of first sexual experience and of first marriage were compared in order to classify the first sexual experience as marital or premarital. Sexual experience was classified as premarital if the first sexual experience occurred at least one month prior to the date of marriage.

14.1 First Sexual Experience

Information on first sexual experience is available for seven RHS countries in the region: the five countries surveyed in Eastern Europe, and two of the three countries in the Caucasus region. As mentioned previously in this report, three surveys were conducted in Romania during the 1990s but the data shown are from the most recent survey in 1999 (a brief overview of trend data for Romania is included in section 14.5 of this chapter). The reported sexual experience of young adult women by marital status at the time of first sexual experience, by current age group and by residence, is shown in Tables 14.1.1 and 14.1.2, respectively.

There are distinct differences between Eastern Europe and the Caucasus region. At least half of young adult women in the Eastern European countries report sexual experience, compared with approximately 30 percent of young women in Georgia and Azerbaijan. (Although not included in Table 14.1.1, 29% of 15–24 year old women in Armenia report sexual experience (Armenia National Statistical Service and ORC MACRO, 2001). In Eastern Europe, sexual experience ranges from about one-half of young women in Romania and

Moldova to 60% in Ukraine and approximately 75% in the Czech Republic and the areas surveyed in Russia. (As noted in previous chapters, the sub-national survey in Russia was conducted in three primarily urban sites in central Russia, and cannot be considered representative of Russia as a whole). Of those with sexual experience, the majority report premarital experience in Eastern Europe compared with only 3%–4% in the Caucasus region. Almost all women in the Czech Republic and in the areas surveyed in Russia who report sexual experience have had premarital sex. This is true for approximately four-fifths in Ukraine and Romania and 53% in Moldova.

As may be expected, sexual experience increases as age increases with marked differences between adolescents (15–19 years) and 20–24-year-olds. In Eastern Europe, most adolescents who report sexual experience have had premarital experience, as well as most women 20–24 years of age in Czech Republic and Russia; in Ukraine, 83% of sexually experienced women 20–24 years of age report premarital sex with the corresponding proportion at 75% in Romania and 53% in Moldova.

In rural areas, women marry earlier and are more likely to be married at first sexual experience (Table 14.1.2). For example, in Moldova, about half of all young adults report sexual experience. However, only 19% of young women in rural areas reported premarital sexual experience, compared with 37% in the four largest urban municipalities and 25% in other urban areas. The same pattern is seen in Romania with no significant difference in overall reported sexual experience by residence but a greater proportion of premarital sex in urban areas.

Sexually experienced respondents were asked if they or their partner used any contraceptive method, including condoms, during their first

Table 14.1.1
Reported Sexual Experience by Marital Status at Time of First Sexual Experience by Current Age
Among Young Women Aged 15–24
(Percent Distribution)
Eastern Europe and Eurasia: A Comparative Report

<u>Region and Country</u>	<u>Reported Sexual Experience</u>			<u>Total</u>	<u>No. of Cases</u>
	<u>No Sexual Experience</u>	<u>After Marriage</u>	<u>Before Marriage</u>		
<i>Eastern Europe</i>					
<i>Czech Rep., 1993</i>					
15–19	46	†	54	100	646
20–24	2	1	97	100	737
Total	27	†	73	100	1,383
<i>Moldova, 1997</i>					
15–19	79	6	14	100	747
20–24	17	43	40	100	910
Total	50	23	26	100	1,657
<i>Romania, 1999</i>					
15–19	74	4	22	100	924
20–24	22	20	58	100	1,239
Total	47	13	41	100	2,163
<i>Russia, 1999*</i>					
15–19	51	†	49	100	748
20–24	8	5	87	100	1,058
Total	25	3	71	100	1,806
<i>Ukraine, 1999</i>					
15–19	68	3	30	100	1,079
20–24	12	15	73	100	1,151
Total	40	9	51	100	2,230
<i>Caucasus</i>					
<i>Azerbaijan, 2001</i>					
15–19	90	10	†	100	1,207
20–24	53	45	3	100	1,207
Total	74	25	1	100	2,414
<i>Georgia, 1999</i>					
15–19	84	15	†	100	1,142
20–24	47	50	2	100	1,246
Total	67	31	1	100	2,388

* Data for Russia pertain to three primarily urban areas as described in Chapter 2.

† Less than 0.5%.

sexual encounter. In Russia and Ukraine, however, these questions were not posed to women who were married at first sexual intercourse. Table 14.1.3 shows that the highest rates of contraceptive use at the time of first intercourse among unmarried women were in the Czech Republic (57%) and Romania (58%). Lower rates were found in Ukraine (46%), Russia (46%), and Moldova (33%), and were only 14% and 3% for the few women reporting premarital sex in Azerbaijan

and Georgia, respectively. Compared with the other Eastern European countries, a much higher proportion of women used modern methods in the Russian areas surveyed and in Ukraine. In Moldova and Romania, where data are available for contraceptive use at first sex after marriage, fewer women reported that they or their husbands used contraception compared with women having premarital sex, and the predominant method was withdrawal. In all countries, independent of the timing of

Table 14.1.2
Reported Sexual Experience by Marital Status at Time of First Sexual Experience by Residence
Among Young Women Aged 15–24
(Percent Distribution)
Eastern Europe and Eurasia: A Comparative Report

Region and Country	Reported Sexual Experience			Total	No. of Cases
	No Sexual Experience	After Marriage	Before Marriage		
Eastern Europe					
<i>Czech Rep., 1993</i>					
<i>Urban</i>	26	0	74	100	940
<i>Rural</i>	28	0	72	100	443
Total	27	0	73	100	1,383
<i>Moldova, 1997</i>					
<i>Municipalities *</i>	49	14	37	100	507
<i>Other Urban</i>	51	24	25	100	302
<i>Rural</i>	51	29	19	100	848
Total	51	23	26	100	1,657
<i>Romania, 1999</i>					
<i>Urban</i>	48	7	45	100	1,668
<i>Rural</i>	44	21	35	100	995
Total	47	13	41	100	2,163
<i>Russia, 1999[†]</i>					
<i>Urban</i>	25	3	71	100	1,806
Total	25	3	71	100	1,806
<i>Ukraine, 1999</i>					
<i>Urban</i>	41	7	52	100	1,734
<i>Rural</i>	40	12	48	100	496
Total	40	9	51	100	2,230
Caucasus					
<i>Azerbaijan, 2001</i>					
<i>Urban</i>	78	21	1	100	1,155
<i>Rural</i>	68	31	1	100	1,259
Total	74	25	1	100	2,414
<i>Georgia, 1999</i>					
<i>Urban</i>	72	26	2	100	1,444
<i>Rural</i>	61	38	1	100	944
Total	67	31	1	100	2,388

* Less than 0.5%

† Includes four major cities: Chisinau, Tiraspol, Balti and Bender.

‡ Data for Russia pertain to three primarily urban areas as described in Chapter 2.

first sexual experience, condoms were the most used modern method, and withdrawal was the most commonly used traditional method.

Table 14.1.4 displays the primary reasons for not using contraception among sexually experienced respondents who did not use contraception at first sexual intercourse. Data for married women are available for four of the seven countries. In Moldova, Romania, Azerbaijan and Georgia, the majority of

married respondents did not use contraception because “they wanted to become pregnant.” “Did not think about using contraception” was the second most common reason for not using contraception in each of these four countries, especially Romania.

The most common reason unmarried women in the Czech Republic and Ukraine gave for not using contraception at first sexual intercourse was that “sex was unexpected”

Table 14.1.3
Contraceptive Use at First Sexual Intercourse by Marital Status at First Sexual Intercourse
Among Sexually Experienced Young Adult Women Aged 15–24,
Eastern Europe and Eurasia: A Comparative Report

Region and Country	Reported Contraceptive Use (%)				
	Any Method	Modern Methods		Traditional Methods	
		Condom	Other	Withdrawal	Calendar
<u>Eastern Europe</u>					
<i>Czech Rp., 1993</i>					
Married	†	†	†	†	†
Not Married	57	23	5	28	1
Total	58	23	5	29	1
<i>Moldova, 1997</i>					
Married	18	3	0	13	1
Not Married	33	13	1	16	4
Total	26	8	0	15	3
<i>Romania, 1999</i>					
Married	27	6	1	18	2
Not Married	58	26	2	26	4
Total	51	22	2	24	3
<i>Russia, 1999*</i>					
Married	‡	‡	‡	‡	‡
Not Married	46	33	0	12	2
<i>Ukraine, 1999</i>					
Married	‡	‡	‡	‡	‡
Not Married	46	27	4	13	2
<u>Caucasus</u>					
<i>Azerbaijan, 2001</i>					
Married	1	0	0	§	§
Not Married	14	5	2	0	7
Total	1	§	§	§	§
<i>Georgia, 1999</i>					
Married	§	§	§	§	§
Not Married	3	3	0	0	0
Total	§	§	§	§	§

* Data for Russia pertain to three primarily urban areas as described in Chapter 2.

† Fewer than 25 cases.

‡ Question was not asked.

§ Less than 0.5%.

(44% and 39%, respectively). The most common reason, reported by more than one third (37%) of unmarried women in the Russian areas surveyed was “they or their partner did not think about using contraception” and another 30% said that “sex was unexpected.” In both Moldova and Romania, “did not think about using contraception” and “sex was unexpected” were about equally important. One may hypothesize

that these two reasons are related, as it may be difficult to plan to use or think about contraception if sex is unexpected. Despite the small sample size, a striking 49% of unmarried women in Azerbaijan and 68% of unmarried women in Georgia did not use contraception at first sexual intercourse because they wanted to get pregnant. Most of their first partners were steady partners and perhaps getting pregnant was a transition to marriage.

Table 14.1.4
Most Commonly Cited Reasons for Not Using Contraception at First Sexual Intercourse
by Marital Status at First Sexual Intercourse
Among Sexually Experienced Young Women Aged 15-24,
(Percent Distribution)
Eastern Europe and Eurasia: A Comparative Report

	Eastern Europe					Caucasus	
	Czech Rep. 1993	Moldova 1997	Romania 1999	Russia 1999*	Ukraine 1999	Azerbaijan 2001	Georgia 1999
Married							
Wanted to Get Pregnant	†	59	30	‡	‡	86	76
Did Not Think About Using Contraception	†	13	28	‡	‡	7	13
Did Not Want to Use Contraception	†	8	15	‡	‡	§	3
Did Not Know About Contraception	†	3	12	‡	‡	4	5
Sex was Unexpected	†	12	2	‡	‡		3
Other	†	4	4	‡	‡	4	
Does Not Know/Does Not Remember	†	§	8	‡	‡	0	
Total	100	100	100	100	100	100	100
No. of Cases	5	411	231	‡	‡	787	916
Not Married							
Wanted to Get Pregnant	3	19	5	4	10	49	68
Did Not Think About Using Contraception	§	28	32	37	6	16	9
Did Not Want to Use Contraception	§	11	7	§	§	§	3
Did Not Know About Contraception	2	6	13	†	†	8	3
Sex Was Unexpected	44	29	30	31	39	27	18
Access/Knowledge/Availability, etc.	11	§	§	9#	12#	§	0
Thought She Couldn't Get Pregnant	27	§	§	12	22	§	0
Other	3	6	6	3	2	1	0
Does Not Know/Does Not Remember	12	§	7	5	8	§	0
Total	100	100	100	100	100	100	100
No. of Cases	479	284	394	650	563	34	29

* Data for Russia pertain to three primarily urban areas as described in Chapter 2.

† Fewer than 25 cases.

‡ Question was not asked.

§ Included in "Other" category.

|| Less than 0.5%.

†† Included in Access/Knowledge/Availability, etc.

Includes: Didn't Know Any Methods, Hard to Get Methods, and Wanted to Use but Did Not Have a Method.

14.2 Current Sexual Activity

Table 14.2.1 illustrates the current sexual activity status (at the time of the survey) of all women 15–24 years of age by current marital status for six of the seven countries. Sexually experienced respondents were asked when they had sexual intercourse. Most of the married women either have had sexual intercourse in the past three months or were currently pregnant or postpartum; pregnancy or postpartum status was the case for about one-third of the married young adults in Azerbaijan and Georgia. With the exception of the areas surveyed in Russia, the majority of currently unmarried women had never had

intercourse. However, differences in the proportion of women who had never had sexual intercourse varied substantially across countries, from 63% in Ukraine to 98% in Azerbaijan. Of those unmarried women with sexual experience, from 63% to 76% were currently sexually active (within the last 3 months) in the four Eastern European countries but only 30% were currently active in Azerbaijan and 13% in Georgia.

Almost three-quarters of sexually experienced women in the Eastern European countries used contraception at their most recent sexual intercourse (Table 14.2.2). Use of contraception does not vary substantially

Table 14.2.1 Sexual Activity Status by Marital Status Among Young Women Aged 15–24 (Percent Distribution) Eastern Europe and Eurasia: A Comparative Report						
Sexual Activity Status Among Married	Eastern Europe				Caucasus	
	Moldova 1997	Romania 1999	Russia 1999*	Ukraine 1999	Azerbaijan 2001	Georgia 1999
Never Had Intercourse	0	0	0	0	0	0
Ever Had Intercourse	100	100	100	100	100	100
<i>Within the Last Month</i>	75	76	74	70	55	66
<i>1–3 Months ago</i>	6	6	3	5	6	2
<i>Over 3 Months ago, Within Last Year</i>	2	1	2	8	3	1
<i>One Year or Longer</i>	1	0	1	†	†	1
<i>One Month or Longer/Unknown Interval</i>	†	†	12	6	†	†
<i>Currently Pregnant or Postpartum</i>	16	16	8	11	36	30
Total	100	100	100	100	100	100
No. of Cases	769	780	691	839	795	900
Sexual Activity Status Among Previously Married & Never Married						
Never Had Intercourse	80	65	44	63	98	85
Ever Had Intercourse	20	35	56	37	2	16
<i>Within the Last Month</i>	7	20	32	18	†	1
<i>1–3 Months ago</i>	5	6	9	5	†	1
<i>Over 3 Months ago, Within Last Year</i>	3	5	10	7	†	1
<i>One Year or Longer</i>	5	3	3	3	1	12
<i>One Month or Longer/Unknown Interval</i>	0	†	2	5	0	1
<i>Currently Pregnant or Postpartum</i>	†	†	1	1	†	1
Total	100	100	100	100	100	100
No. of Cases	888	1,383	1,047	1,388	1,619	7,798

* Data for Russia pertain to three primarily urban areas as described in Chapter 2.

† Less than 0.5%.

Table 14.2.2
Use of Contraception at Most Recent Sexual Intercourse by Current Marital Status
Among Sexually Experienced Young Women Aged 15–24,
Eastern Europe and Eurasia: A Comparative Report

Region and Country	Use of Contraception (%)		
	Total	Modern	Traditional
<u>Eastern Europe</u>			
<i>Moldova, 1997</i>			
<i>Married</i>	78	48	30
<i>Not Married</i>	66	40	26
Total	75	46	29
<i>Romania, 1999</i>			
<i>Married</i>	62	25	37
<i>Not Married</i>	79	47	32
Total	70	35	34
<i>Russia, 1999*†</i>			
<i>Married</i>	74	55	19
<i>Not Married</i>	80	66	14
Total	76	59	17
<i>Ukraine, 1999†</i>			
<i>Married</i>	68	37	32
<i>Not Married</i>	78	57	21
Total	71	43	28
<u>Caucasus</u>			
<i>Azerbaijan, 2001</i>			
<i>Married</i>	38	7	31
<i>Not Married</i>	9	2	7
Total	36	6	30
<i>Georgia, 1999</i>			
<i>Married</i>	28	17	11
<i>Not Married</i>	2	2	0
Total	27	16	11

* Data for Russia pertain to three primarily urban areas as described in Chapter 2.

† Among women who reported having sex in the previous 30 days.

between married and unmarried women in these countries. The use of modern contraception is more common than traditional methods, although in Romania use is fairly evenly split between modern and traditional methods. In Azerbaijan and Georgia, less than 40% of sexually experienced young adults used contraception at last intercourse, and use of contraception was substantially greater among married women. Most women in Azerbaijan used traditional methods, but 60% of users in Georgia reported using modern methods.

14.3 Condom Attitudes

Table 14.3.1 shows the percentage of sexually experienced women aged 15–24 who agreed with statements about condoms and condom use for the same four countries (Moldova, Romania, Azerbaijan and Georgia), categorized by women who have used condoms and never users of condoms. In general, but with some exceptions, a higher proportion of sexually experienced women who have used condoms at some time agreed with the statements about condoms and condom use than did women

who had never used condoms. This is true for all four countries for the first four statements shown in the table. In Azerbaijan, only 29% of non-users agreed with the statement that “using condoms with your partner is a smart idea” compared with 71% of users. In Georgia, slightly less than 50% of non-users agreed with this statement, compared with 85% of ever users. More than three-fourths of both user and non-user groups in Moldova and Romania believed that using condoms with your partner was a smart idea.

About half of both users and non-users of condoms in Moldova agreed that condoms “diminish sexual enjoyment (58% and 47%, respectively). In Azerbaijan and Georgia, a greater number of condom users than non-users believed that “condoms diminish sexual enjoyment” (67% vs. 18% in Azerbaijan and 44% vs. 9% in Georgia). One can only assume that the opinions of never-users are based on what they have heard from other persons as they have never used condoms.

In conservative societies such as Azerbaijan and Georgia, it is not surprising that among condom non-users, not more than one-quarter of women (25% and 16%, respectively) agreed that women should ask their partners to use condoms. Similarly, in Azerbaijan and Georgia, only 15% and 8% of non-users, respectively, thought it was easy to discuss condoms with a prospective partner. Not surprisingly, those who were experienced with condoms were more at ease with the topic; in the four countries, 59% to 82% of ever-users agreed that “women should ask their partners to use condoms” and from one-third in Georgia to 69% in Romania agreed that “it is easy to discuss condoms with a prospective partner.”

From 35% (non-users in Azerbaijan) to 59% (non-users in Romania) of young adult women agreed that “condoms are not necessary if you

know your partner.” There were no substantial differences between non-users and users (range of 41%–50% for users) for this statement about condoms compared with the statements discussed above. The fact that less than 60% of respondents, independent of previous condom use, thought that “condoms are not necessary if you know your partner” may indicate the possibility of risky behavior if a young woman does not know her partner’s previous sexual history.

Users of condoms in Romania and Georgia were the least embarrassed about asking for condoms in family planning clinics or pharmacies (12% and 8%, respectively). Almost half of non-users in Moldova believed that it was embarrassing to ask for condoms (46%). Only one to five percent of both users and non-users in each country, with the exception of Azerbaijan (15%), believed incorrectly that the same condoms could be used more than once. The belief that “people who use condoms sleep around a lot” was more common among non-users than among users in each country. This type of “social stigma” may influence non-user’s decisions to use condoms.

The percentage of sexually experienced women who agreed with specific statements regarding interpersonal impact of condom use is presented in Table 14.3.2. Less than half of women in Azerbaijan said that they would feel safe from getting pregnant if their partner asked to use a condom (47%). In contrast, almost 9 out of 10 Moldovan and Romanian women agreed that they would feel safe from getting pregnant if their partner asked to use a condom (98% and 87%, respectively). The proportion of women who agreed that they would feel safe from being infected with HIV/AIDS if their partner asked to use a condom varied across the four countries. Only 33% of women in Azerbaijan and 53% in Georgia

Table 14.3.1 Agreement with Statements About Condoms and Condom Use By Condom Experience Sexually Experienced Young Women Aged 15–24 Eastern Europe and Eurasia: A Comparative Report											
Statements	Eastern Europe				Caucasus						
	Moldova 1997		Romania 1999		Azerbaijan 2001		Georgia 1999		Ever Users	Never Users	of Condoms
	Ever Users of Condoms (%)	Never Users of Condoms (%)	Ever Users of Condoms (%)	Never Users of Condoms (%)	Ever Users of Condoms (%)	Never Users of Condoms (%)	Ever Users of Condoms (%)	Never Users of Condoms (%)	Ever Users of Condoms (%)	Never Users of Condoms (%)	of Condoms (%)
Using Condoms with Your Partner Is a Smart Idea	93	80	98	77	71	29	85	48			
Condoms Diminish Sexual Enjoyment	58	47	37	24	67	18	44	9			
Women Should Ask Their Partners to Use Condoms	64	49	82	56	59	25	61	16			
It Is Easy to Discuss Condoms with a Prospective Partner	60	38	69	43	55	15	33	8			
Condoms Are Not Necessary if You Know Your Partner	50	53	41	59	49	35	48	40			
It is Embarrassing To Ask for Condoms in FP Clinics or Pharmacies	28	46	12	26	34	24	8	18			
The Same Condoms Can be Used More Than Once	2	2	1	1	15	5	2	1			
People Who Use Condoms Sleep Around a Lot	17	39	9	21	10	18	3	6			
No. of Cases	343	632	587	676	97	737	118	833			

Table 14.3.2
Agreement with Specific Statements Regarding Interpersonal Impact of Condom Use
Among Sexually Experienced Young Women Aged 15–24
Eastern Europe and Eurasia: A Comparative Report

“If Your Partner Would Want to Use Condoms with You, Would You Feel...”				
<u>Statements</u>	Eastern Europe		Caucasus	
	(%) <u>Moldova, 1997</u>	(%) <u>Romania, 1999</u>	(%) <u>Azerbaijan, 2001</u>	(%) <u>Georgia, 1999</u>
Safe from Getting Pregnant	90	87	47	63
Safe from Getting HIV/AIDS	87	85	33	53
Safe from Getting Other STDS	89	85	37	52
Angry	24	13	22	13
Insulted	*	*	22	*
Worried You Have Done Something Wrong	21	9	21	11
Suspicious of Partner’s Behavior	*	23	18	14
Embarrassed	33	15	*	22
<u>No. of Cases</u>	975	1,263	834	951

* Question was not asked.

agreed with this statement, whereas in Moldova and Romania, more than 85% agreed.

A similar proportion of women who would feel protected against HIV/AIDS if their partner wanted to use a condom, agreed that they “would be safe from getting other sexually transmitted infections”. Women in Moldova and Azerbaijan would be more likely to be angry (24% and 22%, respectively) if their partner asked to use a condom than would women in Romania and Georgia (both 13%). This same pattern holds true for being worried about having done something wrong. The women in Romania were the most likely to be suspicious of their partners’ behavior (23%, as opposed to 18% in Azerbaijan and 14% in Georgia), and women in Moldova were the most inclined (33%) to be embarrassed by the question; 22% of women in Georgia and 15% in Romania would be embarrassed by their partner asking to use a condom.

14.4 Trend Data in Romania (1993–1999)

As previously noted, trend data for young adults are only available for Romania, where data are available for females for 1993, 1996 and 1999, and for males for 1996 and 1999. One of the objectives of the 1999 RHS in Romania was to examine current indicators and recent trends in sexual behavior, pregnancy experience, and contraceptive use among young adults. Findings from the 1993 RHS and the 1996 YARHS in Romania allowed an examination of the trends among young adult women during the 1990s. In addition, young adult men were included in the 1996 and 1999 surveys.

Data from all three surveys showed that initiation of sexual activity for young women in Romania took place fairly late; in 1999, only 26% of female adolescents (15–19 years of age)

had ever had sexual intercourse. However, this proportion was an increase of 62% over 1993 (26% vs.16%) as shown in Table 14.4.1. The increase in the level of sexual experience among 20–24 year old women, from 70% to 78%, was less dramatic. Similarly, sexual experience among young men had changed little between 1996 and 1999: the proportion of 15–19 year old males who reported sexual experience increased by 10% (from 41% to 45%) and there was no change among 20–24 year olds (93%).

In all three surveys, most sexually experienced women reported that their first sexual intercourse was premarital. In 1993 and 1996 only slightly more than one-half of women reporting sexual experience had premarital sexual experience. However, in 1999, more than three out of four sexually experienced women reported premarital sexual intercourse. In all three surveys, sexually experienced adolescents were more likely to report premarital sex than 20–24 year olds were. However, the increase in premarital initiation

Table 14.4.1					
Reported Sexual Experience by Marital Status at Time of First Sexual Experience by Gender					
Among Young Women and Men Aged 15–24					
Reproductive Health Surveys: Romania, 1993, 1996 and 1999					
(Percent Distribution)					
Eastern Europe and Eurasia: A Comparative Report					
Women 15–24					
Current Age	Reported Sexual Experience			Total	Unweighted No. of Cases
	No Sexual Experience	After Marriage	Before Marriage		
<i>Romania RHS, 1993</i>					
15–19	84	7	9	100	745
20–24	30	33	37	100	896
Total	59	19	22	100	1,641
<i>Romania YARHS, 1996</i>					
15–19	80	7	13	100	1,239
20–24	26	36	38	100	786
Total	54	21	25	100	2,025
<i>Romania RHS, 1999</i>					
15–19	74	4	22	100	924
20–24	22	20	58	100	1239
Total	47	13	41	100	2,163
Men 15–24					
Current Age	Reported Sexual Experience			Total	Unweighted No. of Cases
	No Sexual Experience	After Marriage	Before Marriage		
<i>Romania YARHS, 1996</i>					
15–19	59	†	41	100	1,322
20–24	7	1	92	100	725
Total	34	1	66	100	2,047
<i>Romania RHS, 1999</i>					
15–19	55	0	45	100	311
20–24	7	2	91	100	320
Total	29	1	70	100	631

* Men were not interviewed in 1993

† Less than 0.5%.

Source: Serbanescu F, Morris L, Marin M, (eds), 2001.

of sexual intercourse was substantial and parallel among both 15–19 and 20–24 year olds in 1999 compared with previous years. The proportion of adolescent women who initiated sexual activity before marriage was much higher in 1999 than in previous years: 83% of sexually experienced women aged 15–19 were not married when they first had sex, compared with 64% in 1996 and 57% in 1993. Similarly, premarital intercourse among sexually experienced 20–24 year olds increased from 53% in 1993 to 75% in 1999. The very high proportion of young men who initiated sex before marriage remained unchanged between 1996 and 1999 (>95%).

Compared with the 1993 and 1996 surveys, in 1999 the proportion of sexually experienced young women whose first intercourse was premarital increased substantially among 15–19 year olds in urban areas—from 67% in 1993

to 80% in 1996 to 91% in 1999—and almost doubled among adolescents in rural areas—from 43% to 48% to 74% (data not shown).

As shown in Table 14.4.2, contraceptive use at first premarital intercourse among young women, which increased by 50% between 1993 and 1996 (from 26% to 39%), continued an upward trend reaching 58% in 1999; almost all the increase was due to the increased use of condoms, whose prevalence more than tripled from 1993 to 1996 (from 4% to 13%) and doubled from 1996 to 1999 (from 13% to 26%). Although withdrawal was the leading method at first intercourse in both 1993 and 1996, and had increased by 50% since 1993, in 1999 condom use was equal to withdrawal use. Among young men, the increase between 1996 and 1999 was equally dramatic. Overall contraceptive use at first premarital intercourse almost doubled from 35% to 64%,

Table 14.4.2 Use of Contraception at Time of First Premarital Sexual Intercourse Among Young Women and Men Aged 15–24 Reproductive Health Surveys: Romania, 1993, 1996 and 1999 (Percent Distribution) Eastern Europe and Eurasia: A Comparative Report					
Contraceptive Method	<i>Romania RHS,</i>	<i>Romania YARHS,</i>		<i>Romania RHS,</i>	
	<u>1993</u>	<u>1996</u>	<u>1996</u>	<u>1999</u>	<u>1999</u>
	<u>Women</u>	<u>Women</u>	<u>Men</u>	<u>Women</u>	<u>Men</u>
Any Method	26	39	35	58	64
Modern Methods	<u>5</u>	<u>15</u>	<u>17</u>	<u>28</u>	<u>40</u>
Condom	4	13	16	26	39
Other Modern	1	2	1	2	1
Traditional Method	<u>21</u>	<u>24</u>	<u>24</u>	<u>30</u>	<u>24</u>
Withdrawal	17	21	15	26	22
Calendar	3	3	2	4	2
No Method	75	61	66	42	36
Total	100	100	100	100	100
% of All Users Using a Modern Method	19	39	49	49	63
Unweighted No. of Cases	431	425	1,208	937	442

Source: Serbanescu F, Morris L, Marin M, (eds), 2001.

and condom use was almost 2.5 times greater (39% vs. 16%) in 1999 than in 1996. As with women, the use of withdrawal by men increased moderately between the two surveys, but unlike women, the use of modern methods was much higher among men than the use of traditional methods.

If the first sexual experience was marital (Table 14.4.3), many fewer women reported using contraception, mainly withdrawal, in all three surveys. The levels of use remained basically unchanged between 1993 and 1996 but almost doubled in 1999 from 14% to 27%. Although the use of modern methods paralleled the increase in traditional method use (from 3% to 7%), most of the increase in contraceptive use was the result of greater use of traditional methods, which increased from 11% to 20%, accounting for 75% of use at first intercourse.

Although detailed tables are not shown here, comparison with the previous surveys also reveals important changes in contraceptive prevalence and contraceptive method mix among young adult women in 1999 at their most recent sexual encounter. Among women currently married or in consensual union, whose contraceptive prevalence was only slightly higher in 1996 than in 1993 (53% vs. 50%), the use at last intercourse increased to 62% in 1999. Moreover, the use of modern methods continued to increase, from 10% in 1993 to 20% in 1996 to 25% in 1999, whereas the use of traditional methods remained relatively stable (from 40% to 34% to 37%). Among unmarried young women, contraceptive use increased from 67% in 1996 to 79% in 1999, with most of the improvement due to a substantial increase in the use of modern methods (from 36% to 47%), particularly in condom use (from 22% to 32%).

Table 14.4.3 Use of Contraception at Time of First Sexual Intercourse Among Young Women Aged 15–24 Whose First Sexual Intercourse Was Marital Reproductive Health Surveys: Romania, 1993, 1996 and 1999 (Percent Distribution) Eastern Europe and Eurasia: A Comparative Report			
Contraceptive Method	<i>Romania RHS,</i> 1993	<i>Romania YARHS,</i> 1996	<i>Romania RHS,</i> 1999
Any Method	15	14	27
Modern Methods	3	3	7
<i>Condom</i>	2	2	6
<i>Other Modern</i>	*	1	1
Traditional Method	13	11	20
<i>Withdrawal</i>	11	10	18
<i>Calendar</i>	2	1	2
No Method	85	86	73
Total	100	100	100
% of All Users Using a Modern Method	19	20	27
Unweighted No. of Cases	387	363	326

*Less than 0.5%.

Source: Serbanescu F, Morris L, Marin M, (eds), 2001.

14.5 Summary of Findings

- ◆ There are distinct differences between Eastern Europe and the Caucasus region. At least one-half of young adult women (ages 15-24) in the Eastern European countries report sexual experience (from 50% in Moldova to 75% in Russia) compared with approximately 30% of women in the countries of the Caucasus region.
- ◆ In Eastern Europe, the majority of young adults who report sexual experience have had premarital sexual intercourse compared with less than 5% in the Caucasus.
- ◆ In all countries, a higher proportion of women with premarital sexual experience report that they or their partner used contraception at sexual debut than did women whose first sexual experience was at the time of marriage. However, only 3% to 33% of women with premarital sexual experience used a modern method at the time of first intercourse.
- ◆ In Eastern Europe, 40% to 66% of unmarried women who are sexually active used modern contraception at last intercourse indicating an improvement in use since sexual debut. In Romania, modern contraceptive use increased from 36% in 1996 to 47% in 1999, particularly in condom use (from 22% to 32%).
- ◆ Although the proportion of sexually active young adults in Romania increased between 1993 and 1999, pregnancy rates declined slightly, probably as a result of increased use of modern contraception.

15 CHAPTER

SEXUALITY EDUCATION

In recent decades, concerns about teenage sexuality, pregnancy, and sexual health have been mounting worldwide. Since the early 1990s, many of the countries of Eastern Europe, the Caucasus, and Central Asia have experienced major epidemics of sexually transmitted infections (STIs), particularly of syphilis. In addition, the threat of increasing rates of HIV/AIDS infections, increased rates of premarital intercourse and other related changes in sexual and reproductive health behaviors, and increased media sexual imagery have sparked public debate about sexuality education. Prevention programs designed to reduce the rate of adolescent pregnancy and STIs require a multifaceted approach, and school-based sexuality education is one important component of a broader effort. Under the strong moralistic principles vigorously promoted by the communist regime, sexuality education in school was largely absent, sexual health was a taboo topic, and knowledge of contraception was discouraged for the purpose of population growth (Popov AA and David HP., 1999; Baban A. and David HP., 1994). Although elements of reproductive biology were taught in high school in the biology and human anatomy classes, none of the Soviet bloc countries had national policies related to comprehensive sexuality education in school. During the 1990s, local and international non-governmental agencies in several countries of the regions initiated lectures about reproductive health, family planning, and sexually transmitted diseases, both outside and inside school. Generally, these efforts have not been standardized, lacked national coverage, and often were limited in scope and time frame. Furthermore, the perpetuation of Soviet attitudes toward sexual topics had stalled most efforts to introduce national comprehensive sex education programs in school.

A number of studies have demonstrated that quality sexuality education or family life education programs can lead to higher levels of abstinence, later initiation of sexual activity, increased use of contraception, and fewer sexual partners (Kirby D. et al., 1994; Kirby D, 1999; Dawson DA, 1986). Health education interventions are widely seen as appropriate strategies for promoting young people’s sexual health, particularly when information among young people about sexuality, reproduction, contraception, and sexually transmitted infections are lacking. Fears that sexuality education programs encourage or increase sexual activity appear to be unfounded. In fact, some programs have been associated with a delay in the initiation of intercourse and an increased likelihood of condom use (Grunseit A, 1997; Grunseit A. et al., 1997).

In several countries (Moldova, Romania, Azerbaijan, Georgia), one of the objectives of the Reproductive Health Survey (RHS) was to examine whether reproductive-age women support the concept of sexuality education (family life education) in schools and to explore their opinions about the best age to start such education. If presented effectively, such information could help initiate open discourse on age-appropriate sexual health education and alleviate fears that parents may be against school-based education on sexual issues. In addition, the survey questionnaire was designed to explore young adult women’s exposure to elements of sexual health education in school and at home and their most common sources of information on sexual matters. Data on exposure to sexuality education and on knowledge of young adults about reproductive health issues could be used for designing formal school curricula and projecting the need for training of teachers.

15.1 Opinions about Sexuality Education in School

All RHS surveys that included a module about sexuality education (Moldova, Romania, Azerbaijan, and Georgia) documented a public desire for formal sexuality education among respondents of childbearing age. The majority of women (and men in Romania), regardless of age, residence, marital status, parity, and education, endorsed school-based sexuality education, (Table 15.1.1). When asked about specific sexuality education topics, between 71% and 98% of women felt that reproductive biology, birth control methods, and STI topics should be part of the school curriculum. Respondents in Azerbaijan, the only Muslim country where questions about sexuality education were asked, were slightly less likely than respondents of other countries to agree with sexuality education.

Among the minority who did not agree that sexuality education should be taught in school, the belief that it ‘may give adolescents the idea to begin sexual activity earlier’ was almost universal (84%–89%)—excepting in Romania where only 40% of opponents held this opinion (data not shown). Between 62% and 71% of women who were opposed to school-based sexuality education thought that it should only be taught at home, while 43%–54% thought that those who teach sexuality education in schools are not qualified. In Azerbaijan and Georgia, about one in two opponents said that endorsing sexuality education is against their religious beliefs.

Women who agreed on the need for school-based sexuality education were also asked their opinion about the best age to start each topic of sexuality education (Table 15.1.2). Although

Table 15.1.1
Percent Agreeing that Certain Sexuality Education Topics Should Be Taught in School
Among Women Aged 15–44 by Selected Characteristics
Eastern Europe and Eurasia: A Comparative Report

Country	Moldova, 1997				Romania, 1999				Azerbaijan, 2001				Georgia, 1999				
	Any Topic		Methods of Contraception		Any Topic		Methods of Contraception		Any Topic		Methods of Contraception		Any Topic		Methods of Contraception		
	98	98	98	98	95	95	94	94	94	94	75	75	73	73	86	86	
Total	98	98	98	98	95	95	94	94	94	75	75	73	73	86	86	81	83
Residence																	
Urban	99	98	98	99	97	97	97	96	96	76	76	74	74	91	90	86	88
Rural	97	97	97	97	91	91	91	89	90	73	73	71	71	81	81	74	77
Age Group																	
15–24	99	99	99	98	94	94	94	93	93	74	74	72	72	85	85	80	82
25–34	97	97	97	97	95	95	95	94	94	76	76	74	74	89	89	83	87
35–44	97	97	97	97	95	95	95	94	94	74	74	72	72	85	85	79	82
No. of Living Children																	
0	99	99	98	98	96	96	96	95	95	75	75	73	73	86	86	81	84
1	98	98	98	98	96	96	96	95	95	77	77	75	75	90	90	84	87
2	97	97	97	97	95	95	95	94	94	75	75	74	74	86	86	81	84
3+	97	97	96	97	87	87	87	85	85	72	72	70	70	81	81	76	77
Education Level																	
Secondary Incomplete	97	97	97	97	89	89	89	88	88	69	69	67	67	72	72	65	67
Secondary Complete	97	97	97	97	98	98	98	97	98	74	74	72	72	86	86	82	84
Technicum	99	99	99	99	*	*	*	*	*	79	79	78	78	89	89	82	86
Postsecondary	99	99	99	99	99	99	99	99	99	82	82	80	80	93	93	88	91

* Technicum, specific to former Soviet Union countries, does not exist in Romania.

most respondents believed that students should be informed about sexual issues in school, opinion about the best time for starting education about “how pregnancies occur,” methods of contraception, and sexually transmitted infections, varied widely among the countries. While a substantial proportion of women in Moldova (58%–62%) believed that the best time for a child to gain some

information on these topics was elementary or middle school (7 to 13 years of age), only between one third and one fourth of Romanian women and fewer than one in five Azeri and Georgian women endorsed early sexuality education. In Romania, Azerbaijan and Georgia, the majority of women believed that sexuality education should start at the beginning of high school (14–15 years of age).

Table 15.1.2
Opinions on Best Age To Start School-Based Courses on Specific Sexual Health Topics
Among Women Aged 15–44 Who Agreed with Sexuality Education in School
(Percent Distribution)
Eastern Europe and Eurasia: A Comparative Report

Region and Country	Best Age to Start Courses on "How Pregnancies Occur"					Best Age to Start Courses on "Methods of Contraception"					Best Age to Start Courses on "Sexually Transmitted Infections"				
	≤13	14–15	16+	Total	No. of Cases	≤13	14–15	16+	Total	No. of Cases	≤13	14–15	16+	Total	No. of Cases
Eastern Europe															
<i>Moldova, 1997</i>	62	33	5	100	5,389	58	36	6	100	5,286	58	36	6	100	5,286
<i>Romania, 1999</i>	32	48	20	100	6,481	26	50	24	100	6,413	27	50	22	100	6,426
Caucasus															
<i>Azerbaijan, 2001</i>	19	53	27	100	5,763	12	49	38	100	5,537	12	48	40	100	5,580
<i>Georgia, 1999</i>	21	64	14	100	6,843	14	63	23	100	6,383	14	61	25	100	6,610

15.2 Young Adult Experience with Sexuality Education at Home or in School

Young women were asked if they discussed issues related to sexual behaviors with their parents (Table 15.2.1). In Romania questions were also asked of young men, in order to identify possible differences in the subjects parents prefer to discuss in relation to the gender of their child. From 56% of women in Azerbaijan to 88% in Romania had discussed at least one sexual health topic with a parent before reaching the age of 18. Generally, these discussions consisted for the most part of talking about the menstrual cycle and abstinence before marriage. In Moldova and Romania, from 43% to 53% had discussed

“how pregnancies occur” compared with less than 14% in Azerbaijan and Georgia. Fewer young adult women had discussed HIV/AIDS, other STIs, and contraception with a parent - less than 6% in the two countries in the Caucasus Region. From the findings in Romania (which included independent female and male samples), it was evident that daughters report talking far more often with their parents about any sexual health topics than do sons (88% vs. 38%) (Table 15.2.1). Nonetheless, parents discussed HIV/AIDS and other STIs with their sons more often than with their daughters; among young adults who reported a parent-child dialogue, a greater proportion of young males than young females had discussions about HIV/AIDS and other STIs while a greater percentage of young women

Table 15.2.1
Percent Who had Discussions with a Parent or School-Based Lectures about Sexual Health Topics Before Age 18
Among Young Adults Aged 15-24
By Specific Sexual Health Topics
Eastern Europe and Eurasia: A Comparative Report

Region and Country	Discussed with a Parent					Had School-Based Lectures					No. of Cases					
	Any Topic	Menstrual Cycle	Abstinence Before Marriage	How "Pregnancies Occur"	HIV/AIDS STIs	Other STIs	Methods of Contraception	Any Topic	Female Re-productive Biology	Male Re-productive Biology		Menstrual Cycle	How "Pregnancies Occur"	HIV/AIDS STIs	Other STIs	Methods of Contraception
Eastern Europe																
Moldova, 1997	79	78	*	43	29	27	24	94	90	88	89	69	54	50	34	1,657
Romania, 1999 (Females)	88	79	66	53	41	40	33	89	78	75	71	59	42	39	29	2,163
Romania, 1999 (Males)	38	29	28	21	20	14	10	71	61	58	48	45	41	30	29	631
Caucasus																
Azerbaijan, 2001	56	49	22	11	6	4	4	40	30	30	25	21	7	3	2	2,414
Georgia, 1999	61	59	14	13	5	3	2	49	45	43	36	32	5	2	1	2,388

* Question was not asked.

than men discussed the menstrual cycle, abstinence before marriage, and contraception.

Young women (and young men in Romania) were also asked whether, before they reached age 18, they had ever received formal instruction in school about the topics listed in Table 15.2.1. Overall, the majority (89%–94%) of young women in Romania and Moldova had had at least one school-based course or class on sexuality education, but less than one in two women in Azerbaijan and Georgia had had such lectures. Generally, all young adults were more likely to have received lectures on female and male reproductive biology, the menstrual cycle, and how pregnancies occur than lectures on HIV/AIDS, other STIs, and methods of contraception.

Young women who reported exposure to formal instruction were also asked the age at which they first had a class on each specific topic (Table 15.2.2 and Figure 15.2). The study of age patterns for sexual health courses demonstrates that, regardless of topic, courses were seldom provided before age 14. About 40% of young women in Moldova and Romania reported that courses related to “how pregnancies occur” started before age 15, which is prior to high school. Generally, if young women did not receive such courses before age 15, the majority had them in first or second year of high school. Very few reported such courses after age 17. Lectures about HIV/AIDS, other STIs, and contraception are significantly less prevalent than lectures on “how pregnancies occur” by each successive birthday. In all countries the least taught topic was methods of contraception. The cumulative proportion of young women reporting formal instruction about this topic by age 18 ranged from 36% to 38% in Moldova and Romania to 1%–2% in the Caucasus countries. The fact that most sexuality lectures were offered during

the high school years—particularly in countries with school-based lectures on contraception and STIs (e.g. Moldova and Romania)—points to the need for out-of-school education for those students who never entered secondary school.

Less than 43% of women in Romania or Moldova and less than one-fourth in Azerbaijan and Georgia knew that the most likely time to get pregnant during the menstrual cycle is halfway between periods (Table 15.2.3). Discussions with a parent appeared to help somewhat in Romania, but did not have any significant influence in the other countries. Again, if the menstrual cycle was taught in school, there was no significant impact on knowledge.

The respondents were also asked if the risk of getting pregnant is lower while breastfeeding. Only one-sixth (17% in Romania) to 40% in Georgia had this knowledge, and only parental discussions in Georgia appears to have improved correct knowledge. A substantial minority of young women did not know that it is possible to get pregnant at first intercourse, from 42% in Azerbaijan to 24% in Georgia. Again, parental discussions or school instruction did not appear to have any impact on their knowledge in Moldova and Azerbaijan.

Thus, it appears that formal sexuality education is limited for both in school and out of school youth in this region and what does exist may not have high quality curriculum or teaching. Age-appropriate, quality sexual and reproductive health information needs to be provided to both young women and young men, both in school and outside school. Policies and programs need to involve parents, religious leaders, and community leaders and should deal with the ambiguous messages that youth receive from the mass media and society in general.

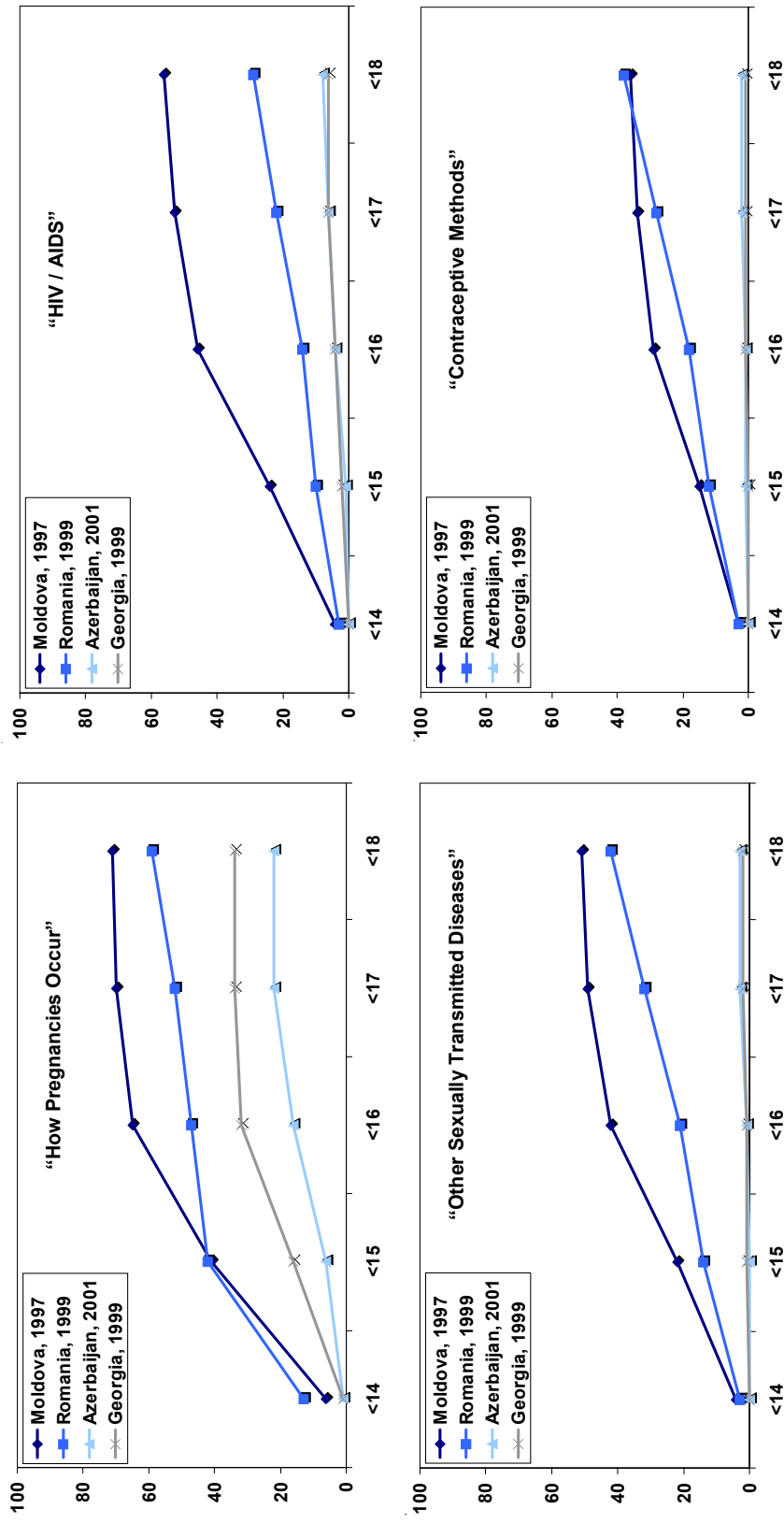
Table 15.2.2
Percentage of Young Women Aged 15–24 Who Received School-Based Lectures about Sexual Health Topics Before Certain Ages
By Specific Sexual Health Topics
Eastern Europe and Eurasia: A Comparative Report

Family Life Education Topic	Moldova, 1997			Romania, 1999			Azerbaijan, 2001			Georgia, 1999											
	<14	<15	<16	<17	<18	<14	<15	<16	<17	<18	<14	<15	<16	<17	<18						
How Pregnancies Occur	6	41	65	70	71	13	42	47	52	59	1	6	16	22	22	1	16	32	34	34	
HIV/AIDS	4	24	46	53	56	3	10	14	22	29	0	1	4	6	8	0	2	4	6	6	
Other Sexually Transmitted Diseases	4	22	42	49	51	3	14	21	32	42	0	0	1	3	3	0	1	1	1	2	2
Contraceptive Methods	3	15	29	34	36	3	12	18	28	38	0	1	1	2	2	0	0	1	1	1	1

Table 15.2.3
Percent with Correct Knowledge about Specific Reproductive Health Issues
by Whether or not These Issues Were Discussed at Home or Taught in School
Among Young Women Aged 15–24 Years
Eastern Europe and Eurasia: A Comparative Report

Region and Country	Correct Knowledge about "The Most Likely Time to Become Pregnant During Menstrual Cycle"				Correct Knowledge that "Breastfeeding Can Lower a Woman's Risk to Get Pregnant"				Correct Knowledge that "It is Possible to Get Pregnant at First Intercourse"				
	Parental Discussions		School-Based Lectures		Parental Discussions		School-Based Lectures		Parental Discussions		School-Based Lectures		
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	
Eastern Europe													
Moldova, 1997	39	44	38	40	28	25	31	26	70	67	73	64	72
Romania, 1999	42	30	44	36	17	16	17	17	72	77	66	77	64
Caucasus													
Azerbaijan, 2001	8	6	11	6	24	28	24	27	58	73	57	65	57
Georgia, 1999	25	22	31	21	40	51	38	45	76	87	75	82	74

Figure 15.2
 Percent of Young Women Aged 15–24 Who Received School-Based Lectures
 About Sexual Health Topics Before Certain Ages
 Eastern Europe and Eurasia: A Comparative Report



15.3 Most Important Source of Information about Sexual Matters

Young women aged 15–24 were asked who, in their opinion, has been their most important source of information on topics related to sexual matters. The most important source for this type of information among Azeri and Georgian women was their friends and peers (39%–46%) while in Romania it was mass media (28%) (Table 15.3). In Azerbaijan, one

third of young women named a relative (including 10% who said that a parent was the most important source of information), less than one in ten women named the media, one in twenty named a teacher, and fewer than 2% named a doctor as the most important source of information. In Romania, over one fourth of all respondents said the primary source of their knowledge was mass media. In each country, between 5% and 7% cited printed materials such as books and magazines as the most important source of information.

Source	Romania 1999	Azerbaijan 2001	Georgia 1999
Mass Media	28	9	14
Friends/Peers	21	39	46
A Parent	21	10	8
Relatives other than a Parent	5	24	5
Books	5	7	7
Teacher	13	5	10
Partner/Husband	3	5	8
Doctor	4	2	2
Other	2	0	0
Total	100	100	100
No. of Cases*	2,116	2,372	2,360

* Excludes young women with no opinion.

15.4 Summary of Findings

Highlights from this chapter with data for four countries may be summarized as follows:

- ◆ The majority of reproductive age women in Moldova, Romania, Georgia and Azerbaijan, from 75%–98%, are in agreement that certain sexuality education topics should be taught in school. Agreement is highest in Moldova and Romania and lowest in Georgia. Agreement increases with educational level in all countries for any topic and for selected topics.

- ◆ For those women who agreed that sexuality education should be given in the school setting, the majority of women in Moldova think that age appropriate interventions should be at less than 14 years of age; the majority favor 14–15 years of age in the other countries.
- ◆ From 56% of young adult women Azerbaijan to 88% in Romania discussed at least one sexual health topic with a parent before age 18. The topics most commonly discussed were the menstrual cycle and abstinence before marriage.

In Romania, where an independent sample of males was conducted, it is evident that parents talk far more often with their daughters than with their sons.

- ◆ A minority of young adult females in all four countries had correct knowledge on “the most likely time to become pregnant during the menstrual cycle” or that “breastfeeding can lower

a women’s risk of pregnancy” and at least 24% in each country did not know that it was possible to get pregnant at first intercourse.

- ◆ The most important source of information on sexual matters for young people in Azerbaijan and Georgia was friends and peers. In Romania, the mass media was most often mentioned.

16 CHAPTER

PHYSICAL AND SEXUAL ABUSE

In recent years, violence against women has gained visibility as a significant public health problem with serious consequences for women's health and for society. The United Nations defines it as "any act of ...physical, sexual, or psychological harm...including threats of such acts, coercion or arbitrary deprivations of liberty, whether occurring in public or private life" (UN General Assembly, 1993). Violence against women includes a wide range of behaviors and acts perpetrated against women, but its most common form occurs between men and their female partners. Often referred to as "domestic violence," "battering," or intimate partner violence (IPV), this form of violence occurs in all cultures and affects women of all ages and all socio-economic and educational backgrounds. Gender stereotypes, women's economic dependence on men, cultural acceptability, loose or nonexistent legislation to protect women's fundamental human rights, and lack of preventive measures for victims are some of most widely recognized factors that contribute to IPV. Since IPV affects women's physical, sexual, psychological, economic and social well-being, it implicitly affects women's health, including their reproductive health. Women subjected to IPV may be unable to use contraception effectively and consistently, and may lack control or negotiation skills that will enable them to avoid sexually transmitted infections, plan pregnancies, and attend preventive health services, such as prenatal care.

Most data on the impact of IPV on women's health are compiled from studies targeting small population sub-groups (e.g., women attending prenatal care clinics, women in shelters) and population-based, representative data on this subject are scarce. To address this need, the CDC-assisted reproductive health surveys (RHS) conducted in Eastern Europe and the Caucasus region have been

collecting data on domestic violence since the mid 1990s. These surveys provide a unique opportunity to study characteristics of battered women and linkages with reproductive health. Moreover, since the violence indicators collected in CDC-assisted reproductive health surveys are similar across surveys, they allow for a regional examination of risk factors and prevalence estimates of IPV. In all these countries, with the exception of Russia (which was a sub-national survey conducted in three primarily urban sites in Central Russia), the survey data produced the first population-based, national representative information on IPV ever available.

In addition to documenting domestic violence in the context of maternal and child health, survey findings can be used to raise awareness at the individual and community level, to educate law enforcement and social service agencies, to influence current public health policies, to develop laws to protect and benefit the battered women, and ultimately to project the need for support services and interventions for abused women.

The questions included in the RHS surveys focus principally on two types of violence against women: 1) intimate partner violence and 2) sexual coercion (at any point in a woman's life). Violence by an intimate partner among ever-married (legally or consensually) women is explored in the RHS using a modified Conflict Tactic Scale (includes between four and eight items) (Strauss and Gelles, 1979). Based on the item composition of the scale, intimate partner violence can be further classified into verbal, physical, and sexual violence that occurred in the past and/or present (within the past year). Verbal abuse includes insults, curses, and verbal threats, and gestures with the intent of physical harm ("threaten to hit you or throw something at you"). Physical violence, further classified into moderate and severe violence

(O'Campo P. et al., 1994), includes pushing, shoving, and slapping (moderate violence) and kicking, hitting with the fist or an object, being beaten up, and threats with a knife or other weapon (severe violence). Sexual abuse by an intimate partner is defined by asking whether "a partner ever physically forced [the woman] to have sex against her will."

In addition, all RHS respondents are asked about their history of witnessing physical abuse between parents or experience of abuse as a child or adolescent.

16.1 History of Witnessing or Experiencing Parental Physical Abuse

In the literature on violence against women, experiencing and witnessing parental abuse as a child have been identified as strong independent predictors of being in an abusive relationship as an adult. Several studies have linked childhood exposure to family violence with emotional and behavioral problems during childhood (Edleson JL, 1999, Kolbo JR and Blakely EH, 1996), child and adolescent violent behaviors (Song LY et al., 1998), and physical abuse during adulthood (Hotelling GT and Sugarman DB., 1986).

The prevalence of witnessing or experiencing abuse as a child was relatively high in all the countries of the region, excepting Georgia; prevalence of witnessing domestic abuse (one parent abusing the other) as a child ranged from 30% in the areas surveyed in Russia to 9% in Georgia. Experience of parental abuse as a child (parent abusing the respondent) varied from 41% in Romania to 21% in Georgia (Figure 16.1.1).

In most countries, women with less than complete secondary education (who are also the youngest women in the sample) reported

the highest prevalence of parental abuse, whereas women with postgraduate education and those aged 35–44 years reported the lowest occurrence. There were no significant differences in recall of witnessing or experiencing parental abuse by other respondent’s characteristics (data not shown).

As mentioned previously, history of witnessing or experiencing abuse as a child is a well-known predictor of adult violence. The reports from Azerbaijan and Romania are consistent with other studies in the literature (Figure 16.1.2). Among ever-married women who reported having witnessed abuse in the home as a child, the prevalence of having been physically abused during the past 12 months was almost three times as high as the prevalence among those who had not witnessed abuse in their childhood home. Similarly, among those who had received parental abuse, the prevalence of current physical abuse by a partner was more than twice as high as among those who had not experienced parental abuse.

16.2 Types of IPV in Eastern Europe and Caucasus

The two most basic measures of the prevalence of domestic violence are lifetime abuse in adulthood by a current or former spouse and similar abuse in the last 12 months, as a measure of “current” violence (Table 16.2.1 and Figure 16.2.1). The estimates presented here are likely to underestimate the true population prevalence because, for both psychological and practical reasons, some women may have understated or not reported their abuse history, despite assurances of maintaining confidentiality. Moreover, cross-cultural data on spousal abuse can be difficult to interpret because cultural definitions or perceptions of abuse may differ from one population to another.

In order to measure the lifetime prevalence of intimate partner violence (IPV), women who ever had a marital partner (formal or consensual) were asked if they had ever been verbally, physically, or sexually abused by a

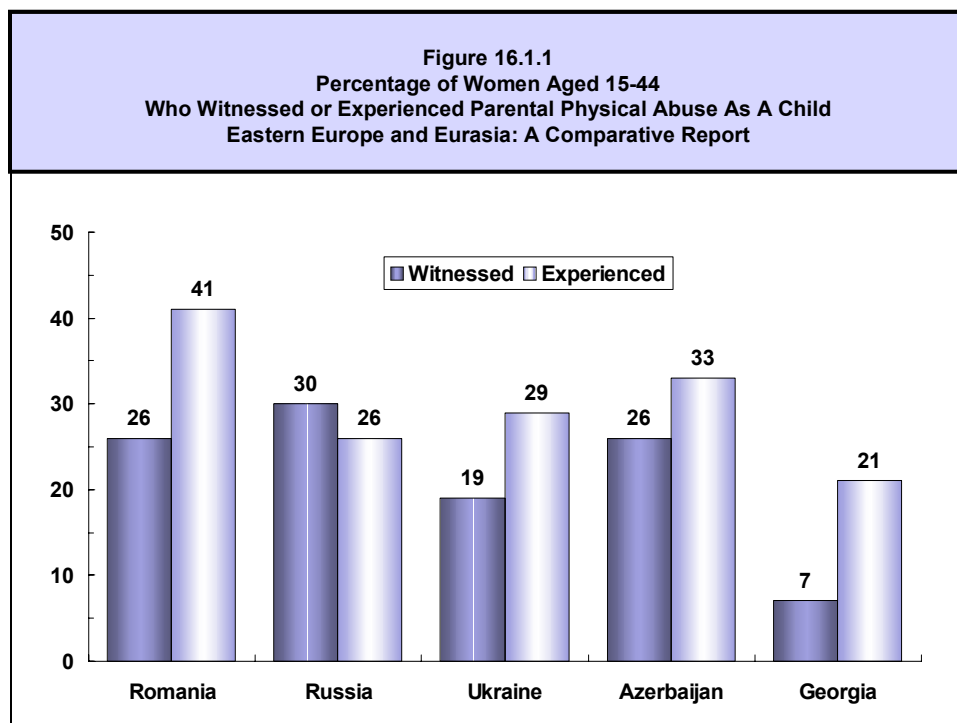
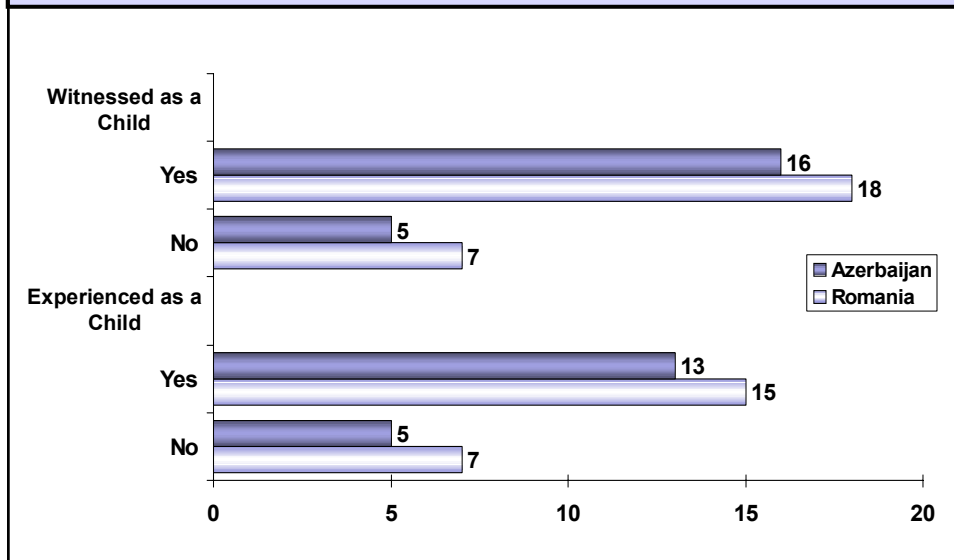


Figure 16.1.2
Percent Reporting Current Physical Domestic Abuse by Whether Witnessed or Experienced Parental Physical Abuse As A Child
Among Ever Married Women Aged 15-44 in Romania and Azerbaijan
Eastern Europe and Eurasia: A Comparative Report



partner or ex-partner. The terms “partner” and “ex-partner” include a current or former spouse (legal or common-law) or other partner with whom the respondent may have cohabited for any length of time. Abuse was deemed “current” if the respondent reported any type of IPV during the last 12 months.

Table 16.2.1 shows that between one in five women (in Georgia) and almost one in two women (in Romania) reported verbal abuse by a partner, at some time in their lives. Almost one in four women in Romania and about one in seven women in other countries (excepting Ukraine and the areas surveyed in Russia, where women were not asked about insults) reported current verbal abuse. Among women who reported verbal abuse, all of them reported insults and the majority of them also reported receiving threats of violence.

Reported lifetime experience with spousal physical abuse varied between 5% in Georgia and 29% in Romania, while physical abuse during the past 12 months ranged from 2% in

Georgia to 10% in Romania. Physical abuse in the last 12 months, or current physical abuse, was around 8% for the majority of the countries of Eastern Europe, excepting Georgia (Figure 16.2.1). Thus, both lifetime and current physical abuse were about four times lower in Georgia, findings that may be attributed to differences in cultural definitions and perceptions or to a particularly strong role of the extended family and friends in the life of Georgian women. Sexual abuse by a current or former partner was measured only in Romania, Georgia, and Azerbaijan. Lifetime sexual abuse ranged from 10% in Azerbaijan, to 7% in Romania and 3% in Georgia; current sexual abuse was reported by 5% of ever married women in Azerbaijan, 2% in Romania, and 1% in Georgia.

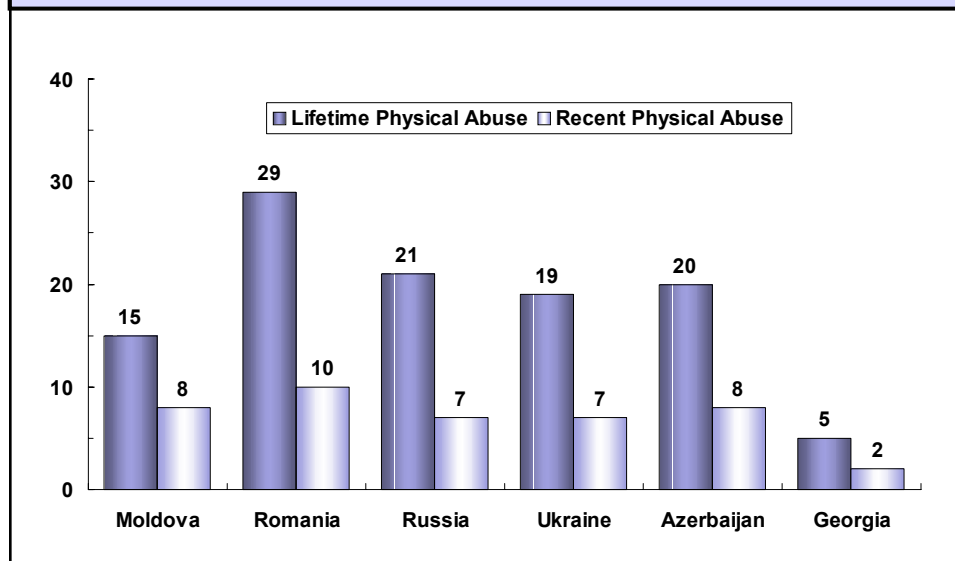
Not surprisingly, there was considerable overlap between these three types of abuse; the majority of women who have been subjected to physical violence said that the physical abuse was accompanied by verbal abuse (data not shown). Similarly, sexual

Table 16.2.1
Percent Reporting Lifetime and Current (within the Past 12 months) Abuse
Among Ever Married Women Aged 15–44
Eastern Europe and Eurasia: A Comparative Report

Region and Country	Lifetime Abuse			Current Abuse		
	Verbal	Physical	Sexual	Verbal	Physical	Sexual
Eastern Europe						
<i>Moldova, 1997</i>	23	15	‡	14	8	‡
<i>Romania, 1999</i>	45	29	7	23	10	2
<i>Russia, 1999*</i>	20†	19	‡	7†	6	‡
<i>Ukraine, 1999</i>	19†	19	‡	6†	7	‡
Caucasus						
<i>Azerbaijan, 2001</i>	30	20	10	14	8	5
<i>Georgia, 1999</i>	19	5	3	13	2	1

* Data for Russia pertain to three primarily urban areas as described in Chapter 2.
† Verbal abuse refers to threats of violence and does not include swearing or insults.
‡ Question was not asked.

Figure 16.2.1
Percentage of Ever Married Women 15-44 Who Reported
Lifetime and Current Physical Abuse by a Partner
Eastern Europe and Eurasia: A Comparative Report



abuse was frequently associated with other acts of physical harm; in Azerbaijan, for example, 64% of women who have been sexually abused also reported other acts of physical violence (data not shown).

To document some of the risk factors for abuse, the prevalence of physical abuse was analyzed by selected characteristics of the respondents (Table 16.2.2). Generally, the prevalence of lifetime abuse was slightly higher among rural residents than among urban residents, increased with age (but age differences are likely to be confounded by the length of exposure) and number of living children, and was inversely correlated with education level. When physical abuse by a partner or ex-partner was analyzed by the respondent's

current marital status, women categorized as previously married had significantly higher prevalence of past verbal and physical abuse, compared with currently married women. Between 23% of previously married women in Georgia and 64% in Romania reported past physical abuse by a partner, whereas only 4%–25% of women currently married or in union reported having been physically abused. Similarly, the prevalence of sexual abuse among previously married women was, on average, twice as high as among currently married women (data not shown). Although the survey did not ask if IPV contributed to a woman's decision to separate from her partner, these data suggest that women who were divorced and separated may have been exposed to more domestic abuse, contributing

Table 16.2.2
Percent Reporting Lifetime and Current (within the Past 12 months) Physical Abuse
Among Ever Married Women 15–44
Eastern Europe and Eurasia: A Comparative Report

Characteristic	Eastern Europe								Caucasus			
	Moldova, 1997		Romania, 1999		Russia, 1999*		Ukraine, 1999		Azerbaijan, 2001		Georgia, 1999	
	Lifetime	Current	Lifetime	Current	Lifetime	Current	Lifetime	Current	Lifetime	Current	Lifetime	Current
Total	15	8	29	10	21	7	19	7	20	8	5	2
Residence												
Urban	13	6	27	9	*	*	19	7	19	7	7	2
Rural	18	10	32	12	*	*	20	9	21	8	4	2
Age												
15–24	10	6	26	14	13	6	14	8	21	13	4	2
25–34	15	8	27	10	23	9	18	8	22	9	6	2
35–44	18	9	33	9	22	5	22	6	19	5	5	1
Marital Status												
Currently Married	13	8	25	10	17	7	16	7	18	8	4	2
Previously Married	34	6	64	6	35	5	40	7	43	6	23	2
No. of Living Children												
0	10	3	21	8	17	7	16	7	21	7	5	2
1	14	6	26	8	20	6	18	7	21	9	8	2
2	14	8	28	10	21	7	20	7	20	8	5	2
3+	23	13	48	18	29	7	26	8	20	7	4	1
Education Level												
Secondary Incomplete	22	13	38	14	35	15	26	10	27	11	7	2
Secondary Complete	18	9	21	6	23	8	21	8	20	7	5	2
Technicum	11	5	†	†	22	6	19	7	16	5	6	2
Postsecondary	7	3	14	2	13	3	15	6	17	6	5	1

* Data for Russia pertain to three primarily urban areas as described in Chapter 2.

† Technicum, specific to former Soviet Union countries, does not exist in Romania.

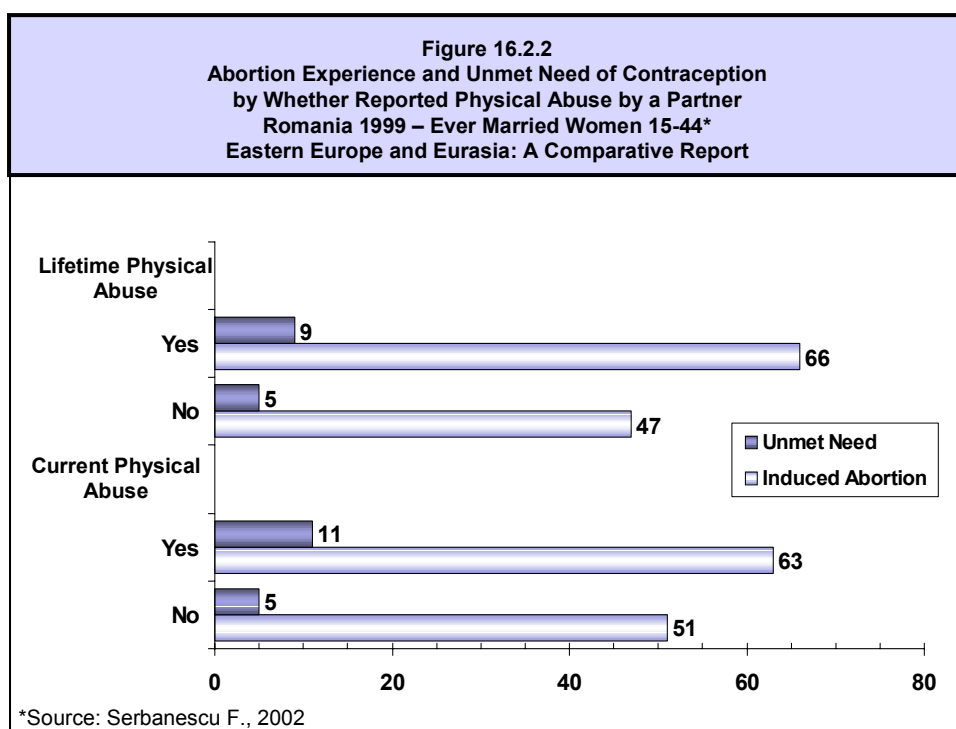
to their decision to split up with an abusive partner.

Current physical abuse was reported by 2% to 10% of women. Most characteristics of the women who experienced higher levels of recent abuse were similar to those for women who reported lifetime abuse. The only substantive difference was among young women in Romania and Azerbaijan, who reported more current physical abuse than did women aged 35 years or over. In contrast to lifetime abuse, currently married women experienced higher levels of current abuse than previously married women presumably because episodes of abuse may have contributed to the latter group's marital dissolution; thus, being no longer in union, previously married women were less likely to be exposed to IPV during the past 12 months than the married women.

As mentioned previously, since domestic violence affects women's physical, sexual, psychological, economic, and social well-being, it implicitly affects women's health, including

their reproductive health. Women subjected to domestic violence may be unable to use contraception effectively and consistently, may lack control or negotiating skills that would enable them to avoid sexually-transmitted infections, and may be at a higher risk of having unplanned pregnancies or subsequent abortions. Data from the RHS in Romania, one of the countries with the highest levels of induced abortion and unmet need for contraception in Eastern Europe, illustrate the possible association between domestic physical abuse and these reproductive health indicators (Figure 16.2.2). Women who reported lifetime and current physical abuse by a partner were significantly more likely to have had induced abortions than women who did not report IPV. Similarly, women reporting current physical abuse were twice as likely to have a current unmet need for contraception.

Of the country surveys included in this report that explored domestic violence issues, only in Romania included a male sample allowing the opportunity to study male self-reports



about history of domestic violence perpetrated against their partners. Although it may seem unlikely that men would report inflicting verbal and especially physical abuse against their partners, the data from Romania show in fact that this is not the case. Looking at verbal and physical abuse received by women and delivered by men, the perpetrated abuse reported by men was at least as high as the abuse reported by women. Lifetime and current prevalence of physical abuse was identical when we independently calculated it based on male reports and female reports (Figure 16.2.3). The level of verbal abuse reported by men was even higher than that reported as being received by women. Thus, parallel estimates of prevalence of domestic abuse appear to validate each other. It remains to be seen whether other male surveys will have similar results. At least in the case of Romania, the significance of convergent male and female reports, although reassuring in terms of validating the data's accuracy, is quite disturbing. It appears that Romanian men consider domestic violence a socially

acceptable means of expressing and maintaining gender inequity.

16.3 Discussions of Physical Abuse with Others

As can be seen in Table 16.3, a substantial proportion of women subjected to IPV did not disclose their experience of abuse. Between 60% of women in Azerbaijan and 15% in Russia had never talked to anyone about their current exposure to domestic violence. Most women suffering current physical abuse were more likely to talk about the abuse with a family member or a friend than to seek legal or medical help. Generally, between one in three and two in three women who were abused during the past 12 months had talked to a family member about it, and except in Azerbaijan, about one in two had talked to a friend. Abused women rarely reported the abuse to health care providers or law enforcement authorities. Only between 1% and 22% reported episodes of IPV to the police or talked to a medical care provider; less than

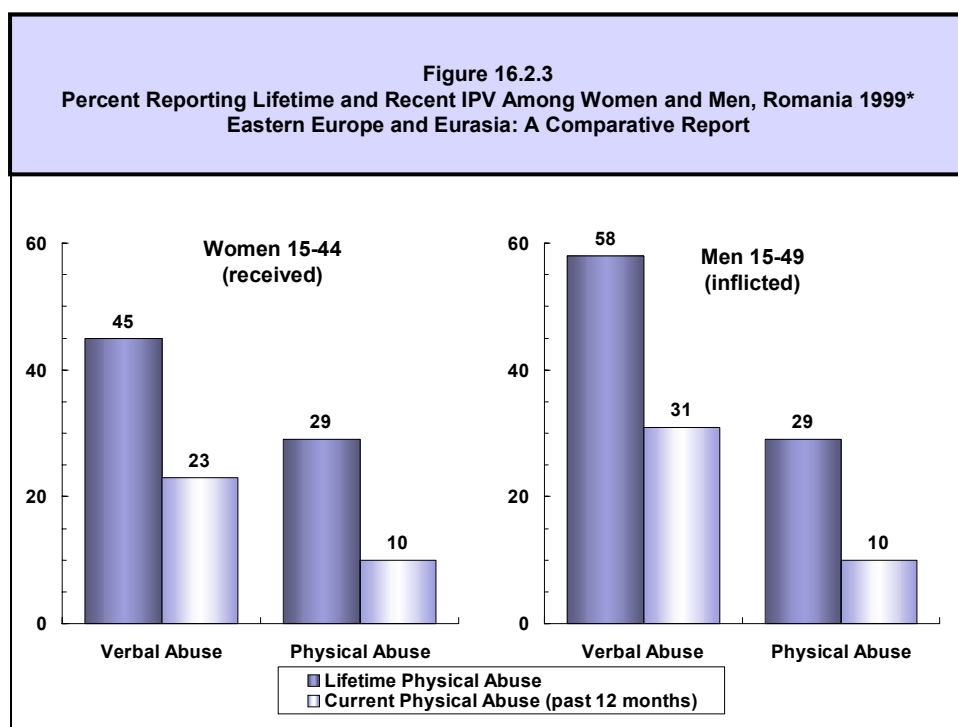


Table 16.3
Percent Who Discussed Incidents of Physical Abuse
With Various Types of Persons
Among Ever Married Women Aged 15–44 Who Reported Current Physical Abuse
Eastern Europe and Eurasia: A Comparative Report

Region and Country	Any Discussion	Person with Whom Discussed Incident					
		Family	Friends	Police	Health Provider	Lawyer	Other
<u>Eastern Europe</u>							
<i>Moldova, 1997</i>	64	50	50	12	16	†	3
<i>Romania, 1999</i>	76	64	52	16	15	9	1
<i>Russia, 1999*</i>	85	59	69	22	9	†	4
<i>Ukraine, 1999</i>	81	69	56	16	9	†	6
<u>Caucasus</u>							
<i>Azerbaijan, 2001</i>	40	34	15	1	1	0	1
<i>Georgia, 1999</i>	84	70	60	10	8	8	0

* Data for Russia pertain to three primarily urban areas as described in Chapter 2.

† Question was not asked.

one in ten women sought legal counsel for recent domestic abuse. Health care providers in Eastern Europe and the Caucasus region should be made aware of the prevalence of IPV and the reluctance of victims to seek treatment, and should initiate inquiries about domestic violence experience during routine health visits. Such screening may contribute to reducing the frequency and severity of intimate partner violence and could provide early interventions for domestically abused victims.

There were very few differences in discussing recent abuse by respondent's characteristics. Older women were more likely to talk to the police or other legal authority and to seek medical advice, whereas young women were more likely to report abuse to a family member. The least educated women were the most likely to talk to a family member and the least likely to report IPV to the police (data not shown).

The most common reason cited by a battered woman for not reporting acts of domestic violence to the law enforcement agencies or health providers was that it would bring the family a bad reputation. Other reasons

mentioned were that: domestic violence is "normal," it would be too embarrassing to report domestic abuse, and it would "not do any good" because no charges would be brought (data not shown).

16.4 Summary of Findings

Traditionally, none of these countries had established laws and mechanisms to protect women from spousal abuse. Survey data have produced the first population-based nationally representative information on violence against women ever available. Dissemination of these data can have important implications in mediating changes in the legal and support-service environments of these countries. Dissemination of findings, however, needs to reach potential users outside the health community, which may require extra efforts. There are already several examples from some countries of specific uses of the data in making legislative changes. In Romania, for example, survey-based evidence that most forced sexual intercourse is perpetrated by a partner was first made available to the public health community immediately preceding a Penal Code revision that allowed women to press

charges against their sexually abusive husbands (Romanian Constitutional Court, Decision 211, November 2000). The same revision included preventive measures for victims of domestic violence, such as restraining orders against abusive husbands and their exclusion from the family home.

Beyond estimating the prevalence of the problem, survey data could be instrumental in documenting and projecting the need for support services and interventions for abused women in a community. Based on data from the 1999 RHS, the East European Institute of Reproductive Health in Romania had established a center for victims of domestic violence in Tirgu Mures (EEIRH, 2003). At the end of 2002, findings provided by the same survey have been used to launch a nationwide public campaign to raise general awareness on domestic violence and its consequences. The campaign, sponsored by the Ministry of Health and UNFPA, ran for two months and consisted of radio, TV, and newspaper messages. In addition, the Ministry of Health also distributed educational materials to the public health community for mounting support against domestic violence among health professionals (Romanian Ministry of Health, 2002).

Highlights of this chapter may be summarized as follows:

- ◆ As in other areas of the world, women who had abusive parents are more likely to

suffer physical domestic abuse compared with women without abusive parents, when they are themselves married.

- ◆ In five of the six countries with data on physical abuse, from 15% to 29% of ever-married women report lifetime abuse and from 8% to 10% reported abuse in the last 12 months.
- ◆ In three countries where the topic was explored, 3% to 10% of ever-married women had been sexually abused by a current or former spouse at least once and 1%–5% reported such episodes during the last 12 months.
- ◆ In the one survey that included males (Romania), the men reported a similar level of inflicting physical abuse as the level of abuse reported by women lending support to the validity of survey responses on this topic, as this public health problem is investigated in the future in more countries of this region.
- ◆ Although between 40% and 85% of women subjected to IPV disclosed their abuse, few women reported physical abuse to police authorities or health providers. There may be a great need for non-governmental organizations to provide hot lines and other services to these women, as well as public education about women's legal rights in countries where laws are in place.

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SURVEY REPORTS

The country reports that have been completed and published for the countries included in this report are listed in the appendix table. These reports may be obtained as follows:

The RHS or YARHS reports may be obtained from the Division of Reproductive Health, Centers for Disease Control and Prevention (DRH/CDC), Mailstop K-23, 4770 Buford Highway, NE, Atlanta GA 30341-3724, USA. FAX: (770) 488-6242.

The DHS reports may be obtained from ORC Macro, 11785 Beltsville Drive, Calverton, Maryland 20705, USA. FAX: (301) 572-0999.

GLOSSARY

Abortion:

Purposeful termination of an intrauterine pregnancy with the intention of avoiding a live birth. Abortions “on request” have been available within the first 12 weeks of gestation in all former Soviet Union countries since November, 1955. In these countries, abortion during the first 28 weeks of gestation may be legally performed on medical and social grounds.

Abortion-to-live birth ratio:

The number of abortions to women aged 15–44 years during a specified period of time divided by the number of live births to women aged 15–44 years during the same time period.

Age-specific fertility rate (ASFR):

The number of births to women with a specific age group during in a specified period of time per 1,000 women aged 15–44; traditionally given for 5-year age groups.

Age-specific abortion rate (ASAR):

The number of abortions to women with a specific age group during a specified period of time per 1,000 women aged 15–44; traditionally given for 5-year age groups.

AIDS:

Acquired Immune Deficiency Syndrome– disease caused by the human immunodeficiency virus (HIV), which disrupts the immune system and leads to death from opportunistic infections.

Anemia:

A condition characterized by a decrease in the concentration of hemoglobin in the blood. Anemia results from conditions that decrease the number or size of red cells, such as excessive bleeding, a dietary deficiency (most often iron deficiency), destruction of red cells (e.g. transfusion reaction), or an abnormally formed hemoglobin.

Anthropometry:

Measurement of height and weight to estimate nutritional status.

Below replacement fertility:

Total fertility rate below that which is necessary to maintain the current size of a population, generally less than 2.1 births per woman.

Body mass index (BMI):

Measure used to classify surveyed women as underweight, overweight, or obese; derived from the weight in kilograms, divided by the square of the height in meters. A BMI value of less than 18.5 indicates underweight, 24–29.9 overweight, and greater than 30, obesity.

Caucasus Republics:

Armenia, Azerbaijan, and Georgia.

CDC:

Centers for Disease Control and Prevention.

Central Asian Republics:

(For this report) Kazakhstan, Kyrgyz Republic, Turkmenistan, and Uzbekistan.

Child mortality rate:

The probability of dying between exact ages 1 and 5, during a specified time period per 1,000 children aged 1 up to but not including 5 years of age during the same time period.

Contraceptive effectiveness:

The reduction in pregnancy rate due to the use of a method of contraception compared with the pregnancy rate expected by chance if not using contraception. Contraceptive failure is the inverse of contraceptive effectiveness.

Contraceptive prevalence rate (CPR):

Percentage of currently married and in-union women who are using some method of pregnancy prevention (modern or traditional).

Dermatovenerology clinic:

In former Soviet countries, a clinic that specializes in the diagnosis, reporting, and treatment of sexually transmitted infections.

DHS:

Demographic and Health Survey project managed and provided technical assistance by ORC/Macro International.

Eastern Europe:

(For this report) Czech Republic, Moldova, Romania, Russia, and Ukraine.

Fecund:

Physically capable of becoming pregnant.

General fertility rate (GFR):

The number of live births to women of all ages during a specified period of time per 1,000 women aged 15-44 years.

General abortion rate (GAR):

The number of abortions to women of all ages during a specified period of time per 1,000 women aged 15-44 years.

Hemoglobin:

An oxygen-carrying protein inside red blood cells (gives these cells their red color) whose function is to distribute oxygen to other tissues and cells in the body. The amount of oxygen in the body tissues depends on how much hemoglobin is in the red cells. Without enough hemoglobin, the tissues lack oxygen. A low hemoglobin level usually means the person has anemia.

HIV:

Human Immunodeficiency Virus; virus which causes AIDS, spread by sexual contact with an infected person, use of needles or blood and blood products contaminated with the virus.

Household:

One or more persons who share a dwelling and expenses.

Infant mortality rate (IMR):

The probability of dying in the first year of life (from birth to, but not including 1 year of age), during a specified time period per 1,000 live births during the same time period.

Infecund:

Physically incapable of becoming pregnant.

Intimate partner violence (IPV):

Any act of physical, sexual or psychological harm, including threats of such acts, coercion or arbitrary deprivations of liberty, whether occurring in public or private life, perpetrated against a woman by her male partner.

Judet:

Geographic administrative unit in Romania.

Low birth weight (LBW):

Infant weight at birth of less than 2,500 grams.

Maternal mortality ratio (MMR):

Number of women who die of any cause related to or aggravated by pregnancy or its management during a specified period of time per 100,000 live births during the same time period.

Method mix:

Percent distribution of methods used by contracepting women, adding up to 100%.

Miniabortion:

Purposeful termination of an intrauterine pregnancy (requires pregnancy confirmation) performed in the earliest stages of gestation (up to 6 weeks of gestation) by the means of electrical vacuum aspiration, usually without cervical dilatation or anesthesia.

Mistimed pregnancy:

An unintended pregnancy that occurs when the woman wants a child at some point in the future.

Modern methods of contraception:

Pregnancy prevention by supplied or surgical means including condoms, diaphragms, cervical caps, spermicides, intrauterine devices (IUDs), oral contraceptives, emergency contraception, injectables, patches, implants, male and female sterilization; generally more effective than traditional methods of contraception in preventing pregnancy.

Mother-to-child transmission (MTCT):

Refers to ways in which the virus is passed from an HIV-infected mother to her child. These include transmission during pregnancy, during delivery, and through breastfeeding.

Neonatal mortality rate (NNMR):

The probability of dying within the first month of life (from birth to, but not including, 28 days) during a specified time period per 1,000 live births during the same time period.

NCHS:

National Center for Health Statistics

Oblast:

Geographic administrative district in former Soviet Republics.

Permanent method of contraception:

Male or female sterilization, also called surgical contraception, which provides permanent and highly effective pregnancy prevention.

Post-neonatal mortality rate (PNMR):

The difference between neonatal and infant mortality rates, interpreted as the probability of dying during the post-neonatal period (from 28 days to, but not including, 1 year of age) during a specified time period per 1,000 live births during the same time period.

Rate of natural increase:

The birth rate minus the death rate, implying the annual rate of population growth without regard to migration.

RHS:

Reproductive Health Survey of women aged 15–44 and sometimes also men aged 15–49 performed with technical assistance from CDC.

Replacement level fertility:

The total fertility rate necessary to maintain the current size of a population, generally 2.1 births per woman.

Reproductive age:

Age range during which most women are assumed to be capable of bearing children and contributing significantly to the TFR and CPR; in Reproductive Health Surveys considered to be 15–44 years of age and in Demographic and Health Surveys 15–49 years of age.

Sexually transmitted infection (STI):

Infection spread by sexual contact.

Stunting:

Having height-for-age more than two standard deviations below the median of the reference population; below normal height-for-age resulting from prolonged inadequate food intake or from recurrent episodes of illness.

Sub-fecund:

Having a diminished capacity of becoming pregnant.

Technicum:

Type of technical education that trains mid-level specialists for either 2 years after completing secondary education, or for 4–5 years after competing basic general education (8–9 years of school). Technicum diploma may count toward university credits. Technicum developed in the Soviet Union and is still in existence in the former Soviet Republics.

Total fertility rate (TFR):

The average number of children that a woman would have during her childbearing years if she passed through those years experiencing the observed age-specific fertility rates (ASFRs); the sum of the ASFRs.

Total abortion rate (TAR):

The average number of abortions that a woman would have over the course of her life if she experienced the observed age-specific abortion rates (ASARs); the sum of the ASARs.

Traditional methods of contraception:

Pregnancy prevention by means such as periodic abstinence or withdrawal, often considered natural, but generally less effective than modern methods.

Under five mortality rate (Under5MR):

The probability of dying before reaching 5 years of age during a specified period of time per 1,000 live births during the same time period.

Unintended pregnancy:

A pregnancy is classified as unintended if the woman stated that “just before she got pregnant with that pregnancy” she did not want to have a(another) baby “then or at any time in the future” (*unwanted* pregnancy) or if she wanted to get pregnant at a later time (*mistimed* pregnancy).

Unmet need for contraception:

In the RHS, the percentage of women who are currently sexually active, fecund, not wanting to become pregnant, and not currently using any method of contraception; in the DHS the same as the RHS plus women who are currently pregnant or post-partum and whose pregnancies were unwanted or mistimed at the time of conception and who did not use any method of pregnancy prevention at the time of conception.

Unwanted pregnancy:

A pregnancy is classified as unwanted if the woman stated that “just before she got pregnant with that pregnancy” she did not want to have a(nother) baby “then or at any time in the future.”

Wasting:

Having weight-for-age more than two standard deviations below the median of the reference population; below normal weight-for-age reflecting a recent period of inadequate food intake or a recent episode of illness.

Women in union:

Women who are currently married or living with a man in a consensual, unregistered union.

YARHS:

Young Adult Reproductive Health Survey of young people aged 15–24 performed with technical assistance from CDC.

Appendix Table. Status of Reproductive Health Surveys and Demographic and Health Surveys in Eastern Europe, the Caucasus, and Central Asia as of April 2003

Region, Country	Year	Type of Survey	Implementing Organization(s)	Respondents/ Age	Sample Size	Supplemental Modules/ Additional Questions							Current Status	
						Child Morbidity	Anemia	Nutritional Status	Young Adults	Sex Education	Intimate Partner Violence	Health Behaviors		IE & C
<u>EASTERN EUROPE</u>														
Albania	2002	RHS	Institute of Public Health / National Institute of Statistics	All women 15–44 All men 15–49	6,000 2,500				✓	✓	✓	✓	✓	Data processing in progress
Czech Republic	1993	RHS	Czech Statistical Office / Factum / WHO Collaborating Center	All women 15–44	4,497				✓		✓			Final report completed
Moldova	1997	RHS	Institute for Scientific Research of Mother and Child Care, Ministry of Health / State Department of Statistics / Family Planning Association of Moldova	All women 15–44	5,412				✓	✓	✓	✓	✓	Final report completed
Romania	1993	RHS	Institute for Mother and Child Care, Ministry of Health	All women 15–44	4,861			✓			✓			Final report completed
	1996	YARHS	International Foundation for Children and Families / National Institute for Mother and Child Care / National Commission for Statistics	All women 15–24 All men 15–24	2,025 2,047			✓	✓		✓			Final report completed
	1999	RHS	Romanian Association of Public Health and Health Management / National Commission for Statistics	All women 15–44 All men 15–49	6,888 2,434			✓	✓	✓	✓	✓	✓	Final report completed
Russia (3 urban areas)	1996	RHS	All-Russian Centre for Public Opinion and Market Research	All women 15–44	5,997				✓		✓	✓	✓	Final report completed
	1999	RHS	All-Russian Centre for Public Opinion and Market Research	All women 15–44	6,004				✓	✓	✓	✓	✓	Final report in progress
Ukraine	1999	RHS	Kiev International Institute of Sociology	All women 15–44	7,128				✓	✓	✓	✓	✓	Final report completed
<u>CAUCASUS</u>														
Armenia	2000	DHS	National Statistical Service / Ministry of Health	All women 15–49 All men 15–54	6,430 1,719	✓	✓	✓			✓			Final report completed
Azerbaijan	2001	RHS	Adventist Development and Relief Agency / State Department of Statistics / Ministry of Health	All women 15–44	7,668		✓	✓	✓	✓	✓	✓	✓	Final report at printer
Georgia	1999	RHS	National Center for Disease Control / Ministry of Health	All women 15–44	7,798				✓	✓	✓	✓	✓	Final report completed
<u>CENTRAL ASIA</u>														
Kazakhstan	1995	DHS	National Institute of Nutrition / Academy of Preventive Medicine	All women 15–49	3,771	✓	✓	✓						Final report completed
	1999	DHS	Academy of Preventive Medicine	All women 15–49 All men 15–54	4,800 1,440	✓	✓	✓						Final report completed
Kyrgyz Republic	1997	DHS	Research Institute of Obstetrics and Pediatrics, Ministry of Health	All women 15–49	3,848	✓	✓	✓						Final report completed
Turkmenistan	2000	DHS	Clinical Research Center for Maternal and Child Health, Ministry of Health	All women 15–49	7,919	✓	✓	✓			✓			Final report completed
Uzbekistan	1996	DHS	Institute of Obstetrics and Gynecology, Ministry of Health	All women 15–49	4,415	✓	✓	✓						Final report completed
	2002	HES	Ministry of Health/ National Institute of Statistics and Forecasting	All women 15–49 All men 15–54	7,000 2,000	✓	✓	✓			✓			Preliminary report in progress

DHS: Demographic and Health Survey

HES: Health Examination Survey

RHS: Reproductive Health Survey

YARHS: Young Adult Reproductive Health Survey

