Bangladesh

Demographic and Health Survey

2007

Bangladesh Demographic and Health Survey 2007

National Institute of Population Research and Training (NIPORT)
Dhaka, Bangladesh

Mitra and Associates
Dhaka, Bangladesh

Macro International
Calverton, Maryland USA

March 2009

This report summarizes the findings of 2007 Bangladesh Demographic and Health Surveys (2007 BDHS) conducted under the authority of the National Institute for Population Research and Training (NIPORT) of the Ministry of Health and Family Welfare and implemented by Mitra and Associates of Dhaka. Macro International provided financial and technical assistance for the survey through USAID/Bangladesh. The USAID funding was provided under contract number GPO-C-00-03-00002-00. The Bangladesh Demographic and Health Survey (BDHS) is part of the worldwide Demographic and Health Surveys program, which is designed to collect data on fertility, family planning, and maternal and child health. The opinions expressed in this report are those of the authors and do not necessarily reflect the views of USAID, the Government of Bangladesh, or donor organizations.

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Suggested citation:

National Institute of Population Research and Training (NIPORT), Mitra and Associates, and Macro International. 2009. *Bangladesh Demographic and Health Survey 2007.* Dhaka, Bangladesh and Calverton, Maryland, USA: National Institute of Population Research and Training, Mitra and Associates, and Macro International.

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FOREWORD

The 2007 Bangladesh Demographic and Health Survey (BDHS) is a nationally representative sample survey designed to provide information on basic national indicators of social progress including fertility, childhood mortality, contraceptive knowledge and use, maternal and child health, nutritional status of mothers and children, awareness of AIDS, and domestic violence.

In addition to presenting the main findings from the 2007 BDHS on fertility, family planning, maternal & child health and nutrition, this report highlights the major changes that have taken place in Bangladesh's demographic and health situation since the previous BDHS surveys. Results of the 2007 BDHS show that the fertility declines have continued in recent years, with the total fertility rate (TFR) dropping to 2.7 children per woman. However, differentials in fertility by administrative divisions are substantial. The TFR is highest in Sylhet division (3.7) and lowest in Khulna (2.0). Similar differentials are observed by wealth quintile. The poorest women have an average of 3.2 children—one child more than women from the richest households (2.2 children). BDHS data also indicate that 17 percent of married women have an unmet need for family planning, and that if unmet need of women could be addressed, the current contraceptive prevalence rate in Bangladesh would reach to 73 percent to achieve a replacement level of fertility.

The findings of this report together with other national surveys are very important in assessing the achievements of health, nutrition and population sector program (HNPSP). Information obtained from the 2007 BDHS can be used to review the progress of HNPSP, Millennium Development Goals (MDGs) and Poverty Reduction Strategy (PRS) of Bangladesh.

The need, however, for further detailed analysis of BDHS data remains. It is hoped that such analysis will be carried out by the academicians, researchers and program personnel to provide more in-depth knowledge for future direction and effective implementation of a national Health and Family Planning Program.

The successful completion of the 2007 BDHS was made possible by the contributions of a number of organizations and individuals. I would like to thank NIPORT, Mitra and Associates and Macro International Inc. for their efforts in conducting the 2007 BDHS. I deeply appreciate the United States Agency for International Development (USAID), Dhaka for providing financial assistance that helped ensure the ultimate success of this important undertaking.

03.02.2009

(Shaikh Altaf Ali)

NIPORT

Director General
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PREFACE

The 2007 Bangladesh Demographic and Health Survey (BDHS) is the fifth of this kind of survey conducted in Bangladesh. The BDHS was implemented through a collaborative effort of the National Institute of Population Research and Training (NIPORT), Macro International, USA, and Mitra & Associates. The financial support for the survey was provided by the United States Agency for International Development (USAID)/ Bangladesh.

BDHS is a periodic survey conducted in Bangladesh to serve as a source of population and health data for policymakers, program managers, and the research community. In general, the aims of the BDHS are to provide information to meet the monitoring and evaluation needs of health and family planning programs, and to provide program managers and policymakers involved in these programs with the information they need to plan and implement future interventions. More specifically, the objectives of the survey are to provide up-to-date information on fertility and childhood mortality levels; fertility preferences; awareness, approval, and use of family planning methods; breastfeeding practices; nutrition levels; maternal and child health; awareness of HIV/AIDS and other sexually transmitted diseases; knowledge of tuberculosis; and domestic violence.

Members of the Technical Review Committee (TRC), consisting of experts from government, non-governmental and international organizations as well as researchers and professionals working in the Health Nutrition and Population Sector, put forth their valuable opinion in major phases of the survey. In addition, a Technical Task Force (TTF) was formed with the representatives from NIPORT, ICDDR,B, BRAC University, USAID/Bangladesh, Macro International, and Mitra and Associates for designing and implementing the survey. I would like to extend my gratitude and appreciation to the members of the TRC and TTF for their contributions at different phases of the survey.

The preliminary results of the 2007 BDHS, with its major findings, were shared with the stakeholders through a dissemination seminar in December 2007. The final report contains detailed analysis of findings addressing the observations raised in preliminary dissemination. I hope that the survey results would be useful for monitoring as well as development of Health, Nutrition and Population Sector Program in Bangladesh.

I express my heartfelt thanks to the professionals of the Research Unit of NIPORT, Macro International, and Mitra & Associates for their sincere efforts in successful completion of the survey.

(Nasimul Ghani)

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ABBREVIATIONS

AIDS	Acquired immune deficiency syndrome
ANC	Antenatal care
ARI	Acute respiratory infection
ASFR	Age-specific fertility rates
BCC	Behavior change communication
BCG	Bacille-Calmette-Guerin vaccine against tuberculosis
BDHS	Bangladesh Demographic and Health Survey
BFS	Bangladesh Fertility Survey
BMI	Body Mass Index
BRAC	Bangladesh Rural Advancement Committee
CBR	Crude birth rate
CSBA	Community-skilled birth attendant
CTS	Conflict Tactics Scale
DGHS	Directorate General of Health Services
DHS	Demographic and Health Survey
DPT	Diphtheria, pertussis, and tetanus vaccine
EA	Enumeration area
EmOC	Emergency obstetric care
EPI	Expanded Program on Immunization
FP	Family planning
FPHP	Fourth Population and Health Project
FWA	Family welfare assistant
FWV	Family welfare visitor
GAVI	Global Alliance for Vaccination and Immunization
GDP	Gross domestic product
GFR	General fertility rate
GOB	Government of Bangladesh
GPS	Global positioning system
HA	Health assistant
HDI	Human Development Index
HIV	Human immunodeficiency virus
HNPSP	Health, Nutrition and Population Sector Program
HPI	Human Poverty Index
HPSP	Health and Population Sector Program
HPSS	Health and Population Sector Strategy
ICDDR,B	Center for Health and Population Research, Bangladesh
ICPD	International Conference on Population and Development
IDU	Injection drug user

IFS	Ideal family size
IMCI	Integrated management of childhood illness
IUD	Intrauterine device
IYCF	Infant and Young Child Feeding practices
LDC	Least developed country
LMP	Last menstrual period
MA	Medical assistant
MDGs	Millennium Development Goals
MICS	Multiple Indicator Cluster Survey
MMR	Maternal mortality ratio
MR	Menstrual regulation
NASP	National AIDS/STD Programme
NGO	Nongovernmental organization
NIPORT	National Institute for Population Research and Training
NN	Neonatal mortality
NNP	National Nutrition Project
ORS	Oral rehydration salts
ORT	Oral rehydration therapy
PNN	Postneonatal mortality
PRSP	Poverty Reduction Strategy Paper
PSU	Primary sampling unit
RTI	Reproductive tract infection
SACMO	Sub-assistant community medical officer
SBA	Skilled birth attendant
SD	Standard deviation
SMA	Statistical metropolitan area
SSMP	Support for Safer Motherhood Program
STI	Sexually transmitted infection
SWAp	Sector-Wide Approach
TBA	Traditional birth attendant
TC-NAC	Technical Committee of the National AIDS Council
TFR	Total fertility rate
TT	Tetanus toxoid
TWFR	Total wanted fertility rate
UNDP	United Nations Development Program
UNICEF	United Nations Children's Fund
UP	Union parishad
USAID	United States Agency for International Development
USBC	United States Census Bureau
VAD	Vitamin A deficiency
WHO	World Health Organization

SUMMARY OF FINDINGS

The 2007 Bangladesh Demographic and Health Survey (2007 BDHS) is a nationally representative survey of 10,996 women age 15-49 and 3,771 men age 15-54 from 10,400 households covering 361 sample points (clusters) throughout Bangladesh, 134 in urban areas and 227 in the rural areas. This survey is the fifth in a series of national-level population and health surveys conducted as part of the global Demographic and Health Surveys (DHS) program. It is designed to provide data to monitor the population and health situation in Bangladesh as a followup to the 1993-1994, 1996-1997, 1999-2000, and 2004 BDHS surveys. The survey utilized a multistage cluster sample based on the 2001 Bangladesh Census and was designed to produce separate estimates for key indicators for each of the six divisions of the country—Barisal, Chittagong, Dhaka, Khulna, Rajshahi and Sylhet. Data collection took place over a five-month period from 24 March to 11 August 2007. This survey included ever-married women age 10-49 and ever-married men age 15-54. However, the number of ever-married women age 10-14 was very low, and thus this group had to be excluded from the analysis.

The survey obtained detailed information on fertility levels, marriage, fertility preferences, awareness and use of family planning methods, breastfeeding practices, nutritional status of women and young children, childhood mortality, maternal and child health, and knowledge and attitudes regarding HIV/AIDS and other sexually transmitted infections (STIs). As in the 2004 BDHS, all women eligible to be interviewed and all children under five in the household were eligible for height and weight measurement.

The 2007 BDHS was conducted under the authority of the National Institute for Population Research and Training (NIPORT) of the Ministry of Health and Family Welfare. It was implemented by Mitra and Associates, a Bangladeshi research firm located in Dhaka. Technical assistance was provided by Macro International Inc. through the MEASURE DHS program. Financial support for the survey was provided by the U.S. Agency for International Development (USAID/ Bangladesh).

FERTILITY

Fertility Levels and Trends. In the period 1971-1975, women in Bangladesh were having on average of 6.3 children. Fifteen years later, the total fertility rate (TFR) declined to 5.1, and to 4.3 in the period 1989-1991. The TFR plateaued at around 3.3 for most of the 1990s, when the first three BDHS surveys took place. After almost a decade-long stagnation, the Bangladesh fertility rate declined slightly to 3.0 children per woman in the 2004 BDHS. Results of the 2007 BDHS show that the fertility decline has continued in recent years, with the TFR dropping to 2.7. Comparison of the Bangladesh TFR with fertility rates in other Asian countries that have implemented a DHS survey indicates that, with a TFR of 2.7, Bangladesh's fertility level is below that of Pakistan (4.1 in 2006/2007), the Philippines (3.5 in 2003), Cambodia (3.4 in 2005), and Nepal (3.1 in 2006); the same as India (2.7 in 2005/2006); it is higher than that of Indonesia (2.6 in 2002/2003) and Vietnam (1.9 in 2002).

Fertility Differentials. Differentials in fertility by background characteristics are substantial. Women in rural areas have more children than their urban counterparts (2.8 and 2.4 children per woman, respectively), although the difference appears to be decreasing. The TFR is highest in Sylhet division (3.7) and lowest in Khulna (2.0). As expected, women's education is strongly associated with lower levels of fertility; the TFR decreases from 3.0 among women with no education to 2.3 among those who have completed at least their secondary education. Similar differentials are observed by wealth quintile, with the TFR decreasing from 3.2 among women in the lowest wealth quintile to 2.2 among those in the highest wealth quintile.

Unplanned Fertility. Despite a steady rise in the level of contraceptive use over the past thirty years, the 2007 BDHS data indicate that unplanned pregnancies are common in Bangladesh. Overall, three in ten births in Bangladesh are either unwanted (14 percent) or mistimed and wanted later (15 percent). These figures are similar to the findings from the 2004 BDHS.

Fertility Preferences. There is considerable desire among currently married Bangladeshi women to stop having children. A total of 57 percent of women age 15-49 reported not wanting another child, and an additional 6 percent are already sterilized. Twenty-one percent of women want to have a child but would prefer to wait two or more years. Thus, over 83 percent of women want either to space their next birth or to limit childbearing altogether. Only 12 percent of women would like to have a child soon (within two years). A comparison of the 2004 and 2007 data shows that the proportion of women who want to limit childbearing has increased slightly.

As in the 1999-2000 and 2004 BDHS data, a majority of ever-married women and ever-married men embrace the two-child family as an ideal (2.3 children for both).

FAMILY PLANNING

Knowledge of Contraception. Knowledge of family planning is universal in Bangladesh. Among ever-married women, the most widely known methods of family planning are the pill (100 percent), injectables (99 percent), female sterilization (95 percent), and condoms (90 percent); these are followed by the IUD (84 percent), implants (81 percent), male sterilization (73 percent), periodic abstinence (59 percent), and withdrawal (50 percent).

Since overall knowledge of contraceptive methods was already high in 2004, little change has taken place. The most notable change is a decrease in knowledge of the traditional methods of periodic abstinence and withdrawal.

Use of Contraception. The contraceptive prevalence rate (any method) among currently married women is 56 percent. The most commonly used modern method is the pill (29 percent), followed by injectables (7 percent). Female sterilization and male condoms are each used by 5 percent of married women, while Norplant, the IUD, and male sterilization are each used by only 1 percent. Periodic abstinence, used by 5 percent of married women, is the most commonly used traditional method.

Trends in Contraceptive Use. Over the past three decades, use of any method of contraception by married women has increased sevenfold, from 8 to 56 percent, while use of modern methods has increased almost tenfold, from 5 to 48 percent. However, contraceptive use plateaued or declined slightly between 2004 and 2007. The decline in contraceptive use can be attributed to a decrease in use of traditional methods from 11 percent to 8 percent. Use of modern methods did not decrease between the 2004 and 2007 BDHS surveys. Trends in the contraceptive method mix show that short-term methods, especially the pill, are gaining in popularity against long-term methods, such as the IUD, Norplant, and sterilization. The pill now accounts for more than half of all contraceptive use, compared with 35 percent in 1991. On the other hand, long-term methods now account for only 13 percent of all contraceptive use, compared with 30 percent in 1991. It is also interesting to note that use of injectables declined from 10 percent in 2004 to 7 percent in 2007, possibly reflecting recent problems in procurement of injectables that resulted in stockouts.

Differentials in Contraceptive Use. Women in urban areas are slightly more likely to use contraceptive methods (62 percent) than their rural counterparts (54 percent); however, the condom is the method that shows the largest differentials in use by urban-rural residence: 10 percent in urban areas compared with only 3 percent in rural areas. Differentials are more marked by division: use of any method varies from 32 percent in Sylhet and 44 percent in Chittagong to 63 percent in Khulna and 66 percent in Rajshahi. Contraceptive prevalence is 54 percent in Barisal and 56 percent in Dhaka. There is little variation in contraceptive use by level of education. However, women in economically better-off households tend to use family planning more than those in households in the lowest wealth quintile (60 and 55 percent, respectively). The proportion of women using contraception increases with increas-

ing number of children. Nineteen percent of women with no children are currently using a contraceptive method, compared with 56 to 67 percent of women with two or more children.

Source of Modern Methods. In Bangladesh, both the public and private sectors are important sources of modern methods (50 and 44 percent, respectively). The most common public sector source remains government fieldworkers (20 percent), although their share has declined substantially since 1993-1994 (42 percent) and slightly more since 2004 (23 percent). Family Welfare Centres and Upazila health complexes are the second most important public sources (9 percent each). Pharmacies (35 percent) provide most of the methods in the private sector (an increase from 29 percent in 2004).

Contraceptive Discontinuation. Almost three in five (57 percent) contraceptive users in Bangladesh stop using their method within 12 months of starting. Discontinuation rates are highest for condoms (76 percent) and withdrawal (67 percent), and lowest for IUD (33 percent). Compared with the 2004 BDHS, discontinuation rates have increased by 14 percent.

Unmet Need for Family Planning. Seventeen percent of married women have an unmet need for family planning, an increase from 11 percent in the 2004 BDHS. Unmet need for limiting (11 percent) is higher than unmet need for spacing (7 percent). Unmet need has increased in all divisions relative to 2004. It is highest in Sylhet division (26 percent) and lowest in Khulna and Rajshahi divisions (12 percent each). Overall, 77 percent of the demand for family planning is currently being met.

MATERNAL HEALTH

Antenatal Care. Antenatal care coverage with a skilled provider is 52 percent, a slight increase from the 2004 BDHS (49 percent). Thirty-six percent of women received antenatal care from a doctor, and 16 percent received care from a nurse, midwife, or paramedic. Around four in ten women received no antenatal care. This percent is especially in high Sylhet (46 percent) and Barisal (48 percent).

Sixty percent of women received at least two doses of tetanus toxoid for their most recent birth in the five years preceding the survey, 23 percent received only one tetanus toxoid injection, and 17 percent received none. Taking past tetanus toxoid vaccinations into account, nine in ten women were protected against neonatal tetanus.

Delivery Care. Nationally, 85 percent of births in the past five years occurred at home, and 15 percent occurred in a health facility. This is an increase since the 2004 BDHS in which only 9 percent of births took place in a health facility. Delivery in a health facility is substantially higher among women who have at least completed secondary education (43 percent), and among those in the highest wealth quintile (43 percent). The data also show that only 18 percent of babies were delivered by medically trained providers, compared with 63 percent who were delivered by untrained birth assistants.

Overall, 8 percent of births were C-section deliveries. This percentage varies greatly by background characteristics. Women with secondary complete or higher education and those in the highest wealth quintile are much more likely than other women to deliver by C-section. The 2007 BDHS also shows that 67 percent of births in the private or NGO sector occur by C-section, as are 35 percent of births in public health facilities.

Postnatal Care. One in five women (21 percent) with a live birth in the five years preceding the survey received postnatal care from a medically trained provider, and most of them received the care in the first two days after delivery. Similar results were found for postnatal care for children.

Maternal Complications around Delivery. One in seven births in the five years preceding the survey had at least one of the following maternal complications around delivery—prolonged labour, excessive bleeding, baby's hands or feet came first, fever with foul-smelling discharge, convulsions/ eclampsia, and retained placenta. The most common complication was prolonged labour of over 12 hours, associated with one in 15 live births. For 5 percent of births, the mothers experienced excessive bleeding and 3 percent (each) of births involved retained placenta and high fever with foul discharge. Two other problems, convulsions and baby's hands or

feet coming first, were reported for 2 percent of births, each.

Treatment was sought from a medically trained provider for 43 percent of the cases that had maternal complications around delivery. Nineteen percent of women with complications did not seek any care. Compared with the 2004 BDHS, the 2007 BHDS data show an increase in the percentage of women with complications who sought care from a medially trained provider (from 29 to 43 percent). However, one in five women sought no medical care, and 34 percent of women with complications sought help from non-medically trained providers such as unqualified doctors and traditional birth attendants.

CHILD HEALTH

Childhood Mortality. Data from the 2007 BDHS show that under-five mortality (65 deaths per 1,000 live births) has continued its notable decline. Large decreases were observed in both child mortality (age 1-4 years) and postneonatal mortality. One of every 15 Bangladeshi children dies before reaching age five, compared with one in 11 in the 2004 BDHS. Likewise, the number of children who die before reaching the first birthday has decreased from one in fifteen children to one in 19 (52 deaths per 1,000 live births). Around 71 percent of infant deaths occur during the first month of life (neonatal mortality).

There is a strong association between under-five mortality and mother's education. It ranges from 32 deaths per 1,000 live births among children of women with secondary complete or higher education to 93 deaths per 1,000 live births among children of women with no education. As in the 2004 BDHS, the highest levels of under-five mortality are observed in Sylhet division (107 deaths per 1,000 live births), and the lowest under-five mortality is observed in Khulna division (58 deaths per 1,000 live births).

Childhood Vaccination Coverage. Eighty-two percent of Bangladeshi children age 12-23 months are fully immunized—most of them by 12 months of age as recommended—while 2 percent have received no vaccinations. More than nine in ten children have received BCG and the first dose of DPT and polio vaccines. There is a decline in coverage of subsequent doses; however, this decline is smaller than in the 2004 BDHS. Ninety-one percent of children have received three doses of DPT and the same percentage have received three doses of polio vaccine. Eighty-three percent of children have received measles vaccine. Full vaccination coverage is highest in Barisal division (90 percent) and lowest in Sylhet division (71 percent). Mother's education is strongly associated with children's vaccination coverage: only 72 percent of children of mothers with no education are fully vaccinated compared with 93 percent of children of highly educated mothers.

Child Illness and Treatment. Among children under five years of age, 5 percent were reported to have had symptoms of acute respiratory illness in the two weeks preceding the survey. Of these, 37 percent were taken to a health facility or a medically trained provider for treatment while 13 percent received no treatment at all. Ten percent of children under five years had diarrhoea in the two weeks preceding the survey. Of these, one in five was taken to a health provider. Four in five children with diarrhoea were treated with oral rehydration therapy, including 77 percent who received commercially available packets of oral rehydration salts (ORS), compared with 67 percent in the 2004 BDHS. Overall, 85 percent of children with diarrhoea received ORS, recommended home fluids (RHF), or increased fluids. Twenty percent of children with diarrhoea received both oral rehydration therapy (ORT) and zinc.

Thirty-eight percent of children under five years had a fever in the two weeks preceding the survey. Of these, 24 percent were taken to a medically trained provider or health facility for treatment. For 23 percent of children with fever, help was sought at a pharmacy.

NUTRITION

Breastfeeding Practices. Almost all (98 percent) Bangladeshi children are breastfed for some period of time. Forty-five percent of last-born infants who were ever breastfed were put to the breast within one hour of birth, and 89 percent started

breastfeeding within the first day. The median duration of any breastfeeding in Bangladesh is 33 months, but it varies among divisions from 26 months in Chittagong to 37 months in Rajshahi.

Exclusive breastfeeding of children under six months (based on 24-hour period before the survey) has not improved in the past 15 years; it remained unchanged at around 45 percent between 1993-94 and 1999-2000, declined to 42 percent in 2004, and remained essentially unchanged, 43 percent, in 2007.

On the other hand, supplementary feeding of children who are also breastfed has greatly increased over the past 15 years. In 1993-1994, only 29 percent of children age 6-9 months received complementary foods while being breastfed, compared with 62 percent in 2004 and 74 percent in 2007. The most commonly used complementary foods are those made from grains such as rice, wheat, and porridge (over 60 percent); one-third of the children in this age group received fruits and vegetables rich in vitamin A. Sixteen percent received meat, fish, poultry, or eggs.

Intake of Vitamin A. Ensuring that children 6-59 months receive enough vitamin A may be the single most effective child survival intervention because deficiencies in this micronutrient can cause blindness and increase the severity of infections such as measles and diarrhoea. Between the 2004 BDHS and the 2007 BDHS, vitamin A supplementation among children 9-59 months increased from 82 to 88 percent. Among children in the 10-11 month age group, vitamin A supplementation increased from 42 percent to 55 percent. Consumption of foods rich in vitamin A is another way to ensure that children are protected from blindness or infection. Overall, 78 percent of children 6 to 59 months of age consumed such foods.

Twenty percent of mothers with a birth in the past five years reported receiving a vitamin A dose postpartum. This is an increase from 15 percent in the 2004 BDHS.

Nutritional Status of Children. The 2007 BDHS used the new WHO Child Growth Standards to determine the proportion of children undernourished. These figures, therefore, are not comparable to those measured in previous BDHS surveys. The 2007 BDHS measured all children under five in the household and found that 43 percent of children in that age group are stunted, and 16 percent are severely stunted. Seventeen percent of children under five are wasted, and 3 percent are severely wasted. Weight-for-age results show that 41 percent of children under five are underweight, with 12 percent are severely underweight.

Nutritional Status of Women. The mean height of Bangladeshi women is 150 centimetres, which is above the critical height of 145 centimetres. However, a high proportion of women (15 percent) are below 145 centimetres. Thirty percent of women are chronically malnourished, their body mass index (BMI) being less than 18.5. One in eight women was found to be overweight or obese (BMI 25 or higher). A woman's place of residence, level of education, and household wealth status are strongly associated with her nutritional status. For example, 33 percent of rural women are considered thin (<18.5), compared with 20 percent of their urban counterparts. Among divisions, Sylhet has the highest proportion of women who are thin (39 percent), and Khulna has the least (25 percent). Between the 2004 and 2007 BDHS surveys, the proportion of women below the cutoff point of BMI 18.5 dropped from 34 to 30 percent, and the proportion of women who are overweight or obese increased slightly from 10 percent to 12 percent. The average height of women did not change.

HIV/AIDS AND STIs

Awareness of HIV/AIDS. Knowledge of HIV/AIDS among ever-married women increased from 19 percent in 1996-1997 to 31 percent in 1999-2000, and then it almost doubled to 60 percent in 2004. In the 2007 BDHS, knowledge of HIV/AIDS increased again to 67 percent. For currently married men, the corresponding proportions are 34, 51, 78 percent, and 87 percent.

A respondent's place of residence, level of education, and household wealth quintile are strongly associated with HIV/AIDS awareness. Whereas 87

percent of women and 95 percent of men in urban areas have heard of AIDS, only 62 percent of women and 84 percent of men in rural areas have heard of the disease. Education is positively associated with knowledge of HIV/AIDS. It ranges from 42 percent among women with no education, to 75 percent among those who have completed primary school (only), to virtually all women (95 percent) who have completed secondary education. A similar pattern can be found when analyzing the data by wealth quintile.

Thirty-two percent of ever-married women and 66 percent of ever-married men age 15-49 know that condom use is a way to avoid contracting HIV. About one in three ever-married women and 63 percent of ever-married men know that limiting the number of sexual partners can reduce the likelihood of getting HIV. Similarly, around one in three ever-married women and 57 percent of ever-married men know that it is possible to prevent the transmission of HIV by abstaining from sex.

Among respondents who know of HIV/AIDS, 52 percent of ever-married women and 75 percent of ever-married men age 15-49 correctly reported that a healthy-looking person can have HIV.

The 2007 BDHS calculated an indicator of comprehensive knowledge of HIV/AIDS that includes knowing that HIV can be prevented by using condoms and having just one, uninfected sexual partner, knowing that a healthy-looking person can have HIV, and rejecting the two most common misconceptions about HIV/AIDS: that HIV can be transmitted by mosquito bites, and that a person can become infected by sharing food with someone who has HIV. Only 6 percent of ever-married women and 14 percent of ever-married men age 15-49 have comprehensive knowledge of HIV/AIDS.

The 2007 BDHS also asked respondents whether HIV can be transmitted by unclean needles and blood transfusions. Knowledge of these means of transmission was relatively high. Almost six in ten ever-married women and eight in ten ever-married men age 15-49 know that HIV can be transmitted through unclean needles, while similar proportions of ever-married women and men know that HIV can be transmitted through unsafe blood transfusions.

Self-reported Symptoms of Sexually Transmitted Infections (STIs). Ever-married women and men were asked whether they had experienced an STI or symptoms of an STI during the 12 months preceding the survey. Overall, 11 percent of ever-married women and 4 percent of ever-married men age 15-49 reported experiencing an STI or symptoms of an STI. Among women, the most commonly reported symptom was abnormal discharge, whereas a genital sore or ulcer was the most common symptom reported by men.

Attitudes towards Women Refusing Sex. The 2007 BDHS asked ever-married women and men whether they thought that a woman has the right to refuse sex with her husband if he has a sexually transmitted infection. Eighty-six percent of ever-married women and 95 percent of ever-married men age 15-49 said that a woman is justified in refusing sex with her husband if she knows that he has an STI. This proportion ranged from 67 percent of ever-married women in Barisal to 93 percent in Khulna. Among men, the proportion ranged from 69 percent in Barisal to 97 percent in Rajshahi.

WOMEN'S STATUS AND GENDER VIOLENCE

Data from the 2007 BDHS show that women in Bangladesh are slightly less educated than men. Thirty-four percent of women age 15-49 have never been to school, compared with only 30 percent of men in the same age group. Literacy rates for men and women are fairly comparable, although low overall, with 55 percent of ever-married women and 57 percent of ever-married men being literate.

One-third of ever-married women are employed, according to the 2007 BDHS, although 14 percent of employed women are not paid for their work. More than eight in ten employed women earn cash wages. Most of these women (56 percent) decide how to spend their cash earnings jointly with their husband, while 31 percent decide themselves how to spend their earnings, and 12 percent report that their husband decides how to spend the woman's earnings.

While 14 percent of married women make the decisions on their own health care, four in ten say that their husband or partner makes such decisions. Decisions on large household purchases are typically made jointly by the woman with her husband or partner or by the husband or partner alone. Women are most likely to make decisions about daily household purchases on their own. Around one in three women make decisions about such purchases by themselves.

The 2007 BDHS included a module on domestic violence that was administered to both women and men. Women were asked about their experience receiving violence while men were asked whether they had carried out violence against their wife. Almost half of ever-married women (49 percent) reported they had experienced physical violence at the hands of their husband. Eighteen percent reported experiencing sexual violence by their husband. On the other hand, 58 percent of men reported having used physical violence against their wife, and 9 percent reported using sexual violence. One in four women reported having experienced physical or sexual violence from her husband in the past 12 months. A smaller proportion of men (18 percent) reported using physical or sexual violence against their wives in the past 12 months. It is important to note that the domestic violence module was administered to either one women or one man per household. Therefore, data on reported violence among couples is not available from both members of the same couple.

MILLENNIUM DEVELOPMENT GOAL INDICATORS

Goal	Indicator	Value		
		Male	**Female**	**Total**
1. Eradicate extreme poverty and hunger	4. Prevalence of underweight children under five years of age	39.9	42.1	41.0
2. Achieve universal primary education	8. Literacy rate of 15-24 year-olds	62.1	74.7	na
3. Promote gender equality and empower women	9. Ratio of girls to boys in primary, secondary and tertiary education	na	na	1.03
	10. Ratio of literate women to men, 15-24 years old	na	na	1.20
4. Reduce child mortality	13. Under-five mortality rate			65
	14. Infant mortality rate			52
	15. Percentage of 1 year-old children immunized against measles	82.1	84.0	83.1
5. Improve maternal health	17. Percentage of births attended by skilled health personnel	na	na	18.0
6. Combat HIV/AIDS, malaria and other diseases	19. Percentage of current users of contraception who are using condoms	na	8.1	na
	19B. Percentage of population aged 15-24 years with comprehensive correct knowledge of HIV/AIDS	17.9	8.0	na
	19C. Contraceptive prevalence rate	na	55.8	na
		Urban	**Rural**	**Total**
7. Ensure environmental sustainability	29. Percentage of population using solid fuels	62.1	99.3	91.0
	30. Percentage of population with sustainable access to an improved water source, urban and rural	99.5	96.3	97.0
	31. Percentage of population with access to improved sanitation, urban and rural	40.2	25.2	28.5

na = Not applicable

Bangladesh


N
NEPAL
INDIA
Rajshahi
Dhaka
Sylhet
INDIA
Dhaka
Khulna
Chittagong
Barisal
BURMA
Bay of Bengal
0 50 100 200 Kilometers

INTRODUCTION 1

1.1 GEOGRAPHY AND ECONOMY

Bangladesh is located in the northeastern part of South Asia and covers an area of 147,570 square kilometers. It is almost entirely surrounded by India, except for a short southeastern frontier with Myanmar and a southern coastline on the Bay of Bengal. It lies between latitudes 20° 34′ and 26° 38′ north and longitudes 88° 01′ and 92° 41′ east, and it has a tropical climate.

The Moguls ruled the country from the 13th century until the 18th century, when the British took over and administered the subcontinent until 1947. During British rule, Bangladesh was a part of India. In 1947, the independent states of Pakistan and India were created. The present territory of Bangladesh was part of Pakistan. Bangladesh emerged on the world map as a sovereign state on March 26, 1971 after fighting a nine-month war of liberation.

Most of Bangladesh is low and flat and consists of alluvial soil. The most significant feature of the landscape is the extensive network of large and small rivers that are of primary importance to the socioeconomic life of the nation. Chief among these, lying like a fan on the face of the land, are the Ganges-Padma, Brahmaputra-Jamuna, and Megna rivers.

The climate of Bangladesh is dominated by seasonal monsoons. The country experiences a hot summer season with high humidity from March to June; a somewhat cooler, but still hot and humid monsoon season from July through early October; and a cool, dry winter from November to the end of February. The fertile delta is subject to frequent natural calamities, such as floods, cyclones, tidal bores, and drought.

For administrative purposes, the country is divided into 6 divisions, 64 districts, and 496 *upazilas* (subdistricts) (BBS, 2001). Muslims make up almost 90 percent of the population of Bangladesh, Hindus account for about 9 percent, and others constitute the remaining 1 percent. The national language of Bangladesh is Bangla, which is spoken and understood by all.

Agriculture is the single largest producing sector of the economy, and it contributes about 22 percent to the Gross Domestic Product (GDP). This sector also accounts for around 48 percent of the total labor force (BBS, 2008b). Average per capita income in Bangladesh increased to US$599 during the fiscal year July 1, 2007- June 30, 2008, mainly due to remittances from citizens working abroad. If average per capita income were to reach US$750, Bangladesh would progress from its present least developed country (LDC) status to a middle income economy (IANS, 2008). Rice, wheat, jute, sugarcane, tobacco, oilseeds, and potatoes are the principal crops. The country produces about 51 million kilograms of tea per year, a sizeable quantity of which is exported to foreign markets. Bangladesh produces about 1,057,000 metric tons of superior quality jute annually, and 16 percent of export earnings come from raw jute manufactures (BBS, 2001). The manufacturing sector, although small, is increasing in importance as a result of foreign investments; it contributes about 17 percent of GDP. The manufacturing sector is dominated by the ready-made garments industry (BBS, 2008b). Unemployment and underemployment are serious problems, and pressure on the land in rural areas has led to movement of people from rural to urban areas.

Bangladesh ranks 140th among nations on the Human Development Index (HDI), as presented in the 2007-2008 Human Development Report. The country's HDI value is 0.547, placing it in the category of medium human development countries. Within South Asia, Bangladesh only outranks Nepal, which ranks 142nd on the HDI (UNDP, 2007).

Bangladesh is still struggling to emerge from poverty. Bangladesh ranks 93rd among 108 developing countries on the Human Poverty Index (HPI) (UNDP, 2007). The HPI is a multidimensional measure of poverty for developing countries; it takes into account social exclusion, lack of economic opportunities, and deprivations in survival, livelihood, and knowledge.

1.2 POPULATION

Bangladesh is the most densely populated country in the world, excluding city-states such as Hong Kong and Singapore. The country has a population of about 150 million, with a corresponding population density of more than 920 persons per square kilometer. During the first half of the last century the population increased by 45 percent. This slow increase resulted from a combination of high birth rates and high death rates. In the second half of the twentieth century population growth was rapid, and the population tripled during this period. The relatively young age structure of the population indicates continued rapid population growth in the future. One-third of the population is under 15 years of age, 63 percent are age 15-64 years, and 4 percent are age 65 or older (CIA, 2008) This young age structure creates built-in "population momentum," which will continue to generate population increases well into the future, even in the face of rapid fertility decline. Projections indicate that the population will increase rapidly even after attaining replacement-level fertility because of the echo effect of the high fertility experienced in the past.

According to the Bangladesh Population Policy, the population should stabilize at 210 million by 2060 if replacement-level fertility is reached by 2010. This estimate of future population size is reasonably consistent with the World Bank projections from 1994 (Bos et al., 1994) and the 1996 revision of United Nations projections (United Nations, 1996), both of which estimated a mid-21st century population of 218 million. However, there is a wide disparity between the estimates of the Government of Bangladesh and others on exactly when the population will stabilize. The World Bank forecasts a final stationary population of 263 million by the mid-22nd century, while others have not made projections beyond the mid-21st century. Recently, however, the United Nations revised its estimate for 2050 upward by 25 million (or 11 percent) to 243 million, apparently based on the decade-long plateau in fertility (United Nations, 2004).

This recent and very substantial upward revision of the mid-century population by the United Nations seems unduly pessimistic, because a five-year delay in attaining replacement-level fertility adds only 3 percent to the population at any point in time. Nevertheless, Bangladesh still faces many decades of continued population growth. Efforts to slow that growth need to continue, both through the family planning program and, increasingly, through social and health interventions that will facilitate further fertility decline, so that progress towards economic development is not hindered.

1.3 POPULATION, FAMILY PLANNING, AND MATERNAL AND CHILD HEALTH POLICIES AND PROGRAMS

Family planning was introduced in Bangladesh (then East Pakistan) in the early 1950s through the voluntary efforts of social and medical workers. The government, recognizing the urgency of moderating population growth, adopted family planning as a government-sector program in 1965.

The policy to reduce fertility rates has been repeatedly reaffirmed by the government of Bangladesh since independence in 1971. The First Five-Year Plan (1973-1978) emphasized "the necessity of immediate adoption of drastic steps to slow down the population growth" and reiterated that "no civilized measure would be too drastic to keep the population of Bangladesh on the smaller side of 15 *crore* (i.e., 150 million) for sheer ecological viability of the nation" (GOB, 1994:7). Beginning in 1972 the family planning program received virtually unanimous, high-level political support. All subsequent governments that have come into power in Bangladesh have identified population control as the top priority for government action. This political commitment is crucial in understanding the fertility decline in Bangladesh. In 1976 the government declared the rapid growth of the population as the country's number one problem and adopted a broad-based, multisectoral family planning program along with an official population policy (GOB, 1994:9). Population planning was seen as an integral part of the total development process and was incorporated into successive five-year plans. Policy guidelines and strategies for the population program are formulated by the National Population Council (NPC), which is chaired by the prime minister.

Bangladesh's population policy and programs have evolved through a series of developmental phases and have undergone changes in strategy, structure, content, and goals. In the mid-1970s the government instituted the deployment of full-time, local Family Welfare Assistants (FWAs)—community-based family planning motivators and distributors who numbered almost 24,000 at the height of the program a few years ago. A social marketing program to promote the sale of birth control pills and condoms was also initiated in the mid-1970s. Another characteristic of the population program is the involvement of more than 200 nongovernmental organizations (NGOs).

Since 1980 the program has stressed functionally integrated health and family planning programs. The goal is to provide an essential package of high quality, client-centered reproductive and child health care, family planning, communicable disease control, and limited curative services at a one-stop service point. The Health and Population Sector Program (HPSP) was formulated as part of the Fifth Five-Year Plan (1998-2003), keeping in view the principles of the Health and Population Sector Strategy (HPSS) that called for a single sector for both health and population. The main objective of the HPSP was to ensure universal access to essential health care services of acceptable quality and to further slow population growth.

To overcome these multidimensional problems and to meet the challenge in the spirit of the 1994 International Conference on Population and Development (ICPD) in Cairo, the Government of Bangladesh launched the Health, Nutrition and Population Sector Program (HNPSP) in 2003. This program aims to reform the health and population sector. It entails providing a package of essential and good quality health care services that are responsive to the needs of the people, especially children, women, the elderly, and the poor.

Recently, the government adopted the Bangladesh Population Policy. Its goals are to improve the status of family planning and maternal and child health, including reproductive health services, and to improve the living standard of the people of Bangladesh by striking a desired balance between population and development in the context of the Millennium Development Goals (MDGs) and a Poverty Reduction Strategy Paper (PRSP). The objectives of the population policy are to:

- Reduce the total fertility rate (TFR) and increase the use of family planning methods among eligible couples by raising awareness of family planning;
- Attain a net reproduction rate equal to one by the year 2010 in order to stabilize population around 2060;

- Ensure adequate availability of and access to reproductive health services, especially family planning services, for all—including information, counseling, and services for adolescents;
- Improve maternal health, with an emphasis on reducing maternal mortality;
- Reduce reproductive tract and sexually transmitted infections (RTI/STIs) and prevent the spread of HIV/AIDS;
- Reduce infant and under-five mortality rates;
- Reduce maternal and child malnutrition;
- Promote and actively support programs to eliminate gender disparity in education, health, and nutrition;
- Ensure early childhood development programs;
- Ensure and support gender equity, and empower women;
- Develop the human resource capacity of planners, managers, and service providers and improve data collection, research and dissemination;
- Actively support measures to provide food, social security, and shelter for the disadvantaged, including the elderly, destitute, and physically and mentally retarded persons;
- Actively support measures to regulate and reduce rural-to-urban migration;
- Support measures for environmental sustainability, with an emphasis on access to safe drinking water;
- Support poverty alleviating strategies, and create an environment conducive to improved quality of life; and
- Ensure coordination among relevant ministries in strengthening population and development linkages, and make their respective mandates and implementation strategies more population-focused.

The government's policy on providing health care is based on the principles of universal coverage and accessibility; optimum utilization and development of human resources for health; appropriate use of technology; gender equity; improvement of the quality of life; priority services for the most vulnerable groups, including women, children, and the poor; and promotion of health as an integral part of overall socioeconomic development. Private-sector involvement in both health and population services is encouraged.

There has been considerable variation across the health and population sector in the effectiveness of services. While some projects have been very effective in targeting certain diseases or conditions, others have been less so. Since 1998 the adoption of a Sector-Wide Approach (SWAp) under the HPSP has brought its own set of issues. Throughout these strategy changes, however, the family planning program has continued to function reasonably effectively, and contraceptive use has steadily become more widespread.

Many factors have contributed to the increase in contraceptive use over the past 20 years. Elements that have contributed to the success of the program include: 1) strong political commitment to family planning programs by successive governments, 2) successful promotion of a small family norm through information and educational activities and other multisectoral programs, 3) establishment of a widespread infrastructure for delivering family planning and health services down to the village level, 4) increased involvement of nongovernmental organizations to supplement and complement the govern-

ment's efforts, 5) flexibility to make policy and programmatic adjustments in response to emerging needs, and 6) strong support of the program by the international aid community (GOB, 1994:36).

The success achieved so far in the national family planning program is encouraging and has increased confidence that it is possible to achieve further progress. However, there remain several issues of concern, such as the tremendous growth potential built into the age structure as a consequence of past high fertility. Because of the rising number of young people entering childbearing age, the program will have to expand its efforts substantially just to maintain the current level of contraceptive use. If demand for family planning also increases, that will put even more strain on the program. Other concerns are lack of a steady supply of contraceptives from external sources, which affects program performance; the need for further improvement in access to and quality of facilities and services; and the need for men to participate more actively in family planning acceptance.

1.4 Organization of the 2007 Bangladesh Demographic and Health Survey

1.4.1 Survey Objectives and Implementing Organizations

The 2007 Bangladesh Demographic and Health Survey (BDHS) is the fifth BDHS undertaken in Bangladesh. This periodic survey is conducted every three to four years to serve as a source of population and health data for policymakers, program managers, and the research community. In general, the aims of the BDHS are to:

- Provide information to meet the monitoring and evaluation needs of health and family planning programs, and
- Provide program managers and policy makers involved in these programs with the information they need to plan and implement future interventions.

More specifically, the objectives of the survey are to provide up-to-date information on fertility and childhood mortality levels; nuptiality; fertility preferences; awareness, approval, and use of family planning methods; breastfeeding practices; nutrition levels; maternal and child health; awareness of HIV/AIDS and other sexually transmitted diseases; knowledge of tuberculosis; and domestic violence. Although improvements and additions have been made to each successive survey, the basic structure and design of the BDHS has been maintained over time in order to measure trends in health and family planning indicators.

The 2007 BDHS survey was conducted under the authority of the National Institute for Population Research and Training (NIPORT) of the Ministry of Health and Family Welfare. The survey was implemented by Mitra and Associates, a Bangladeshi research firm located in Dhaka. Macro International Inc., a private research firm located in Calverton, Maryland, USA, provided technical assistance to the survey as part of its international Demographic and Health Surveys program. The U.S. Agency for International Development (USAID)/Bangladesh provided financial assistance.

1.4.2 Sample Design

The 2007 BDHS employs a nationally representative sample that covers the entire population residing in private dwelling units in Bangladesh. The survey used the sampling frame provided by the list of census enumeration areas (EAs) with population and household information from the 2001 Population Census. Bangladesh is divided into six administrative divisions: Barisal, Chittagong, Dhaka, Khulna, Rajshahi, and Sylthet. In turn, each division is divided into *zilas,* and each zila into *upazilas.* Rural areas in an upazila are divided into *union parishads* (UPs), and UPs are further divided into *mouzas*. Urban

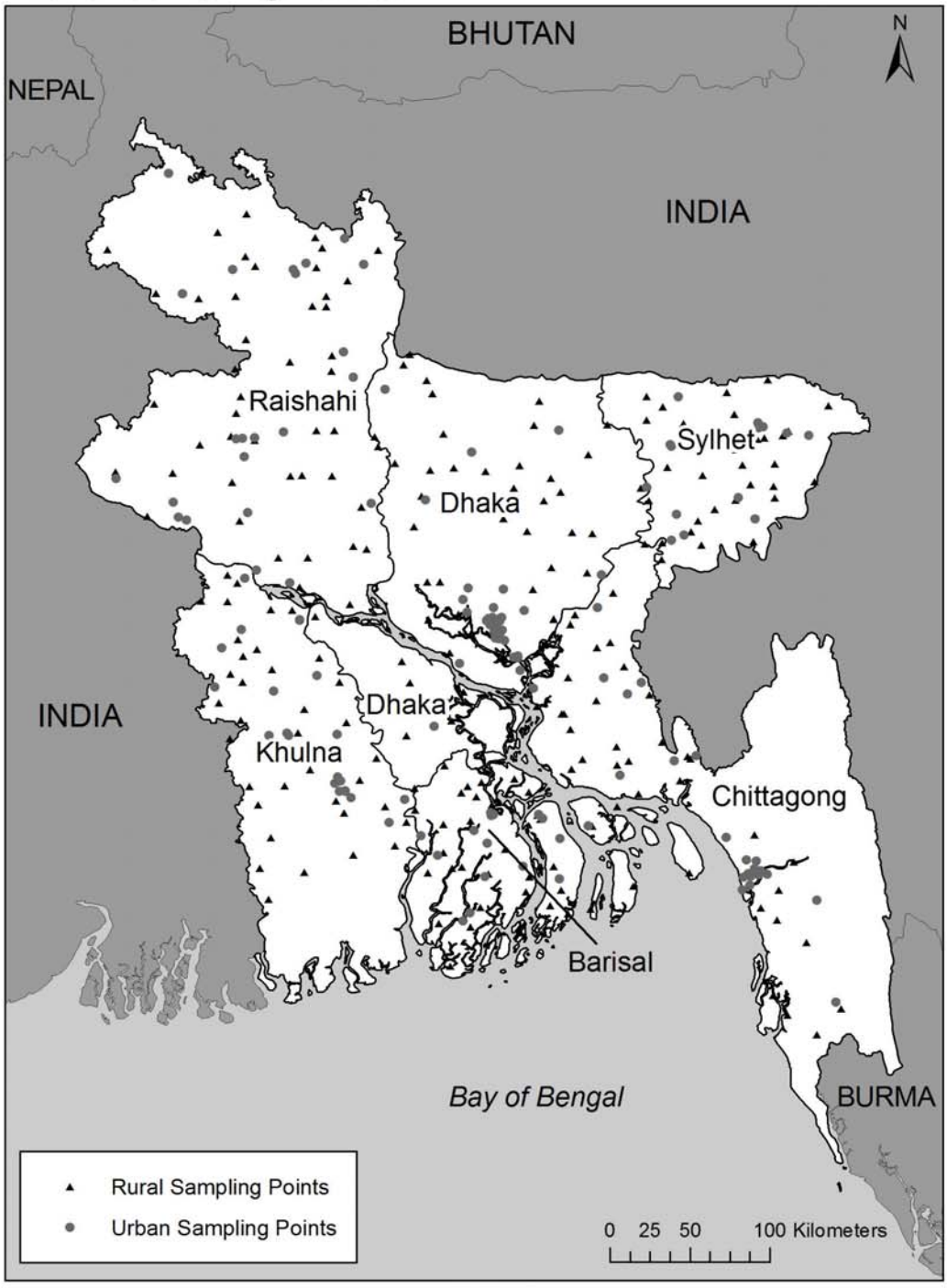
areas in an upazila are divided into wards, and wards are subdivided into *mahallas*. These divisions allow the country as a whole to be easily divided into rural and urban areas. EAs from the census were used as the Primary Sampling Units (PSUs) for the survey, because they could be easily located with correct geographical boundaries and sketch maps were available for each one. An EA, which consists of about 100 households, on average, is equivalent to a mauza in rural areas and to a mohallah in urban areas.

The survey is based on a two-stage stratified sample of households. At the first stage of sampling, 361 PSUs were selected. Figure 1.1 shows the geographical distribution of the 361 clusters visited in the 2007 BDHS. The selection of PSUs was done independently for each stratum and with probability proportional to PSU size, in terms of number of households. The distribution of the sample over different parts of the country was not proportional, because that would have allocated the two smallest divisions, Barisal and Sylhet, too small a sample for statistical precision. Because only a small proportion of Bangladesh's population lives in urban areas, urban areas also had to be over-sampled to achieve statistical precision comparable to that of rural areas. Therefore, it was necessary to divide the country into strata, with different probabilities of selection calculated for the various strata. Stratification of the sample was achieved by separating the sample into divisions and, within divisions, into urban and rural areas. The urban areas of each division were further subdivided into three strata: statistical metropolitan areas (SMAs), municipality areas, and other urban areas. In all, the sample consisted of 22 strata, because Barisal and Sylhet do not have SMAs.

The 361 PSUs selected in the first stage of sampling included 227 rural PSUs and 134 urban PSUs. A household listing operation was carried out in all selected PSUs from January to March 2007. The resulting lists of households were used as the sampling frame for the selection of households in the second stage of sampling. On average, 30 households were selected from each PSU, using an equal probability systematic sampling technique. In this way, 10,819 households were selected for the sample. However, some of the PSUs were large and contained more than 300 households. Large PSUs were segmented, and only one segment was selected for the survey, with probability proportional to segment size. Households in the selected segments were then listed prior to their selection. Thus, a 2007 BDHS sample cluster is either an EA or a segment of an EA.

The survey was designed to obtain 11,485 completed interviews with ever-married women age 10-49. According to the sample design, 4,360 interviews were allocated to urban areas and 7,125 to rural areas. All ever-married women age 10-49 in selected households were eligible respondents for the women's questionnaire. In addition, ever-married men age 15-54 in every second household were eligible to be interviewed.

Figure 1.1 Map of 2007 Bangladesh Urban and Rural Sampling Points



1.4.3 Questionnaires

The 2007 BDHS used five questionnaires: a Household Questionnaire, a Women's Questionnaire, a Men's Questionnaire, a Community Questionnaire, and a Facility Questionnaire. Their contents were based on the MEASURE DHS Model Questionnaires. These model questionnaires were adapted for use in Bangladesh during a series of meetings with a Technical Task Force (TTF) that included representatives from NIPORT, Mitra and Associates, ICDDRB: Knowledge for Global Lifesaving Solutions, the Bangladesh Rural Advancement Committee (BRAC), USAID/Dhaka, and Macro International (see Appendix E for a list of members). Draft questionnaires were then circulated to other interested groups and reviewed by the BDHS Technical Review Committee (see Appendix E). The questionnaires were developed in English and then translated and printed in Bangla.

The Household Questionnaire was used to list all the usual members of and visitors to selected households. Some basic information was collected on the characteristics of each person listed, including age, sex, education, and relationship to the head of the household. The main purpose of the Household Questionnaire was to identify women and men who were eligible for individual interviews. In addition, the questionnaire collected information about the dwelling unit, such as the source of water, type of toilet facilities, flooring and roofing materials, and ownership of various consumer goods. The Household Questionnaire was also used to record height and weight measurements of all women age 10-49 and all children below six years of age.

The Women's Questionnaire was used to collect information from ever-married women age 10-49. Women were asked questions on the following topics:

- Background characteristics, including age, residential history, education, religion, and media exposure,
- Reproductive history,
- Knowledge and use of family planning methods,
- Antenatal, delivery, postnatal, and newborn care,
- Breastfeeding and infant feeding practices,
- Vaccinations and childhood illnesses,
- Marriage,
- Fertility preferences,
- Husband's background and respondent's work,
- Awareness of AIDS and other sexually transmitted diseases,
- Knowledge of tuberculosis, and
- Domestic violence.

The Men's Questionnaire was used to collect information from ever-married men age 15-54. Men were asked questions on the following topics:

- Background characteristics, including respondent's work,
- Marriage,
- Fertility preferences,
- Participation in reproductive health care,
- Awareness of AIDS and other sexually transmitted diseases,
- Knowledge of tuberculosis, injuries, and tobacco consumption, and
- Domestic violence.

Questions on domestic violence (which were included in both the Women's and Men's Questionnaires) were administered to only one eligible respondent per household, whether female or male. In households with two or more eligible respondents, special procedures were followed to ensure that the selection of the woman or man was random and that these questions were administered in private.

The Community and Facility Questionnaires were administered in each selected cluster during listing. These questionnaires collected information about the existence of development organizations in the community and the availability and accessibility of health services and other facilities.[1] This information was also used to verify information gathered in the Women's and Men's Questionnaires on the type of facilities respondents accessed and the health service personnel they saw.

1.4.4 Training and Fieldwork

Forty-two field staff were trained and organized into six teams to carry out the listing of households and delineation of EAs and to administer the Community and Facility Questionnaires. In addition, six supervisors were deployed to check and verify the work of the listing teams. Listers were also trained in the use of Global Positioning System (GPS) units so that they could obtain locational coordinates for each selected EA and for facilities located within each EA.

The Household, Women's, and Men's Questionnaires were pretested in February 2007. Fourteen interviewers were trained for the pretest. The questionnaires were pretested on 100 women and 100 men in two rural areas in Barisal district and two urban areas in Dhaka. Based on observations in the field and suggestions made by the pretest teams, revisions were made in the wording and translation of the questionnaires.

Training for the main survey was conducted for four weeks from February 25 to March 23, 2007. A total of 128 field staff were recruited based on their educational level, prior experience with surveys, maturity, and willingness to spend up to five months on the project. Training included lectures on how to complete the questionnaires, mock interviews between participants, and field practice. Fieldwork for the BDHS was carried out by 12 interview teams, each consisting of one male supervisor, one female field editor, five female interviewers, two male interviewers, and one logistics staff member. Four quality control teams ensured data quality; each team included one male and one female data quality control worker. In addition, NIPORT monitored fieldwork with another set of quality control teams. Data quality was also monitored through field check tables generated concurrently with data processing. This permitted the quality control teams to advise field teams about problems detected during data entry. Tables were specifically generated to check various data quality parameters. Fieldwork was also monitored through visits by representatives from USAID, Macro International, and NIPORT. Fieldwork was implemented in five phases and carried out from March 24 to August 11, 2007.

1.4.5 Data Processing

All questionnaires for the BDHS were periodically returned to Dhaka for data processing at Mitra and Associates. The processing of data collected in the field began shortly after fieldwork commenced. Data processing consisted of office editing, coding of open-ended questions, data entry, and editing inconsistencies found by the computer program. The data were processed by 10 data entry operators and two data entry supervisors working in double shifts using six microcomputers. Data processing commenced on April 16 and ended on August 31, 2007. Data processing was carried out using CSPro, a joint software product of the U.S. Census Bureau, Macro International, and Serpro S.A.

[1] The results of the community and facility surveys will be addressed in a separate publication.

1.4.6 Coverage of the Sample

Table 1.1 shows the results of the household and individual women's and men's interviews. Of the 10,819 households selected for the survey, 10,461 were found to be occupied. Interviews were successfully completed in 10,400 households, or 99.4 percent of households. A total of 11,178 eligible women age 15-49 were identified in these households and 10,996 were interviewed, for a response rate of 98.4 percent.[2] Eligible men in every second household were selected to yield 4,074 potential male respondents, of whom 92.6 percent or 3,771 were successfully interviewed.

The principal reason for non-response among eligible women and men was their absence from home despite repeated visits to the household. The household and eligible women's response rates were similar to the response rates in the 2004 BDHS. However, the male response rate was lower than in the last survey.

Table 1.1 Results of the household and individual interviews

Number of households, number of interviews, and response rates, according to residence (unweighted), Bangladesh 2007

	Residence					
	Urban		Rural		Total	
Result	Number	Percent	Number	Percent	Number	Percent
Households selected	3,993	100.0	6,826	100.0	10,819	100.0
Households occupied	3,849	96.4	6,612	96.9	10,461	96.7
Households absent for extended period	78	2.0	121	1.8	199	1.8
Dwelling vacant or destroyed	59	1.5	73	1.1	132	1.2
Other	7	0.2	20	0.3	27	0.2
Household interviews						
Households occupied	3,849	96.4	6,612	96.9	10,461	96.7
Households interviewed	3,821	95.7	6,579	96.4	10,400	96.1
Household response rate[1]		99.3		99.5		99.4
Interviews with women age 15-49						
Number of eligible women	4,230	100.0	6,948	100.0	11,178	100.0
Number of eligible women interviewed	4,151	98.1	6,845	98.5	10,996	98.4
Eligible women response rate[2]		98.1		98.5		98.4
Interviews with men age 15-54						
Number of eligible men	1,559	100.0	2,515	100.0	4,074	100.0
Number of eligible men interviewed	1,443	92.6	2,328	92.6	3,771	92.6
Eligible men response rate[2]		92.6		92.6		92.6

[1] Households interviewed/households occupied
[2] Respondents interviewed/eligible respondents

[2] The 2007 BDHS sampled all ever-married women age 10-49. The number of eligible women age 10-49 was 11,234, of whom 11,051 were interviewed for a response rate of 98.4 percent. However, there were very few ever-married women age 10-14 (55 unweighted cases or less than one percent). These women have been removed from the data set and weights recalculated for the 15-49 age group. The tables in this report discuss only women age 15-49.

HOUSEHOLD POPULATION AND HOUSING CHARACTERISTICS 2

This chapter presents information on demographic and socioeconomic characteristics of the household population, including age, sex, educational attainment, and employment status. The chapter also describes the conditions of the households in which the survey population lives, including source of drinking water, sanitation facilities, availability of electricity, housing construction materials, possession of household durable goods, and ownership of a homestead and land. The information on household assets is used to create an indicator of household economic status, the wealth index.

A household in the 2007 BDHS is defined as a person or group of related and/or unrelated persons who usually live in the same dwelling unit(s), who have common cooking and eating arrangements, and who acknowledge one adult member as head of the household. A member of the household is any person who usually lives in the household. A visitor is someone who is not a member of the household, but who stayed in the household the night before the interview.

The 2007 BDHS collected information for all usual residents of selected households (the de jure population) and all persons who stayed in the selected household the night before the interview (the de facto population). The difference between these two populations is very small. The characteristics of the household population are analyzed based on the de facto population, while household characteristics are presented based on the de jure population, in order to maintain comparability of these results with other DHS reports.

2.1 HOUSEHOLD POPULATION BY AGE, SEX, AND RESIDENCE

Table 2.1 shows the distribution of the de facto household population by age and sex according to urban and rural residence. The 2007 BDHS enumerated a total of 48,749 persons, with females outnumbering males at 51 percent. The sex ratio is 95 males per 100 females. This is similar to the sex ratio of 96 males per 100 females obtained in the 2004 BDHS, but it is lower than the ratio of 106 males per 100 females obtained in the 2001 Census (BBS, 2008a). The marked difference in the sex ratio between the 2001 Census and the BDHS surveys could be due to the fact that the census' sex ratio is based on the de jure population, while the sex ratio obtained from the BDHS surveys is based on the de facto household population. The sex composition of the population does not vary markedly by urban-rural residence.

More than one-third of the de facto household population (36 percent) is under 15 years of age, and 12 percent is under age five. Persons age 65 and over account for just 5 percent of the total population. The proportion of the population under age 15 is somewhat lower in urban than rural areas, as is the proportion of the population over age 65.

The age-sex structure of the population is shown by a population pyramid in Figure 2.1. The pyramid is wider at the base than the top and narrows slightly at the youngest age group. This pattern is typical of a historically high-fertility regime that has recently started to stabilize or decline. Figure 2.2 shows the distribution of the male and female household population by single year of age. The figure shows noticeable heaping at ages ending with 0 and 5, with heaping more prominent among males than females. Ages ending with 1 and 9 are underreported.

Table 2.2 presents changes in the broad age structure of the population since 1989. The proportion of the population under age 15 has declined from 43 percent in 1989 to 36 percent in 2007. In contrast, the proportion of the population age 15-59 has increased over time, as has the proportion age 60 and over. The median age of the population has increased from 18.4 years in 1993/94 to 21.2 years in 2007. This pattern is consistent with a decline in fertility.

Table 2.1 Household population by age, sex, and residence

Percent distribution of the de facto household population by five-year age groups, according to sex and residence, Bangladesh 2007

	Urban			Rural			Total		
Age	Male	Female	Total	Male	Female	Total	Male	Female	Total
<5	11.8	10.4	11.1	12.3	12.1	12.2	12.2	11.7	11.9
5-9	11.4	11.1	11.2	13.7	12.5	13.1	13.2	12.2	12.7
10-14	10.7	11.1	10.9	12.5	11.4	12.0	12.1	11.4	11.7
15-19	10.3	12.8	11.6	9.3	11.8	10.6	9.5	12.0	10.8
20-24	9.3	11.8	10.5	7.3	9.9	8.6	7.7	10.3	9.1
25-29	8.3	9.3	8.8	7.2	8.0	7.6	7.5	8.2	7.9
30-34	7.3	6.9	7.1	5.8	6.7	6.3	6.1	6.7	6.4
35-39	6.6	7.3	7.0	6.5	6.1	6.3	6.6	6.4	6.5
40-44	6.2	5.2	5.7	5.6	4.8	5.2	5.7	4.9	5.3
45-49	5.0	4.5	4.7	4.8	4.2	4.5	4.8	4.3	4.5
50-54	4.4	2.8	3.6	4.5	3.0	3.7	4.4	2.9	3.7
55-59	2.5	2.2	2.3	2.0	2.9	2.4	2.1	2.7	2.4
60-64	2.1	1.8	2.0	2.5	2.3	2.4	2.4	2.2	2.3
65-69	1.5	0.9	1.2	1.8	1.3	1.5	1.7	1.2	1.5
70-74	1.3	0.8	1.0	1.8	1.2	1.5	1.7	1.1	1.4
75-79	0.5	0.4	0.4	0.9	0.7	0.8	0.8	0.6	0.7
80 +	0.9	0.8	0.8	1.4	1.2	1.3	1.3	1.1	1.2
Don't know/missing	0.1	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	5,421	5,462	10,882	18,369	19,498	37,867	23,789	24,960	48,749

Figure 2.1 Population Pyramid

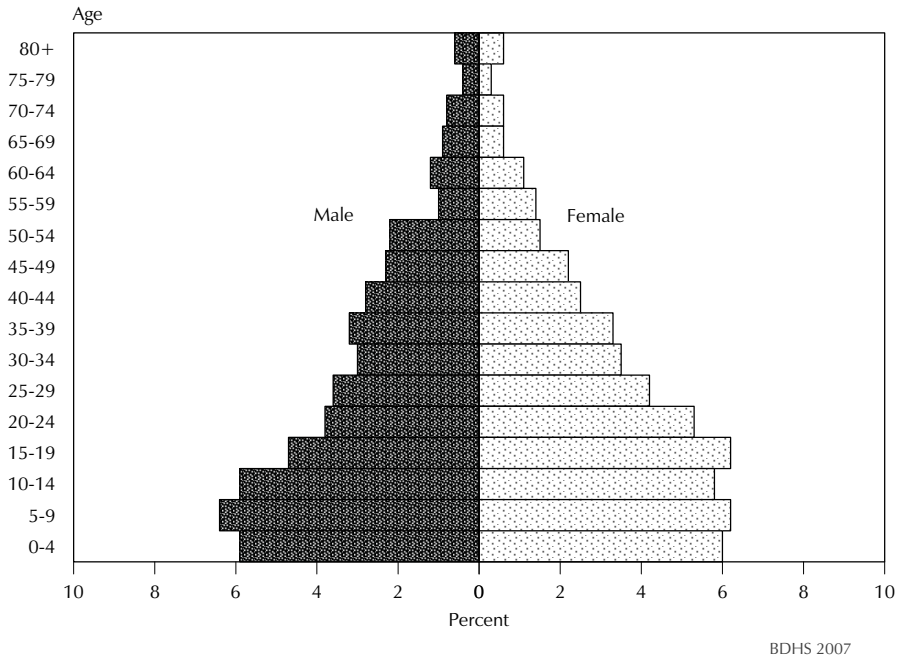


Figure 2.2 Distribution of the De Facto Household Population by Single Year of Age and Sex

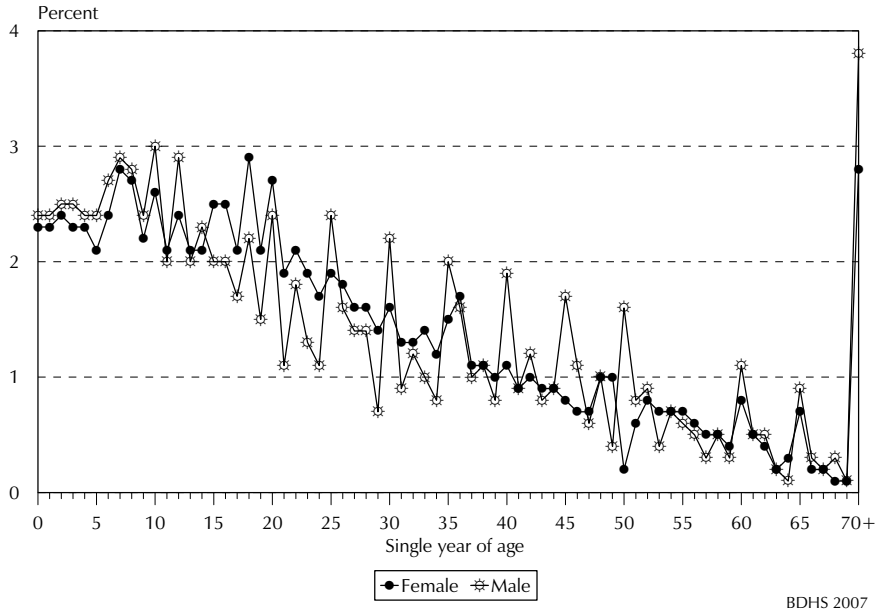


Table 2.2 Trends in population by age

Percent distribution of the de facto population by age group, selected sources, Bangladesh 1989-2007

Age group	1989 BFS	1989 CPS	1991 CPS	1993-1994 BDHS	1996-1997 BDHS	1999-2000 BDHS	2004 BDHS	2007 BDHS
<15	43.2	43.2	42.7	42.6	41.0	39.2	38.2	36.3
15-59	50.9	50.9	51.2	51.2	53.1	54.4	55.1	56.6
60+	5.9	5.9	6.0	6.2	5.9	6.4	6.6	7.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Median age	u	u	u	18.4	18.8	19.5	20.2	21.2

BFS = Bangladesh Fertility Survey ; CPS = Contraceptive Prevalence Survey ; BDHS = Bangladesh Demographic and Health Survey
u = Unknown (not available)
Sources: Huq and Cleland, 1990:38; Mitra et al., 1993:14; Mitra et al., 1997:9; NIPORT et al., 2001:11 ; NIPORT et al., 2005 :13

2.2 HOUSEHOLD COMPOSITION

Table 2.3 presents information on household composition. Only 13 percent of households are headed by women. The proportion of female-headed households is slightly higher in rural areas than in urban areas (13 percent and 11 percent, respectively). Since the 2004 BDHS, the proportion of female-headed households has increased by about three percentage points. The increase was similar in both urban and rural areas.

Half of households in Bangladesh are composed of two to four members. The proportion is the same in urban and rural areas. A comparison of the 2004 and 2007 BDHS surveys shows a change in the distribution of households by household size. The mean household size in Bangladesh has declined from 5.0 members in 2004 to 4.7 members in 2007; this is similar to the figure of 4.8 members found by the 2006 Multiple Indicator Cluster Survey (MICS) (BBS and UNICEF, 2007). The proportion of households with five or fewer members has increased since 2004, while the proportion of households with six or more members has decreased.

Table 2.3 Household composition

Percent distribution of households by sex of head of household and by household size, and mean size of household, according to residence, Bangladesh 2007

Characteristic	Residence		Total
	Urban	Rural	
Sex of head of household			
Male	88.6	86.8	87.2
Female	11.4	13.2	12.8
Total	100.0	100.0	100.0
Number of usual members			
1	1.3	2.3	2.1
2	7.3	8.8	8.5
3	17.2	16.9	17.0
4	25.2	23.8	24.1
5	20.7	20.1	20.2
6	12.7	13.1	13.0
7	6.3	7.1	7.0
8	4.5	3.6	3.8
9+	4.9	4.2	4.3
Total	100.0	100.0	100.0
Mean size of households	4.8	4.7	4.7
Number of households	2,267	8,133	10,400

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

2.3 HOUSEHOLD CHARACTERISTICS

The 2007 BDHS collected information about certain characteristics of households, including the source and treatment of drinking water, type of sanitation facility, access to electricity, main housing materials, and the place and type of fuel used for cooking. These physical characteristics of a household are important because they are used to assess the general well-being and socioeconomic status of household members.

Table 2.4 presents information on household drinking water by urban-rural residence. Access to an improved source of drinking water is universal in Bangladesh (97 percent). Tube wells are the most common source of drinking water in both urban (69 percent) and rural areas (96 percent). Piped water is accessible only in urban areas, and just over one in four urban households use piped water. Treating water prior to drinking is uncommon in Bangladesh. Ninety-three percent of households do not treat drinking water. However, around one in five households in urban areas treat water prior to drinking by boiling.

Table 2.4 Household drinking water

Percent distribution of households and de jure population by source of drinking water, and percentage of households and de jure population by treatment of drinking water, according to residence, Bangladesh 2007

Characteristic	Households			Population		
	Urban	Rural	Total	Urban	Rural	Total
Source of drinking water						
Improved source	99.4	96.5	97.1	99.4	96.3	97.0
Piped water into dwelling/yard/plot	27.3	0.1	6.0	26.2	0.2	6.0
Public tap/standpipe	3.0	0.2	0.9	2.6	0.2	0.7
Tube well	69.1	95.7	89.9	70.5	95.5	90.0
Protected dug well	0.1	0.3	0.2	0.1	0.2	0.2
Rainwater	0.0	0.1	0.1	0.0	0.1	0.1
Non-improved source	0.5	3.5	2.8	0.5	3.7	3.0
Unprotected dug well	0.0	0.6	0.5	0.0	0.6	0.5
Unprotected spring	0.1	0.1	0.1	0.1	0.1	0.1
Tanker truck/cart with small tank	0.1	0.0	0.0	0.1	0.0	0.0
Surface water	0.3	2.8	2.2	0.3	2.9	2.3
Bottled water, improved source for cooking/washing[1]	0.1	0.0	0.0	0.1	0.0	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0
Percentage using any improved source of drinking water	99.5	96.5	97.1	99.5	96.3	97.0
Water treatment prior to drinking[2]						
Boiled	17.5	0.6	4.2	17.1	0.6	4.2
Bleach/chlorine	0.5	0.1	0.2	0.5	0.1	0.2
Strained through cloth	6.9	0.7	2.1	6.8	0.8	2.1
Ceramic, sand, or other filter	3.1	1.7	2.0	3.2	1.7	2.1
Let it stand and settle	0.1	0.1	0.1	0.1	0.1	0.1
Other	1.0	0.8	0.8	1.0	0.8	0.8
No treatment	79.0	96.4	92.6	79.4	96.3	92.5
Percentage using an appropriate treatment method[3]	20.3	2.9	6.7	19.8	3.0	6.7
Number	2,267	8,133	10,400	10,874	38,045	48,919

[1] Because the quality of bottled water is not known, households using bottled water for drinking are classified as using an improved or non-improved source according to their water source for cooking and washing. There were no households that used bottled water as a source for drinking and did not use an improved source for other purposes such as cooking and handwashing.
[2] Respondents may report multiple treatment methods so the sum of treatment may exceed 100 percent.
[3] Appropriate water treatment methods include boiling, bleaching, straining, and filtering.

Households without proper sanitation facilities have a greater risk of diseases like diarrhea, dysentery, and typhoid than households with improved sanitation facilities. Overall, one in four households has an improved toilet facility (flush toilet or pit latrine with slab). Nearly two in five urban households have improved toilet facilities, compared with only one in five rural households. Overall, 8 percent of households in Bangladesh do not have a toilet facility. This problem is more common in rural areas where 10 percent of households have no toilet facilities, compared with 2 percent in urban areas. Household sanitation has improved since the 2004 BDHS: the proportion of households with no toilet facilities has declined from 14 percent to 8 percent.

Table 2.5 Household sanitation facilities

Percent distribution of households and de jure population by type of toilet/latrine facilities, according to residence, Bangladesh 2007

Type of toilet/latrine facility	Households			Population		
	Urban	Rural	Total	Urban	Rural	Total
Improved, not shared facility	37.4	22.0	25.3	40.2	25.2	28.5
Flush/pour flush to piped sewer system	5.9	0.1	1.4	6.0	0.2	1.5
Flush/pour flush to septic tank	20.3	5.7	8.9	21.7	6.9	10.2
Flush/pour flush to pit latrine	3.9	3.0	3.2	4.3	3.5	3.7
Pit latrine with slab	7.3	13.1	11.8	8.2	14.6	13.2
Non-improved facility	62.5	78.0	74.6	59.8	74.8	71.4
Any facility shared with other households	21.9	13.0	14.9	19.9	11.5	13.4
Flush/pour flush not to sewer/septic tank/pit latrine	14.0	0.5	3.5	13.5	0.6	3.5
Pit latrine without slab/open pit	19.7	43.1	38.0	19.5	42.3	37.3
Bucket	0.0	0.1	0.1	0.1	0.1	0.1
Hanging toilet/hanging latrine	5.2	11.1	9.8	5.1	11.1	9.8
No facility/bush/field	1.8	10.2	8.4	1.7	9.1	7.5
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number	2,267	8,133	10,400	10,874	38,045	48,919

Table 2.6 presents information on household characteristics. Almost half of all households in Bangladesh have access to electricity. The percentage of households with electricity has increased somewhat, from 41 percent in 2004 to 47 percent in 2007. However, access to electricity varies widely between urban areas (82 percent) and rural areas (37 percent).

Tin is the most common roofing material in Bangladesh. Overall, 86 percent of households live in dwellings with tin roofs. There are large urban-rural differences in the use of cement or ceramic tiles for roofs. Households in urban areas are over ten times more likely to use cement or ceramic tiles than households in rural areas. There has been little change in roofing materials since 2004.

Two in five households have walls made of natural materials such as cane, palm, trunks, dirt, or bamboo with mud. Almost as many have walls made of tin. A large majority of rural households have walls made of natural materials or tin, while most urban households have walls of cement or brick. Use of natural materials for walls has decreased by nine percentage points since 2004.

Four in five households use earth or bamboo as the main flooring material. These materials are twice as common in rural areas as in urban areas. Cement floors, the second most common flooring material, are more often found in urban than rural areas (57 percent and 8 percent, respectively). More than half of urban households have cement floors.

The number of rooms used for sleeping gives an indication of the extent of crowding in households. Crowding in one sleeping room increases the risks of infection. Two in five households use only one room for sleeping, and one in four households has three or more rooms for sleeping. There is no difference in the number of rooms used for sleeping by urban-rural residence.

Indoor pollution has important implications for the health of household members. The type of fuel used for cooking, the place where cooking is done, and the type of stove used are all related to indoor air quality and the degree to which household members are exposed to the risk of respiratory infections and other diseases. In Bangladesh, the risk of indoor pollution from cooking fuel is limited because more than four in five households cook in a separate building or outdoors. Urban households are almost three times more likely than rural households to cook in the house.

Table 2.6 Household characteristics

Percent distribution of households and de jure population by housing characteristics and percentage using solid fuel for cooking; and among those using solid fuels, percent distribution by type of fire/stove, according to residence, Bangladesh 2007

Housing characteristic	Households			Population		
	Urban	Rural	Total	Urban	Rural	Total
Electricity						
Yes	82.1	36.6	46.5	82.7	38.5	48.3
No	17.9	63.4	53.5	17.3	61.5	51.7
Total	100.0	100.0	100.0	100.0	100.0	100.0
Main roof material						
Thatch/palm leaf/bamboo	1.7	6.1	5.1	1.7	5.9	4.9
Tin	72.1	89.8	86.0	71.2	89.8	85.7
Cement, ceramic tiles	25.1	2.2	7.2	26.1	2.7	7.9
Other	0.9	1.8	1.6	0.9	1.7	1.5
Total	100.0	100.0	100.0	100.0	100.0	100.0
Main wall material						
Cane/palm/trunks, dirt, bamboo with mud	20.2	45.5	40.0	19.9	44.0	38.6
Tin	26.2	40.7	37.5	26.2	41.3	37.9
Cement, stone with lime/cement, bricks	52.8	12.4	21.2	53.2	13.4	22.3
Other	0.7	1.3	1.2	0.7	1.3	1.1
Total	100.0	100.0	100.0	100.0	100.0	100.0
Flooring material						
Earth/sand, palm/bamboo	42.4	91.6	80.8	42.6	90.6	80.0
Wood/planks	0.6	0.5	0.5	0.6	0.5	0.5
Cement, ceramic tiles	56.7	7.8	18.5	56.5	8.7	19.3
Other	0.2	0.1	0.1	0.3	0.1	0.1
Total	100.0	100.0	100.0	100.0	100.0	100.0
Rooms used for sleeping						
One	39.8	40.1	40.0	32.4	32.6	32.6
Two	34.2	35.1	34.9	34.3	35.3	35.1
Three or more	25.9	24.7	25.0	33.2	32.1	32.3
Total	99.9	100.0	100.0	99.9	100.0	100.0
Place for cooking						
In the house	33.4	12.3	16.9	34.2	13.2	17.8
In a separate building	52.9	65.6	62.8	53.3	66.8	63.8
Outdoors	10.7	20.7	18.5	9.8	18.7	16.7
Other	2.8	1.3	1.6	2.6	1.1	1.5
Missing	0.2	0.1	0.1	0.2	0.2	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0
Cooking fuel						
LPG/natural gas/biogas	37.9	0.5	8.6	37.4	0.6	8.8
Wood	44.3	43.8	43.9	44.9	45.6	45.5
Agricultural crop, straw/shrubs/grass	13.2	46.2	39.0	13.1	44.0	37.1
Animal dung	3.6	9.4	8.1	3.7	9.7	8.3
Other	1.0	0.2	0.3	0.9	0.1	0.3
Total	100.0	100.0	100.0	100.0	100.0	100.0
Percentage using solid fuel for cooking[1]	61.5	99.4	91.1	62.1	99.3	91.0
Number of households/population	2,267	8,133	10,400	10,874	38,045	48,919
Type of fire/stove among households using solid fuel[1]						
Closed stove with chimney	0.1	0.0	0.0	0.1	0.0	0.0
Open fire/stove with chimney or hood	1.1	1.8	1.7	1.3	2.3	2.1
Open fire	98.6	97.8	97.9	98.4	97.3	97.5
Other	0.3	0.4	0.4	0.3	0.4	0.4
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number of households/population using solid fuel	1,394	8,082	9,476	6,756	37,776	44,533

LPG = Liquid petroleum gas
[1] Includes coal/lignite, charcoal, wood/straw/shrubs/grass, agricultural crops, and animal dung

Reducing the proportion of the population that relies on solid fuels is a Millennium Development Goal. About nine in ten households use solid fuels in Bangladesh, and that proportion has declined little since 2004 (from 93 percent to 91 percent). Virtually all rural households use solid fuels for cooking, including wood, agricultural crops, straw, shrubs, grass, animal dung, charcoal, and coal. In urban areas, 62 percent of the households use solid fuels. The proportion of households relying on wood for fuel has increased from 35 percent in 2004 to 44 percent in 2007, and urban and rural households are now equally likely to use wood. Rural households are three times more likely than urban households to use agricultural crops, straw, shrubs, or grass for cooking. Liquid petroleum gas (LPG), natural gas, and biogas are used almost entirely in urban areas. Among households using solid fuels, only 2 percent have a chimney or hood to help ventilate their stove or open fire. The rest do not have any system for ventilating the indoor pollution from cooking fumes.

2.4 HOUSEHOLD POSSESSIONS

The 2007 BDHS collected information on household ownership of selected assets. Some of these are used along with other indicators to assess household socioeconomic status and generate a wealth index. Table 2.7 shows the percentage of households that possess various durable goods, land, and livestock by urban-rural residence.

Table 2.7 Household durable goods, land ownership, and livestock

Percentage of households and de jure population possessing various durable consumer goods, land, and farm animals by residence, Bangladesh 2007

	Households			Population		
Ownership	Urban	Rural	Total	Urban	Rural	Total
Durable goods						
Almirah	63.5	37.0	42.8	67.3	40.3	46.3
Table	69.3	66.0	66.7	73.0	69.2	70.0
Chair	71.0	67.8	68.5	74.0	70.9	71.6
Watch	79.3	63.2	66.7	81.5	67.0	70.2
Radio	25.2	23.3	23.7	26.4	25.3	25.6
Television	59.3	21.9	30.0	62.4	24.4	32.9
Bicycle	20.5	27.9	26.3	22.6	30.8	29.0
Motorcycle/scooter	4.7	2.4	2.9	5.4	3.2	3.7
Mobile telephone	54.7	25.3	31.7	57.3	29.1	35.3
Non-mobile telephone	7.0	0.2	1.7	8.0	0.2	2.0
Refrigerator	24.8	2.5	7.3	26.7	3.1	8.3
Animal-drawn cart	0.2	0.6	0.5	0.3	0.8	0.7
Car/truck	1.5	0.2	0.5	1.9	0.2	0.6
Boat with a motor	0.6	0.9	0.9	0.7	1.2	1.1
Rickshaw/van	5.5	6.6	6.4	5.8	6.5	6.3
Does not own any of the specified durable goods	7.8	14.6	13.1	6.2	12.2	10.9
Land ownership						
Homestead	90.3	95.8	94.6	91.2	96.2	95.1
Other land	38.1	51.0	48.2	39.0	53.4	50.2
Neither of the above	8.5	3.8	4.9	7.6	3.3	4.2
Livestock Ownership						
Cows, bulls, buffalo	5.0	14.0	12.1	5.6	14.0	12.2
Goats, sheep	3.0	10.2	8.6	3.3	10.3	8.8
Chicken, ducks	3.6	6.7	6.0	3.8	6.4	5.8
Number	2,267	8,133	10,400	10,874	38,045	48,919

More households own a television than a radio (30 percent compared with 24 percent). Urban households are almost three times more likely to own a television than rural households. Since 2004 ownership of a television has increased from 23 percent to 30 percent of households. Over the same

period, ownership of a radio has declined from 30 percent to 24 percent. The shift from radios to televisions has been more prominent in urban areas. Overall, almost one in three households has a mobile telephone, but urban households are twice as likely to own a mobile telephone as rural households.

About 95 percent of households own a homestead, but less than 50 percent own land other than a homestead. Ownership of a homestead or other land is less common in urban than rural areas. Since 2004 ownership of other land has declined slightly from 52 to 48 percent, especially in rural areas, while ownership of a homestead has remained unchanged.

Cows, bulls, and buffalos are the most commonly owned type of livestock, owned by one in every eight households. One in eleven households owns goats or sheep, but only one in sixteen households owns chicken or ducks. As expected, rural households are more likely to own each type of livestock than urban households.

2.5 WEALTH INDEX

One of the background characteristics used throughout this report is an index of household economic status. The wealth index used in this study was developed and tested in a large number of countries to measure inequalities in household income, use of health services, and health outcomes (Rutstein et al., 2000). It is an indicator of the level of wealth that is consistent with expenditure and income measures (Rutstein, 1999). The wealth index is constructed from data on household assets, including ownership of durable goods (such as televisions and bicycles) and dwelling characteristics (such as source of drinking water, sanitation facilities, and construction materials).

To create the wealth index, each asset was assigned a weight (factor score) generated through principal component analysis, and the resulting asset scores were standardized in relation to a normal distribution with a mean of zero and standard deviation of one (Gwatkin et al., 2000). Each household was then assigned a score for each asset, and the scores were summed for each household; individuals were ranked according to the total score of the household in which they resided. The sample was then divided into quintiles from one (lowest) to five (highest). A single asset index was developed for the entire BDHS sample; there are no separate indices for urban and rural populations. Wealth quintiles are used as a background variable in the rest of the report to assess demographic and health outcomes in relation to socioeconomic status.

Table 2.8 presents the wealth quintiles by rural-urban residence and administrative division. More than half of the population residing in urban areas is in the highest wealth quintile, compared with only 9 percent of the rural population. Among the administrative divisions, people living in Dhaka are more likely to fall in the highest wealth quintile than people living in other divisions. In contrast, Rajshahi and Barisal divisions have the highest proportion of the population in the lowest wealth quintile (28 percent and 25 percent, respectively).

Table 2.8 Wealth quintiles

Percent distribution of the de jure population by wealth quintiles, according to residence and division, Bangladesh 2007

Residence/division	Wealth quintile					Total	Number
	Lowest	Second	Middle	Fourth	Highest		
Residence							
Urban	5.3	7.5	10.8	18.9	57.5	100.0	10,874
Rural	24.2	23.6	22.6	20.3	9.3	100.0	38,045
Division							
Barisal	25.2	27.3	23.4	15.8	8.4	100.0	3,087
Chittagong	10.9	19.1	25.6	26.0	18.4	100.0	9,767
Dhaka	21.7	18.6	14.6	17.3	28.0	100.0	15,009
Khulna	13.9	17.6	23.9	26.4	18.2	100.0	5,831
Rajshahi	27.8	21.8	19.1	17.2	14.2	100.0	11,506
Sylhet	18.2	20.8	21.1	17.7	22.2	100.0	3,719
Total	20.0	20.0	20.0	20.0	20.0	100.0	48,919

2.6 EDUCATIONAL ATTAINMENT

Studies have shown that education is one of the major socioeconomic factors that influence a person's behavior and attitudes. In general, the greater a person's educational attainment, the more knowledgeable he/she is about the use of health services, family planning methods, and the health care of children. For all household members age six or older, data were collected on the level of education last attended and the highest class completed at that level. Tables 2.9.1 and 2.9.2 show the distribution of the male and female household population age six years and older by the highest level of education completed and the median number of years of education completed, according to background characteristics.

The majority of Bangladeshis have attended school. Only one in four men and about one in three women have never attended school. There is no gender difference in primary education. However, men are almost twice as likely as women to have completed secondary school or a higher level of education (12 percent and 7 percent, respectively). There has been little change in the proportion of men and women with no education: since 2004 it has declined from 27 percent to 25 percent among men and from 34 percent to 30 percent among women.

Changes in educational attainment by successive age groups indicate the long-term trend in a country's educational achievement. The data show that there has been a marked improvement in the educational attainment of both men and women over the years. The proportion of men with no education is notably higher (49 percent) among those age 65 years or older than among boys age 10-14 years (7 percent). Similarly, 82 percent of women age 65 and over have no education compared with only 4 percent of girls age 10-14 years.

Table 2.9.1 Educational attainment of the male household population

Percent distribution of the de facto male household population age six and over by highest level of schooling attended or completed and median grade completed, according to background characteristics, Bangladesh 2007

Background characteristic	No education	Primary incomplete	Primary complete[1]	Secondary incomplete	Secondary complete or higher[2]	Total	Number	Median years completed
Age								
6-9	13.8	85.4	0.2	0.5	0.0	100.0	2,556	0.0
10-14	7.0	57.7	4.8	30.3	0.1	100.0	2,881	3.0
15-19	10.4	21.0	10.8	46.6	11.2	100.0	2,269	5.4
20-24	14.5	19.4	11.8	33.9	20.4	100.0	1,843	5.2
25-29	21.8	20.6	11.7	24.4	21.4	100.0	1,778	4.5
30-34	31.9	16.9	7.6	22.0	21.6	100.0	1,456	4.1
35-39	34.7	17.9	7.2	21.5	18.7	100.0	1,561	3.6
40-44	39.4	16.1	8.8	19.2	16.4	100.0	1,367	2.8
45-49	39.0	18.0	8.1	19.0	15.8	100.0	1,143	2.4
50-54	40.4	17.4	8.2	17.2	16.8	100.0	1,056	2.2
55-59	40.3	15.7	4.5	16.4	23.0	100.0	496	2.9
60-64	51.6	18.0	5.7	12.2	12.4	100.0	575	0.0
65+	49.1	19.8	8.3	14.6	8.1	100.0	1,318	0.0
Residence								
Urban	17.5	27.0	7.1	25.1	23.3	100.0	4,653	4.5
Rural	26.9	34.3	7.5	22.3	9.0	100.0	15,661	2.3
Division								
Barisal	17.6	36.9	7.0	25.6	12.8	100.0	1,274	3.4
Chittagong	23.3	35.2	7.5	22.3	11.6	100.0	3,802	2.9
Dhaka	26.6	31.7	6.8	21.7	13.1	100.0	6,288	2.6
Khulna	22.7	32.3	6.9	24.2	13.9	100.0	2,521	3.3
Rajshahi	25.5	30.1	7.4	24.4	12.6	100.0	4,915	3.2
Sylhet	27.2	34.8	10.9	20.9	6.2	100.0	1,514	2.1
Wealth quintile								
Lowest	42.2	39.8	5.4	10.9	1.6	100.0	3,876	0.0
Second	32.0	37.5	8.4	18.1	4.0	100.0	4,076	1.2
Middle	23.9	34.9	9.3	24.7	7.2	100.0	4,110	2.8
Fourth	16.0	30.1	7.9	32.2	13.7	100.0	4,108	4.3
Highest	10.6	21.3	5.9	28.1	34.1	100.0	4,145	7.2
Total	24.7	32.6	7.4	23.0	12.3	100.0	20,314	2.9

Note: Total includes 14 men with don't know or information missing on educational attainment

[1] Primary complete is defined as completing grade 5.

[2] Secondary complete is defined as completing grade 10.

Table 2.9.2 Educational attainment of the female household population

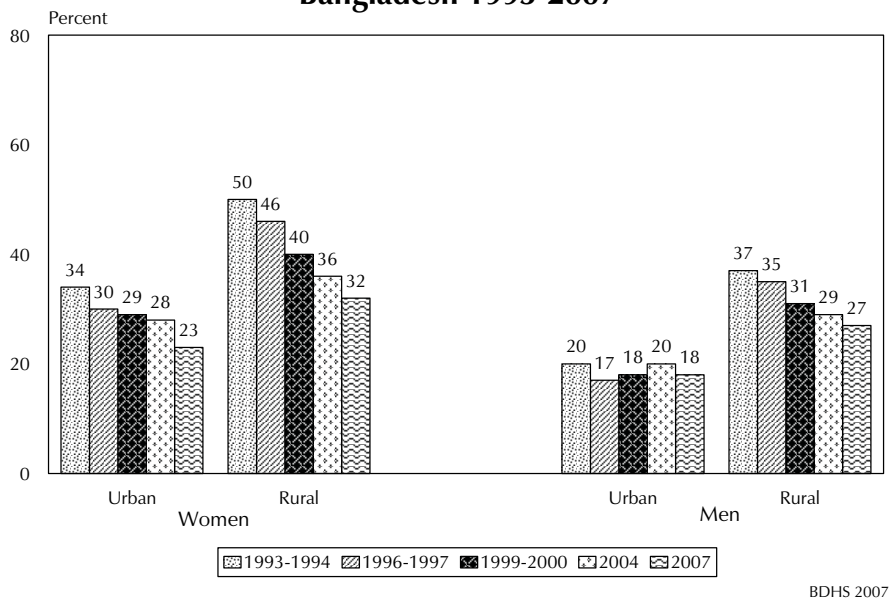
Percent distribution of the de facto female household population age six and over by highest level of schooling attended or completed and median grade completed, according to background characteristics, Bangladesh 2007

Background characteristic	No education	Primary incomplete	Primary complete[1]	Secondary incomplete	Secondary complete or higher[2]	Total	Number	Median years completed
Age								
6-9	11.0	88.3	0.2	0.5	0.0	100.0	2,511	0.0
10-14	4.4	53.0	3.9	38.7	0.0	100.0	2,835	3.5
15-19	7.8	14.3	9.1	59.2	9.6	100.0	3,004	6.4
20-24	13.8	19.4	9.0	41.5	16.0	100.0	2,571	5.6
25-29	29.1	21.8	8.2	26.6	14.3	100.0	2,056	3.9
30-34	41.4	22.3	8.1	18.2	10.1	100.0	1,684	1.4
35-39	47.7	20.8	7.3	16.5	7.7	100.0	1,599	0.0
40-44	52.6	23.7	7.2	11.7	4.8	100.0	1,214	0.0
45-49	58.8	19.3	6.3	11.5	4.2	100.0	1,063	0.0
50-54	66.5	15.6	7.2	6.9	3.4	100.0	733	0.0
55-59	68.8	15.8	7.4	6.1	1.9	100.0	680	0.0
60-64	72.5	18.7	4.8	3.8	0.2	100.0	555	0.0
65+	81.6	12.1	4.0	1.9	0.3	100.0	996	0.0
Residence								
Urban	23.2	27.2	6.3	27.6	15.7	100.0	4,778	3.9
Rural	32.2	32.5	6.3	24.8	4.1	100.0	16,731	1.7
Division								
Barisal	22.3	36.0	9.5	25.5	6.7	100.0	1,334	3.1
Chittagong	29.1	30.3	6.7	27.4	6.5	100.0	4,345	2.6
Dhaka	31.1	31.7	5.9	23.7	7.5	100.0	6,566	1.8
Khulna	28.9	31.9	5.2	27.1	6.9	100.0	2,570	2.5
Rajshahi	31.1	30.2	5.8	26.1	6.8	100.0	5,088	2.0
Sylhet	35.2	31.5	7.9	22.2	3.2	100.0	1,606	1.3
Wealth quintile								
Lowest	44.3	38.7	4.8	11.9	0.3	100.0	4,153	0.0
Second	36.5	35.5	7.0	19.8	1.2	100.0	4,145	0.9
Middle	31.5	32.1	7.2	26.5	2.7	100.0	4,308	1.9
Fourth	24.1	28.6	6.6	33.8	6.9	100.0	4,358	3.6
Highest	16.0	22.8	6.1	33.9	21.1	100.0	4,545	5.2
Total	30.2	31.3	6.3	25.4	6.7	100.0	21,510	2.1

Note: Total includes 9 women with don't know or information missing on educational attainment
[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

As shown in Figure 2.3, data from previous BDHS surveys also present a trend toward higher educational attainment. Improvements in ever attending school have been greater among women than men and in rural than urban areas. For example, the percentage of rural women who have never attended school decreased from 50 percent in 1993-94 to 32 percent in 2007.

Figure 2.3 **Trends in Percentage of Men and Women Age Six and Above With No Education, by Sex and Residence Bangladesh 1993-2007**



Overall, levels of educational attainment are higher in urban than rural areas (Tables 2.9.1 and 2.9.2). The proportion of men and women with no education is lower in urban areas (18 percent) than rural areas (27 percent), while the proportion who have completed secondary or higher schooling is greater in urban areas (23 percent) than in rural areas (9 percent). On average, men and women living in urban areas have completed two more years of school than those living in rural areas. There are also regional variations in educational attainment. Barisal division has the highest proportion of men and women with some education (82 percent of men and 78 percent of women) and Sylhet the lowest (73 percent of men and 65 percent of women).

Men and women in lower wealth quintiles are less likely to have attended school. Among women, 44 percent of those in the lowest quintile have never attended school compared with 16 percent in the highest quintile. Differences by wealth are equally large among men; 42 percent of men from the lowest quintile have no schooling compared with 11 percent from the highest wealth quintile.

A comparison of the 2004 and 2007 BDHS surveys shows a marked rise in primary education among women (NIPORT et al, 2005). Over this three-year period, the percentage of women age 15-19 who have completed at least primary education has increased from 71 percent to 78 percent. In contrast, there has been almost no change in the proportion of men age 15-19 who have completed at least primary education (67 percent in 2004 compared with 69 percent in 2007).

2.6.1 School Attendance

Most Bangladeshi children attend school. Almost nine in ten children age 6-10 are in school (Table 2.10). More than seven in ten children age 11-15 also attend school. In both of these age groups school attendance is higher among girls than boys. There is little difference in urban and rural school attendance rates under age 16. Among young men and women age 16-20 and 21-24, however, urban residents are more likely to be in school than their rural counterparts.

Children age 6-15 are over three times more likely to be in school than children age 16-20 (80 percent versus 26 percent). These data may reflect the impact of recent efforts to promote female education: school attendance is now more common among girls than boys age 6-15, but the reverse is true among those age 16-20.

Table 2.10 School attendance

Percentage of the de facto household population age 6-24 years attending school, by age, sex, and residence, Bangladesh 2007

	Male			Female			Total		
Age	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
6-15	76.7	77.6	77.4	78.8	82.6	81.9	77.8	80.1	79.6
6-10	84.4	84.6	84.6	86.8	88.3	88.0	85.6	86.4	86.3
11-15	68.4	68.6	68.6	70.7	76.0	74.8	69.6	72.4	71.8
16-20	35.1	29.3	30.8	31.4	19.5	22.4	33.1	23.8	26.0
21-24	24.9	11.6	15.3	15.3	4.5	7.2	19.3	7.3	10.5

2.7 EMPLOYMENT

The 2007 BDHS Household Questionnaire asked whether each person age eight and over in the sampled households was working at the time of the survey. Table 2.11 presents these data. Employment status varies widely by sex: 68 percent of men and 23 percent of women are currently employed. There is no difference in employment levels between rural and urban areas for either men or women. Male employment rates have not changed since the 2004 BDHS, but female employment rates have increased substantially, rising from 15 percent to 23 percent over the course of the last three years.

Table 2.11 Employment status

Percentage of male and female de facto household population age eight and over working at the time of the survey, by age, sex, and residence, Bangladesh 2007

	Male			Female		
Age	Urban	Rural	Total	Urban	Rural	Total
8-9	3.5	1.5	1.9	3.1	1.1	1.5
10-14	17.0	17.2	17.2	14.2	3.4	5.7
15-19	52.1	57.6	56.2	22.4	14.8	16.6
20-24	73.3	85.2	82.0	25.0	26.3	26.0
25-29	89.2	92.4	91.6	32.9	35.8	35.1
30-34	95.5	96.9	96.5	35.7	44.0	42.1
35-39	98.5	97.3	97.6	32.8	38.6	37.1
40-44	98.7	99.1	99.0	32.9	38.7	37.3
45-49	98.0	98.5	98.4	27.1	36.3	34.2
50-54	94.0	94.9	94.7	20.5	26.3	25.1
55-59	87.7	88.3	88.1	15.1	18.2	17.7
60-64	79.5	80.0	79.9	8.6	11.7	11.2
65+	51.3	55.3	54.6	4.3	7.9	7.4
Total	69.2	68.0	68.3	23.6	22.7	22.9
Number of population	4,400	14,597	18,997	4,518	15,705	20,222

CHARACTERISTICS OF SURVEY RESPONDENTS 3

This chapter describes the demographic and socioeconomic profile of respondents interviewed in the 2007 BDHS. This information is useful in the interpretation of findings and for understanding the results presented later in the report. The survey collected basic information on respondents' age, level of education, marital status, religion, ethnicity, and economic status. Information was also collected on respondents' exposure to mass media, literacy, employment status, occupation, and type of earnings. Additional information was collected on respondents' knowledge and attitudes concerning tuberculosis and men's use of tobacco. Individual respondents to the 2007 BDHS included 10,996 ever-married women age 15-49 years and 3,771 ever-married men age 15-54 years.[1]

The tables throughout this chapter present weighted numbers. In most cases, percentages based on 25 to 49 unweighted cases are shown in parentheses, and percentages based on fewer than 25 unweighted cases are suppressed and replaced with an asterisk. This serves to caution readers interpreting the data that a percentage based on fewer than 50 cases may not be statistically reliable.[2]

For comparability between women and men, the main body of the tables includes women and men age 15-49. Information for men in the age group 50-54 years and a total for all men age 15-54 are provided at the end of each table that includes men.

3.1 CHARACTERISTICS OF RESPONDENTS

Table 3.1 shows the distribution of women and men age 15-49 interviewed in the 2007 BDHS by selected background characteristics. Half of the women (50 percent) are under age 30, in contrast to just 29 percent of men.

The 2007 BDHS uses an ever-married sample of women and men. In the sample, the majority of the women (93 percent) are married, while 7 percent are divorced, separated, or widowed. Nearly all men (99 percent) are currently married, with just 1 percent divorced, separated, or widowed. The majority of respondents—77 percent of both women and men—reside in rural areas. The respondents are not divided evenly across divisions. Almost one-third of respondents live in Dhaka, one-fourth in Rajshahi, one-sixth in Chittagong, and about one-tenth in Khulna. Only about one in twenty respondents live in Barisal, and a similar proportion live in Sylhet. The distribution of sampled women by division is similar to that in the 2004 BDHS.

Education is one of the most influential factors affecting an individual's knowledge, attitudes, and behavior. Approximately 34 percent of women and 30 percent of men age 15-49 have no education, while 12 percent of women and 18 percent of men have completed secondary or higher education.

[1] The survey sampled ever-married women age 10-49. However, very few ever-married women were in the age group 10-14 (55 unweighted cases, or less than one percent). These women have been removed from the data set and the weights recalculated for the 15-49 age group.

[2] For mortality rates, parentheses are used if based on 250 to 499 children exposed to the risk of mortality in any of the component rates, and the figures are suppressed if based on fewer than 250 children exposed to the risk of mortality in any of the component rates.

Data on religious affiliation show that the vast majority (about 90 percent) of the respondents are Muslim, about 9 percent are Hindu, and the remaining 1 percent are Buddhist and Christian.

Table 3.1 Background characteristics of respondents

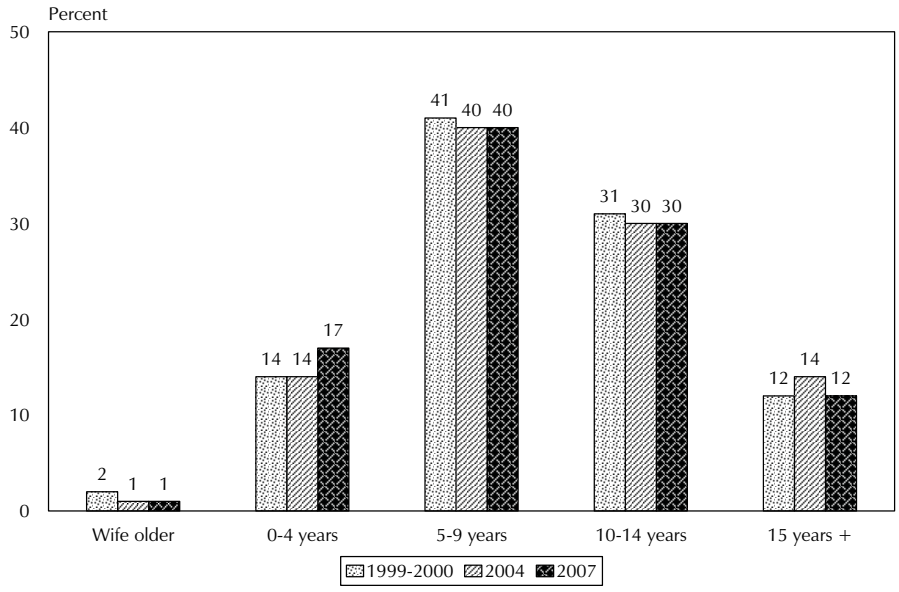
Percent distribution of ever-married women and men age 15-49 by selected background characteristics, Bangladesh 2007

Background characteristic	Women			Men		
	Weighted percent	Weighted number	Unweighted number	Weighted percent	Weighted number	Unweighted number
Age						
15-19	13.0	1,424	1,348	0.6	20	18
20-24	19.8	2,175	2,174	9.0	290	257
25-29	17.6	1,931	1,935	19.1	616	607
30-34	15.1	1,660	1,661	14.8	476	505
35-39	14.2	1,564	1,596	20.9	674	691
40-44	11.0	1,213	1,218	17.6	567	580
45-49	9.4	1,030	1,064	18.1	583	573
Marital status						
Currently married	92.7	10,192	10,146	99.2	3,202	3,205
Divorced/separated/widowed	7.3	804	850	0.8	26	26
Residence						
Urban	22.6	2,482	4,151	23.0	742	1,249
Rural	77.4	8,514	6,845	77.0	2,486	1,982
Division						
Barisal	6.0	662	1,438	5.8	186	421
Chittagong	18.4	2,023	1,943	16.5	531	523
Dhaka	31.2	3,431	2,340	30.3	977	644
Khulna	12.7	1,396	1,711	13.6	438	539
Rajshahi	25.2	2,776	2,080	28.1	907	687
Sylhet	6.4	707	1,484	5.8	188	417
Educational attainment						
No education	34.1	3,746	3,525	29.9	964	905
Primary incomplete	21.1	2,320	2,291	26.6	859	814
Primary complete[1]	8.4	929	962	6.8	218	229
Secondary incomplete	24.4	2,681	2,649	18.8	607	631
Secondary complete or higher[2]	11.9	1,304	1,547	18.0	580	652
Religion						
Islam	91.0	10,005	9,924	90.1	2,907	2,894
Hinduism	8.1	893	1,011	8.9	286	316
Buddism	0.6	66	23	0.8	26	9
Christianity	0.2	24	26	0.1	3	4
Other/missing	0.1	8	12	0.2	5	8
Total 15-49	100.0	10,996	10,996	100.0	3,227	3,231
50-54	na	na	na	na	544	540
Total men 15-54	na	na	na	na	3,771	3,771

Note: Education categories refer to the highest level of education attended, whether or not that level was completed.
na = Not applicable
[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

Because the ever-married men interviewed in the 2007 BDHS were selected from a sub-sample of households in which ever-married women were interviewed, it is possible to match male and female respondents to their spouses in order to obtain a set of matched couples. Figure 3.1 shows age differential between spouses for matched couples in the current and two previous BDHS surveys. Not surprisingly, the husband is older than the wife in almost all couples. Since 2004, the percentage of couples in which the husband is older than his wife by 15 years or more has declined, while the percentage in which the husband is less than 5 years older than the wife has increased.

Figure 3.1 **Trends in Age Differential between Spouses (Husband's Age Minus Wife's Age) 1999, 2000, 2004, and 2007 BDHS)**



3.2 EDUCATIONAL ATTAINMENT

The educational attainment of its population is an important indicator of a society's stock of human capital and its level of socioeconomic development. Education also enhances the ability of individuals to achieve desired demographic and health goals. This section discusses differentials in the educational attainment of women and men by selected background characteristics.

Tables 3.2.1 and 3.2.2 present the distribution of female and male respondents by the highest level of education completed or attended, according to age, urban-rural residence, division, and household wealth.

A majority of both female and male respondents have not gone beyond the primary level of education. More than one in three (34 percent) women age 15-49 have never been to school, 21 percent have only some primary education, 8 percent have completed primary schooling, 24 percent have only some secondary education, and 12 percent have completed secondary school or gone on to higher education (Table 3.2.1). Women who are older and live in rural areas are more likely to have no education. Urban-rural differences in education are pronounced at the secondary and higher levels. For example, urban women are more than twice as likely as rural women to have completed secondary or higher education (22 percent and 9 percent, respectively).

In five of the six divisions, roughly similar proportions of women (11 to 14 percent) have completed secondary school. Sylhet, where only 5 percent of women have completed secondary education or higher, is an exception. Sylhet also has the highest proportion of women with no education (45 percent), while Barisal has the lowest (22 percent).

Educational attainment is related to the economic status of respondents. An analysis of education by household wealth indicates that women in the highest wealth quintile are most likely to complete secondary or higher education. Thirty-one percent of women in the top wealth quintile have completed secondary or higher education, compared with just 3 percent of women in the bottom quintile.

Table 3.2.1 Educational attainment: Women

Percent distribution of ever-married women age 15-49 by highest level of schooling attended or completed, and median years completed, according to background characteristics, Bangladesh 2007

Background characteristic	Educational attainment					Total	Number of women	Median years completed
	No education	Primary incomplete	Primary complete[1]	Secondary incomplete	Secondary complete or higher[2]			
Age								
15-19	10.0	17.6	10.8	51.5	9.9	100.0	1,424	6.1
20-24	15.4	21.0	10.4	37.5	15.6	100.0	2,175	5.4
25-29	30.1	22.6	8.0	23.1	16.0	100.0	1,931	3.6
30-34	41.1	22.6	7.9	15.5	12.9	100.0	1,660	1.4
35-39	48.1	21.1	7.0	13.0	10.9	100.0	1,564	0.0
40-44	53.1	23.0	7.0	10.6	6.2	100.0	1,213	0.0
45-49	59.2	18.7	7.0	9.7	5.3	100.0	1,030	0.0
Residence								
Urban	25.2	18.6	8.1	25.9	22.1	100.0	2,482	4.8
Rural	36.7	21.8	8.6	23.9	8.9	100.0	8,514	2.6
Division								
Barisal	22.3	28.0	12.4	23.9	13.1	100.0	662	4.0
Chittagong	32.2	18.8	9.5	27.6	11.9	100.0	2,023	3.9
Dhaka	35.2	21.4	7.8	23.0	12.5	100.0	3,431	3.0
Khulna	30.1	23.5	6.8	25.4	14.1	100.0	1,396	3.6
Rajshahi	35.9	20.2	7.9	24.5	11.3	100.0	2,776	2.9
Sylhet	45.4	18.5	10.6	20.1	5.0	100.0	707	1.0
Wealth quintile								
Lowest	56.2	24.7	6.4	9.6	2.7	100.0	2,115	0.0
Second	42.9	24.6	9.3	18.7	4.3	100.0	2,157	0.9
Middle	35.9	22.1	10.7	23.9	7.3	100.0	2,186	3.0
Fourth	24.4	20.2	8.4	34.3	12.7	100.0	2,259	4.6
Highest	13.0	14.3	7.4	34.2	31.0	100.0	2,278	7.6
Total	34.1	21.1	8.4	24.4	11.9	100.0	10,996	3.2

[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

Three in ten (31 percent) men age 15-49 have no education, 26 percent have only some primary education, seven percent have completed primary school, 19 percent have some secondary education, and 18 percent have completed secondary or higher education (Table 3.2.2). Only 12 percent of men in the highest wealth quintile have never attended school, compared with 54 percent of men in the lowest wealth quintile.

The median length of schooling is 3.2 years for women and 2.7 years for men. There have been improvements in the educational attainment of women over the past three years. The percentage of women with no education has declined from 41 percent in 2004 to its current level of 34 percent, while the proportion of women who have completed secondary school or higher increased from 7 to 12 percent. However, the percentage of men with no education has remained relatively stable since 2004.

Figure 3.2 shows the educational differences between spouses in matched couples. The proportion of couples in which both have some education has increased from 44 percent in 1999-2000 to 55 percent in 2007, and the percentage in which neither spouse is educated has decreased from 25 to 16 percent. For three in ten couples, only one partner is educated. Since 1999-2000, the probability that the husband is the only educated partner has decreased, while the probability that the wife is the only educated partner has increased.

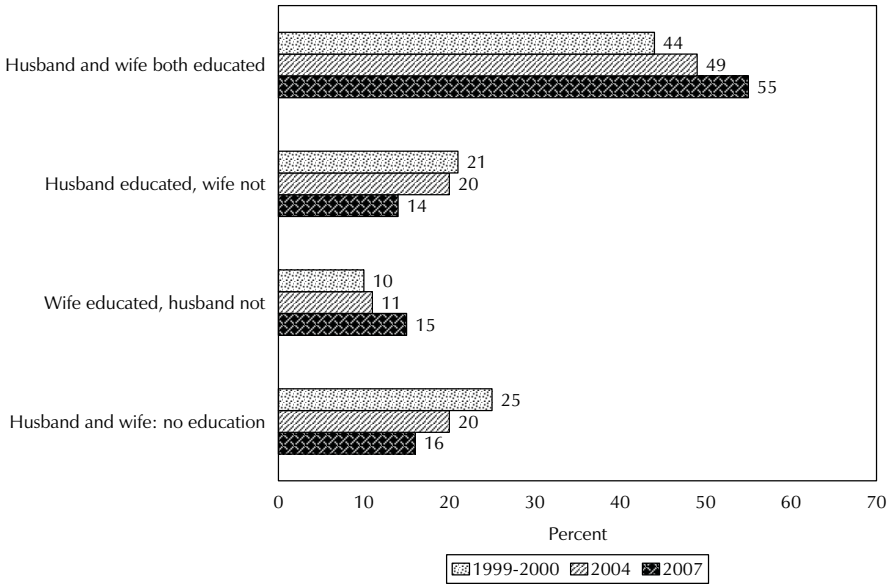
Table 3.2.2 Educational attainment: Men

Percent distribution of ever-married men age 15-49 by highest level of schooling attended or completed, and median years completed, according to background characteristics, Bangladesh 2007

Background characteristic	Educational attainment					Total	Number of men	Median years completed
	No education	Primary incomplete	Primary complete[1]	Secondary incomplete	Secondary complete or higher[2]			
Age								
15-19	*	*	*	*	*	100.0	20	*
20-24	25.1	25.8	10.7	23.8	14.7	100.0	290	3.9
25-29	22.9	29.5	8.4	19.5	19.7	100.0	616	3.6
30-34	28.3	23.2	4.4	21.8	22.4	100.0	476	3.7
35-39	33.2	25.4	6.5	15.2	19.8	100.0	674	2.4
40-44	35.5	27.0	5.2	17.3	15.1	100.0	567	1.7
45-49	31.6	27.3	7.1	19.0	14.9	100.0	583	2.1
Residence								
Urban	23.4	20.2	7.0	21.5	27.9	100.0	857	4.9
Rural	32.8	28.1	6.3	17.6	15.1	100.0	2,914	2.1
Division								
Barisal	23.3	30.4	8.6	19.4	18.3	100.0	217	3.5
Chittagong	26.6	24.4	9.2	19.6	20.2	100.0	620	3.7
Dhaka	33.7	24.5	7.0	18.4	16.5	100.0	1,146	2.3
Khulna	31.1	27.0	6.3	17.3	18.4	100.0	509	2.9
Rajshahi	30.3	26.6	3.9	19.6	19.6	100.0	1,052	2.6
Sylhet	34.5	34.4	6.8	13.0	11.3	100.0	227	1.6
Wealth quintile								
Lowest	54.1	30.1	4.1	7.8	3.9	100.0	709	0.0
Second	39.4	30.6	8.8	13.0	8.3	100.0	777	0.6
Middle	30.3	32.8	7.2	19.7	10.1	100.0	777	2.3
Fourth	19.2	24.7	7.7	28.2	20.2	100.0	748	4.8
Highest	11.6	13.5	4.4	23.4	47.1	100.0	759	8.8
Total 15-49	30.7	26.3	6.5	18.5	18.0	100.0	3,771	2.7
50-54	35.5	24.7	4.8	16.6	18.3	100.0	544	1.9
Total men 15-54	30.7	26.3	6.5	18.5	18.0	100.0	3,771	2.7

Note: An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

Figure 3.2 **Trends in Education of Couples 1999-2000, 2004, and 2007 BDHS**



3.3 LITERACY

Literacy is widely acknowledged to benefit the individual and society and is associated with a number of positive outcomes for health and nutrition. The 2007 BDHS determined literacy based on the respondent's ability to read all or part of a sentence. To test respondents' reading ability, interviewers carried a set of cards with simple sentences printed in Bangla during data collection. Respondents who had attended at least some secondary school were assumed to be literate. Only those who had never been to school and those who had not attended school at the secondary level were asked to read the cards during the interview. Tables 3.3.1 and 3.3.2 present the distribution of female and male respondents by different categories of literacy, according to age, urban-rural residence, division, and household wealth.

Table 3.3.1 indicates that only 55 percent of women of age 15-49 in Bangladesh are literate. Literacy varies by urban-rural residence. Sixty-five percent of urban women are literate compared with 52 percent of rural women. For women, as age increases, the level of literacy decreases. About 79 percent of women age 15-19 are literate, compared with only 31 percent of women age 45-49.

Divisional differences in literacy are notable; the proportion of literate women is highest in Barisal (65 percent) and lowest in Sylhet (48 percent). There is also a marked difference in literacy by household wealth, ranging from a low of 29 percent among women in the bottom wealth quintile to a high of 80 percent among women in the top wealth quintile.

Table 3.3.1 Literacy: Women

Percent distribution of ever-married women age 15-49 by level of schooling attended and level of literacy, and percentage literate, according to background characteristics, Bangladesh 2007

Background characteristic	Secondary school or higher	No schooling or primary school: Can read a whole sentence	No schooling or primary school: Can read part of a sentence	No schooling or primary school: Cannot read at all	Total	Percent literate[1]	Number
Age							
15-19	61.5	11.7	5.5	21.3	100.0	78.7	1,424
20-24	53.1	12.8	6.3	27.8	100.0	72.1	2,175
25-29	39.1	11.4	8.2	41.3	100.0	58.6	1,931
30-34	28.4	10.9	7.4	53.3	100.0	46.7	1,660
35-39	23.8	11.2	7.1	57.8	100.0	42.1	1,564
40-44	16.8	11.4	6.5	65.1	100.0	34.7	1,213
45-49	15.0	10.7	5.3	69.0	100.0	30.9	1,030
Residence							
Urban	48.1	11.6	5.3	34.9	100.0	65.0	2,482
Rural	32.8	11.5	7.2	48.5	100.0	51.5	8,514
Division							
Barisal	37.0	18.1	10.1	34.6	100.0	65.2	662
Chittagong	39.4	10.8	7.1	42.6	100.0	57.3	2,023
Dhaka	35.5	11.6	6.3	46.6	100.0	53.4	3,431
Khulna	39.5	10.9	6.9	42.7	100.0	57.3	1,396
Rajshahi	35.9	9.6	6.2	48.3	100.0	51.6	2,776
Sylhet	25.3	16.2	6.7	51.9	100.0	48.1	707
Wealth quintile							
Lowest	12.3	9.9	7.1	70.6	100.0	29.3	2,115
Second	23.0	12.0	8.0	57.0	100.0	43.0	2,157
Middle	31.2	12.6	7.2	49.0	100.0	51.0	2,186
Fourth	47.0	12.3	7.1	33.4	100.0	66.4	2,259
Highest	65.2	10.7	4.5	19.5	100.0	80.4	2,278
Total	36.3	11.5	6.7	45.4	100.0	54.5	10,996

[1] Includes women who attended secondary school or higher and women who can read a whole sentence or part of a sentence

Men are about as likely as women to be literate. Fifty-seven percent of Bangladeshi men age 15-49 are literate (Table 3.3.2). Patterns by urban-rural residence, division, and household wealth are similar to those of women.

Table 3.3.2 Literacy: Men

Percent distribution of ever-married men age 15-49 by level of schooling attended and level of literacy, and percentage literate, according to background characteristics, Bangladesh 2007

Background characteristic	Secondary school or higher	No schooling or primary school: Can read a whole sentence	No schooling or primary school: Can read part of a sentence	No schooling or primary school: Cannot read at all	Total	Percent literate[1]	Number
Age							
15-19	*	*	*	*	100.0	46.5	20
20-24	38.5	16.0	8.8	36.8	100.0	63.2	290
25-29	39.2	13.8	8.8	38.3	100.0	61.7	616
30-34	44.2	10.7	3.6	41.5	100.0	58.5	476
35-39	35.0	12.6	8.3	44.2	100.0	55.8	674
40-44	32.4	13.5	6.4	47.7	100.0	52.3	567
45-49	33.9	13.5	6.9	45.6	100.0	54.4	583
Residence							
Urban	50.5	11.5	6.2	31.8	100.0	68.2	742
Rural	32.7	13.7	7.4	46.2	100.0	53.8	2,486
Division							
Barisal	37.8	14.4	9.5	38.3	100.0	61.7	186
Chittagong	39.8	10.4	8.9	40.9	100.0	59.1	531
Dhaka	35.2	12.6	5.5	46.7	100.0	53.3	977
Khulna	35.9	16.4	6.0	41.7	100.0	58.3	438
Rajshahi	39.3	12.3	7.9	40.4	100.0	59.6	907
Sylhet	25.0	18.8	7.7	48.6	100.0	51.4	188
Wealth quintile							
Lowest	11.1	10.8	6.1	72.0	100.0	28.0	592
Second	20.8	13.0	6.4	59.8	100.0	40.2	677
Middle	30.0	16.9	10.5	42.7	100.0	57.3	671
Fourth	49.7	15.0	8.8	26.6	100.0	73.4	634
Highest	71.0	9.9	3.9	15.3	100.0	84.7	654
Total 15-49	36.8	13.2	7.1	42.9	100.0	57.1	3,227
50-54	35.0	12.8	4.9	47.0	100.0	52.7	544
Total men 15-54	36.5	13.1	6.8	43.5	100.0	56.4	3,771

Note: An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
[1] Includes men who attended secondary school or higher and men who can read a whole sentence or part of a sentence

3.4 ACCESS TO MASS MEDIA

Access to information through the media is essential to increase people's knowledge and awareness of what is taking place around them. The 2007 BDHS assessed exposure to media by asking respondents if they listened to a radio, watched television, or read newspapers or magazines at least once a week. It is important to know which subgroups are more or less likely to be reached by specific media in order to plan programs intended to spread information about health and family planning. Tables 3.4.1 and 3.4.2 show the percentage of female and male respondents who are exposed to different types of mass media by selected background characteristics.

Among women age 15-49, 7 percent read a newspaper at least once a week, 47 percent watch television at least once a week, and 19 percent listen to the radio at least once a week (Table 3.4.1). Only 2 percent of women are exposed to all three media sources each week. Close to half (45 percent) of women have no regular exposure to mass media. Since 2004 the proportion of women listening to the radio every week has decreased markedly from 33 percent to the current level of 19 percent.

Young women under 25 years of age are more likely to watch television or listen to the radio than older women. There is also a wide gap in media exposure by urban-rural residence. For example, the proportion of newspaper readers is much higher among urban women (16 percent) than rural women (4 percent). Media exposure is also related to the respondent's educational level and economic status. Regular exposure to mass media is higher among women with at least some secondary education and women in the top two wealth quintiles.

Table 3.4.1 Exposure to mass media: Women

Percentage of ever-married women age 15-49 who are exposed to specific media on a weekly basis, by background characteristics, Bangladesh 2007

Background characteristic	Reads a newspaper at least once a week	Watches television at least once a week	Listens to the radio at least once a week	All three media at least once a week	No media at least once a week	Number
Age						
15-19	5.5	50.6	28.3	2.0	37.3	1,424
20-24	6.7	55.5	23.5	1.8	36.2	2,175
25-29	7.9	48.8	18.3	1.8	43.6	1,931
30-34	7.7	44.6	16.1	1.6	48.4	1,660
35-39	6.7	43.9	16.0	1.8	49.1	1,564
40-44	6.2	39.2	15.4	1.1	52.3	1,213
45-49	4.2	36.8	11.2	0.4	58.0	1,030
Residence						
Urban	16.4	74.7	15.2	2.6	21.7	2,482
Rural	3.8	38.7	20.1	1.3	52.0	8,514
Division						
Barisal	8.1	29.0	21.1	1.7	57.7	662
Chittagong	7.5	43.9	21.2	1.9	46.9	2,023
Dhaka	7.1	55.7	18.1	1.3	38.6	3,431
Khulna	5.8	46.2	20.4	1.2	43.0	1,396
Rajshahi	5.6	46.1	18.0	1.7	46.7	2,776
Sylhet	6.1	33.1	15.8	2.2	58.6	707
Educational attainment						
No education	0.0	29.2	11.3	0.0	64.7	3,746
Primary incomplete	0.4	41.1	18.1	0.1	51.4	2,320
Primary complete[1]	3.6	49.6	18.6	1.1	41.8	929
Secondary incomplete	10.3	63.1	28.1	2.9	26.8	2,681
Secondary complete or higher[2]	31.2	72.7	24.1	6.5	17.8	1,304
Wealth quintile						
Lowest	0.7	17.4	8.4	0.3	77.9	2,115
Second	1.3	24.9	16.6	0.3	64.8	2,157
Middle	1.9	37.5	21.5	0.4	50.9	2,186
Fourth	6.3	67.9	28.7	2.4	22.7	2,259
Highest	22.1	83.1	18.9	4.4	12.8	2,278
Total	6.6	46.8	19.0	1.6	45.1	10,996

Note: Total includes 16 women with information missing on educational attainment
[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

Men are more likely to be exposed to each type of mass media than women. Thirty-one percent of men age 15-49 read a newspaper at least once a week, 72 percent watch television at least once a week, and 38 percent listen to the radio at least once a week (Table 3.4.2). Around 10 percent of men are exposed to all three media sources each week. Nineteen percent of men have no regular exposure to the mass media.

Table 3.4.2 Exposure to mass media: Men

Percentage of ever-married men age 15-49 who are exposed to specific media on a weekly basis, by background characteristics, Bangladesh 2007

Background characteristic	Reads a newspaper at least once a week	Watches television at least once a week	Listens to the radio at least once a week	All three media at least once a week	No media at least once a week	Number
Age						
15-19	*	*	*	*	*	20
20-24	29.7	76.2	47.8	9.7	13.7	290
25-29	28.8	78.3	42.3	11.4	15.2	616
30-34	36.9	73.7	36.7	11.6	17.7	476
35-39	32.5	71.2	33.6	10.7	21.0	674
40-44	28.7	64.8	34.1	8.6	23.1	567
45-49	28.4	68.8	36.3	9.2	21.4	583
Residence						
Urban	49.6	86.1	31.2	11.4	7.9	742
Rural	25.1	67.4	39.6	9.9	22.7	2,486
Division						
Barisal	29.0	60.0	41.3	8.8	25.0	186
Chittagong	35.5	74.1	43.6	16.3	18.0	531
Dhaka	30.1	79.4	38.7	9.5	14.4	977
Khulna	31.1	68.7	34.5	12.4	22.3	438
Rajshahi	30.3	67.7	35.3	7.2	20.8	907
Sylhet	22.9	61.9	30.8	7.8	28.2	188
Educational attainment						
No education	0.8	56.1	36.8	0.0	34.1	964
Primary incomplete	9.1	70.0	39.2	3.1	21.7	859
Primary complete[1]	30.7	76.7	37.3	10.9	15.9	218
Secondary incomplete	58.8	84.6	39.8	21.0	6.8	607
Secondary complete or higher[2]	82.8	84.6	34.9	26.2	5.5	580
Wealth quintile						
Lowest	7.6	50.1	32.1	2.8	39.9	592
Second	10.8	60.0	41.0	4.3	27.2	677
Middle	25.1	73.2	45.9	12.7	17.1	671
Fourth	41.1	82.3	37.2	13.5	10.2	634
Highest	67.8	91.3	31.3	17.5	3.5	654
Total 15-49	30.7	71.7	37.7	10.2	19.3	3,227
50-54	26.0	60.8	36.5	9.4	26.7	544
Total men 15-54	30.0	70.1	37.5	10.1	20.4	3,771

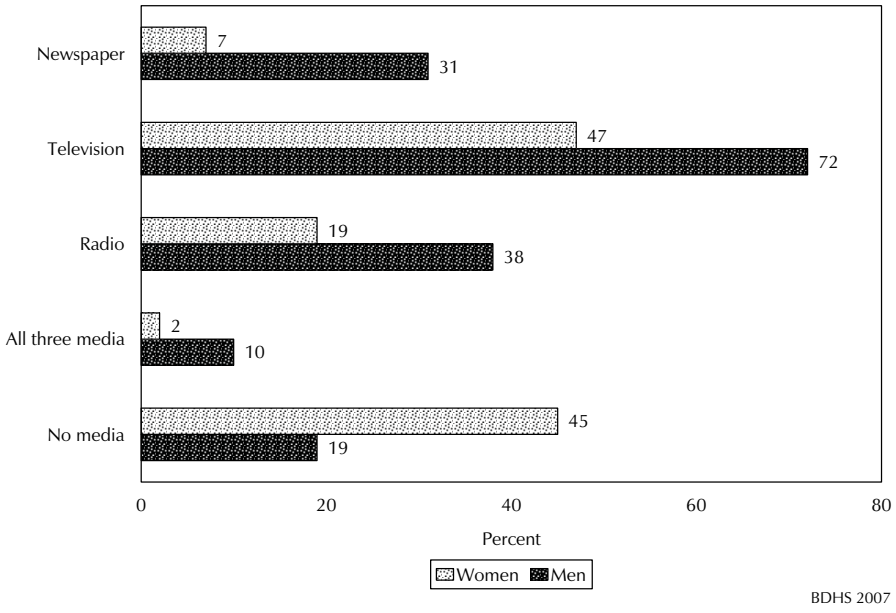
Note: An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

Since 2004 the proportion of men who regularly listen to the radio has decreased from 52 percent to the current level of 38 percent. This may account for the decrease in the proportion of men exposed to all three media from 17 percent in 2004 to 10 percent in 2007.

For both men and women in Bangladesh, access to specific types of media and to any mass media at all varies widely between subgroups. In all divisions, however, there is much greater exposure to television than other media.

Media exposure varies by gender: men are much more likely to be exposed to each type of mass media than women (Figure 3.3). For both men and women, exposure to television is much higher than exposure to the radio or newspaper.

Figure 3.3 **Percentage of Ever-Married Women and Men Exposed to Various Media at Least Once a Week**



3.5 EMPLOYMENT

The 2007 BDHS asked respondents a number of questions regarding their employment status, including whether they had worked in the 12 months before the survey. The results for women and men are presented in Tables 3.5.1 and 3.5.2.

At the time of the survey, about 65 percent of ever-married women age 15-49 said they had not been employed in the previous 12 months (Table 3.5.1). Among employed women, most work year-round. The proportion of women who are unemployed decreases with age and then plateaus after age 34 years. Unemployment is highest among women age 15-19 (79 percent) and lowest among those age 30-34 (55 percent). Women who are divorced, separated, or widowed are more likely to be employed than currently married women. Women who have children are also more likely to be employed than those without children.

Table 3.5.1 Employment status: Women

Percent distribution of ever-married women age 15-49 by employment status in the 12 months preceding the survey, according to background characteristics, Bangladesh 2007

Background characteristic	Not employed	Continuity of employment: All year	Seasonal	Occasional	Total	Number of women
Age						
15-19	79.4	15.9	2.1	2.7	100.0	1,424
20-24	70.5	23.5	2.8	3.2	100.0	2,175
25-29	63.0	29.4	3.1	4.5	100.0	1,931
30-34	55.3	36.8	3.8	4.1	100.0	1,660
35-39	60.7	32.2	3.5	3.6	100.0	1,564
40-44	61.3	31.6	4.0	2.9	100.0	1,213
45-49	63.7	30.1	3.6	2.6	100.0	1,030
Marital status						
Currently married	66.7	26.8	3.1	3.4	100.0	10,192
Divorced/separated/widowed	43.0	47.1	5.0	4.8	100.0	804
Number of living children						
0	73.3	20.7	2.9	3.2	100.0	1,212
1-2	64.9	28.7	2.9	3.5	100.0	5,144
3-4	61.6	30.8	3.8	3.8	100.0	3,336
5+	66.6	27.4	3.2	2.7	100.0	1,304
Residence						
Urban	67.6	26.3	1.9	4.2	100.0	2,482
Rural	64.2	28.9	3.6	3.2	100.0	8,514
Division						
Barisal	76.0	14.5	4.2	5.2	100.0	662
Chittagong	76.1	17.3	3.5	3.1	100.0	2,023
Dhaka	63.7	29.5	3.8	3.0	100.0	3,431
Khulna	60.5	34.0	2.5	2.9	100.0	1,396
Rajshahi	53.5	39.2	2.6	4.6	100.0	2,776
Sylhet	83.2	12.5	2.6	1.7	100.0	707
Educational attainment						
No education	56.1	35.9	4.7	3.3	100.0	3,746
Primary incomplete	61.9	29.7	3.7	4.6	100.0	2,320
Primary complete[1]	74.2	21.8	2.0	2.0	100.0	929
Secondary incomplete	74.6	19.8	2.4	3.2	100.0	2,681
Secondary complete or higher[2]	69.6	26.3	0.7	3.4	100.0	1,304
Wealth quintile						
Lowest	52.7	38.1	4.9	4.3	100.0	2,115
Second	59.3	32.5	4.6	3.6	100.0	2,157
Middle	67.4	26.4	3.5	2.6	100.0	2,186
Fourth	68.8	24.7	2.3	4.2	100.0	2,259
Highest	75.6	20.7	0.9	2.7	100.0	2,278
Total	65.0	28.3	3.2	3.5	100.0	10,996

Note: Total includes 16 women with information missing on educational attainment
[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

Moderate variations are observed in the proportion not employed by urban-rural residence and division. A somewhat smaller proportion of rural women are unemployed than urban women (64 percent compared with 68 percent). Women in Rajshahi division are least likely not to be employed (54 percent), and women in Sylhet are most likely not to be employed. A similar pattern was observed in the 2004 BDHS survey.

The proportion of women who are not employed increases with education. For example, 56 percent of women with no education are not employed, compared with 70 percent of women who have completed secondary or higher education. There is an inverse relationship between wealth and employment. Women living in the poorest households are less likely to be unemployed (53 percent) than women in the wealthiest households (76 percent).

The proportion of men who are not employed is much lower than the proportion of women (Table 3.5.2). Only 2 percent of men age 15-49 did not work in the 12 months preceding the survey. There is little variation in the employment status of men by any of the background characteristics in the table, but it can be noted that unemployment is higher among men in Sylhet division and those with secondary or higher education.

Table 3.5.2 Employment status: Men

Percent distribution of ever-married men age 15-49 by employment status in the 12 months preceding the survey, according to background characteristics, Bangladesh 2007

Background characteristic	Not employed	Continuity of employment			Total	Number of men
		All year	Seasonal	Occasional		
Age						
15-19	*	*	*	*	100.0	20
20-24	2.8	94.0	3.1	0.2	100.0	290
25-29	1.8	92.9	4.3	0.9	100.0	616
30-34	2.9	92.5	4.2	0.5	100.0	476
35-39	2.3	93.9	3.8	0.1	100.0	674
40-44	1.5	93.8	3.6	1.1	100.0	567
45-49	1.4	93.4	5.1	0.1	100.0	583
Marital status						
Currently married	1.9	93.5	4.1	0.5	100.0	3,202
Divorced/separated/widowed	(18.8)	(74.2)	(6.9)	(0.0)	100.0	26
Residence						
Urban	2.1	93.7	3.9	0.3	100.0	742
Rural	2.0	93.2	4.2	0.5	100.0	2,486
Division						
Barisal	1.9	90.4	7.1	0.6	100.0	186
Chittagong	2.6	93.6	3.3	0.5	100.0	531
Dhaka	2.1	93.6	4.2	0.1	100.0	977
Khulna	1.5	95.5	2.8	0.2	100.0	438
Rajshahi	1.2	96.1	1.9	0.8	100.0	907
Sylhet	5.2	76.2	16.9	1.7	100.0	188
Educational attainment						
No education	1.0	93.7	4.9	0.4	100.0	964
Primary incomplete	1.6	91.4	6.1	1.0	100.0	859
Primary complete[1]	1.7	95.6	2.5	0.2	100.0	218
Secondary incomplete	2.6	93.5	3.8	0.1	100.0	607
Secondary complete or higher[2]	4.0	94.8	1.0	0.3	100.0	580
Wealth quintile						
Lowest	1.0	92.6	5.3	1.0	100.0	592
Second	0.7	92.5	6.7	0.2	100.0	677
Middle	2.4	93.9	3.4	0.4	100.0	671
Fourth	2.6	92.4	4.1	0.8	100.0	634
Highest	3.3	95.2	1.3	0.2	100.0	654
Total 15-49	2.0	93.4	4.1	0.5	100.0	3,227
50-54	3.6	93.1	2.6	0.8	100.0	544
Total men 15-54	2.3	93.3	3.9	0.5	100.0	3,771

Note: Figures in parentheses are based on 25-49 unweighted cases; an asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
[1] Primary complete is defined as completing grade 5.
[2]Secondary complete is defined as completing grade 10.

3.6 OCCUPATION

Respondents who had worked in the 12 months preceding the survey were asked about their occupation. The results are presented in Tables 3.6.1 and 3.6.2, which show the distribution of employed women and men by occupation according to background characteristics. Agriculture is the dominant sector of the economy of Bangladesh, and most employed persons work in the agricultural sector.

Among working women, 43 percent are engaged in raising poultry or cattle, 12 percent in semi-skilled labor, and one in ten in home-based manufacturing (Table 3.6.1). The relationship between women's occupation and age is mixed. A notable finding is that younger women are more likely than older women to be engaged in factory work, blue collar services, and home-based manufacturing activities. In contrast, older women are more likely than younger women to work in business or as domestic servants.

Urban-rural residence has a marked effect on occupation. As expected, rural women are more than three times as likely as urban women to be engaged in poultry or cattle raising and farming. In contrast, employed women in urban areas are more likely than their rural counterparts to be engaged in factory work or blue collar services, semi-skilled labor, and professional or technical services.

Women with higher levels of education are more likely to be employed in professional, technical, and semi-skilled services than less educated women. In contrast, women with little or no education are more likely to be engaged as domestic servants and unskilled labor than those with more education. The majority of women in the lowest wealth quintile work in poultry or cattle raising.

Among employed men age 15-49, 33 percent are engaged in farming and agricultural activities, 22 percent are engaged in business, 16 percent are unskilled laborers, and 15 percent are semi-skilled laborers (Table 3.6.2). Older men are more likely to be engaged in business than younger men. As expected, men from the wealthiest households are more likely to be engaged in business, professional, or technical services compared with men from the poorest households. Most men in the lowest wealth quintile are unskilled laborers or work in farming and agriculture.

Table 3.6.1 Occupation: Women

Percent distribution of ever-married women age 15-49 employed in the 12 months preceding the survey by occupation, according to background characteristics, Bangladesh 2007

Background characteristic	Occupation												
	Professional/ technical	Business	Factory worker, blue collar service	Semi-skilled labor/ service	Unskilled labor	Farmer/ agricultural worker	Poultry, cattle raising	Home-based manufacturing	Domestic servant	Other	Missing	Total	Number of women
Age													
15-19	2.7	4.3	8.3	14.6	6.7	3.5	42.5	14.4	2.8	0.2	0.0	100.0	294
20-24	2.5	4.9	8.0	17.7	4.6	4.5	41.9	11.3	4.0	0.2	0.3	100.0	642
25-29	4.9	3.1	4.4	13.8	5.5	8.5	41.7	10.2	6.9	0.6	0.5	100.0	714
30-34	3.6	5.3	4.2	8.5	7.1	6.5	45.5	9.8	9.3	0.2	0.0	100.0	742
35-39	3.2	9.5	4.4	9.1	7.1	7.8	40.3	9.8	7.8	0.7	0.2	100.0	614
40-44	2.8	7.4	1.9	8.5	4.9	9.8	47.2	7.2	9.2	0.5	0.6	100.0	469
45-49	2.4	8.4	2.1	7.9	6.9	10.2	39.6	9.4	12.5	0.3	0.3	100.0	374
Marital status													
Currently married	3.6	5.6	4.6	11.8	5.4	7.3	46.4	10.0	4.7	0.3	0.3	100.0	3,391
Divorced/separated/ widowed	1.2	8.3	5.7	9.4	11.2	7.5	16.3	10.8	28.1	0.9	0.4	100.0	459
Number of living children													
0	6.7	3.2	9.3	19.7	7.1	6.7	25.4	12.6	8.6	0.2	0.4	100.0	324
1-2	4.6	6.0	5.5	13.3	5.7	5.3	40.7	10.3	7.7	0.5	0.4	100.0	1,807
3-4	1.5	6.6	2.9	8.9	6.4	9.7	47.4	9.5	6.7	0.3	0.1	100.0	1,282
5+	0.5	6.1	3.5	5.8	5.9	9.1	50.7	9.3	8.7	0.5	0.0	100.0	436
Residence													
Urban	6.6	7.7	12.9	20.4	8.4	1.1	15.5	11.4	15.4	0.6	0.1	100.0	805
Rural	2.5	5.5	2.6	9.2	5.4	8.9	50.0	9.8	5.5	0.4	0.3	100.0	3,044
Division													
Barisal	5.9	8.7	5.8	11.4	6.6	7.7	37.1	10.2	6.0	0.6	0.0	100.0	159
Chittagong	3.7	4.6	7.2	10.5	5.3	14.1	18.8	24.1	10.3	1.0	0.4	100.0	484
Dhaka	3.0	4.7	6.9	12.7	5.3	6.1	44.9	7.4	8.3	0.3	0.4	100.0	1,247
Khulna	4.1	8.1	2.4	12.4	5.3	3.4	48.0	9.5	6.1	0.5	0.2	100.0	551
Rajshahi	2.7	6.5	2.7	10.6	6.0	7.6	50.4	7.3	5.9	0.1	0.1	100.0	1,290
Sylhet	5.2	6.0	2.8	8.2	20.9	5.5	18.7	15.3	15.1	1.4	0.9	100.0	119
Educational attainment													
No education	0.1	6.9	4.1	4.2	8.7	9.3	42.4	10.0	13.1	0.7	0.4	100.0	1,645
Primary incomplete	0.3	6.8	3.6	7.8	5.2	7.3	49.6	12.1	6.8	0.2	0.3	100.0	884
Primary complete[1]	1.0	2.7	7.9	11.6	4.6	6.2	54.3	9.8	1.8	0.3	0.0	100.0	239
Secondary incomplete	1.0	4.9	6.9	25.2	3.7	5.6	40.5	10.7	1.2	0.1	0.2	100.0	680
Secondary complete or higher[2]	28.9	4.3	3.9	26.3	1.9	2.7	26.1	5.6	0.2	0.0	0.0	100.0	396
Wealth quintile													
Lowest	0.0	5.0	1.1	3.3	6.8	7.8	56.9	7.8	10.0	1.0	0.2	100.0	999
Second	0.8	6.5	5.2	6.9	7.1	8.8	47.2	11.7	5.5	0.1	0.2	100.0	878
Middle	1.1	5.1	3.1	11.0	7.7	10.3	43.6	11.3	5.8	0.4	0.7	100.0	713
Fourth	4.5	8.5	4.4	17.4	4.4	6.5	36.2	13.9	3.7	0.3	0.2	100.0	705
Highest	14.7	4.8	13.1	26.7	3.1	1.1	17.7	5.5	13.4	0.0	0.0	100.0	555
Total	3.3	6.0	4.7	11.5	6.1	7.3	42.8	10.1	7.5	0.4	0.3	100.0	3,849

Note: Total includes 5 women with information missing on educational attainment

[1] Primary complete is defined as completing grade 5.

[2] Secondary complete is defined as completing grade 10.

Table 3.6.2 Occupation: Men

Percent distribution of men age 15-49 employed in the 12 months preceding the survey by occupation, according to background characteristics, Bangladesh 2007

Background characteristic	Occupation												
	Professional/ technical	Business	Factory worker, blue collar service	Semi-skilled labor/ service	Unskilled labor	Farmer/ agricultural worker	Poultry, cattle raising	Home-based manufacturing	Domestic servant	Other	Missing	Total	Number of men
Age													
15-19	*	*	*	*	*	*	*	*	*	*	*	100.0	20
20-24	0.0	14.1	5.6	23.9	20.0	32.0	0.0	0.0	0.0	1.9	2.4	100.0	287
25-29	3.4	20.6	5.4	18.4	14.4	32.9	0.0	0.0	0.0	2.1	2.8	100.0	614
30-34	7.7	23.8	6.4	14.2	15.3	28.3	0.0	0.1	0.0	1.6	2.5	100.0	468
35-39	5.8	24.7	3.0	13.4	18.8	28.7	0.0	0.0	0.1	2.6	2.8	100.0	671
40-44	4.7	23.7	4.5	10.9	14.0	39.5	0.0	0.3	0.1	1.5	0.8	100.0	561
45-49	5.0	23.1	6.0	12.2	12.3	38.1	0.1	0.0	0.0	1.7	1.6	100.0	578
Marital status													
Currently married	4.7	22.3	5.0	14.8	15.6	33.2	0.0	0.1	0.0	2.0	2.2	100.0	3,178
Divorced/separated/ widowed	*	*	*	*	*	*	*	*	*	*	*	100.0	21
Residence													
Urban	9.6	29.1	9.7	23.3	16.1	8.7	0.1	0.1	0.0	2.0	1.4	100.0	734
Rural	3.3	20.2	3.6	12.2	15.5	40.7	0.0	0.1	0.0	2.0	2.4	100.0	2,465
Division													
Barisal	6.8	20.5	7.9	11.8	12.6	32.8	0.0	0.0	0.4	4.3	3.1	100.0	184
Chittagong	4.7	25.1	6.3	14.9	16.1	27.7	0.1	0.0	0.1	2.6	2.4	100.0	526
Dhaka	4.3	24.2	6.7	16.2	16.1	28.3	0.0	0.2	0.0	1.8	2.1	100.0	968
Khulna	4.7	25.7	2.7	13.4	16.5	32.6	0.0	0.0	0.0	3.3	1.1	100.0	435
Rajshahi	5.1	17.3	3.0	14.5	15.3	42.3	0.0	0.1	0.0	0.7	1.8	100.0	901
Sylhet	3.2	22.0	4.4	14.3	14.8	34.0	0.0	0.0	0.0	2.1	5.2	100.0	186
Educational attainment													
No education	0.0	11.9	3.4	10.8	27.5	40.8	0.0	0.2	0.1	3.8	1.5	100.0	958
Primary incomplete	0.0	22.9	3.4	13.5	17.9	37.9	0.0	0.0	0.0	2.2	2.3	100.0	858
Primary complete[1]	0.5	23.2	8.1	16.9	11.6	35.8	0.0	0.0	0.0	1.1	2.9	100.0	217
Secondary incomplete	0.4	30.7	8.9	18.7	7.1	31.9	0.1	0.0	0.0	0.8	1.5	100.0	598
Secondary complete or higher[2]	26.0	29.7	4.7	18.5	2.8	14.4	0.0	0.1	0.1	0.1	3.6	100.0	568
Wealth quintile													
Lowest	0.5	8.3	2.7	5.4	25.0	53.7	0.0	0.3	0.0	3.4	0.7	100.0	587
Second	1.0	13.3	4.3	9.7	19.8	46.6	0.0	0.0	0.0	3.5	1.9	100.0	676
Middle	1.5	19.4	3.7	16.5	15.7	37.4	0.1	0.0	0.0	2.3	3.4	100.0	667
Fourth	4.6	34.9	5.4	18.7	10.7	22.1	0.0	0.0	0.1	0.6	2.8	100.0	627
Highest	15.9	35.1	8.8	23.0	7.4	7.5	0.0	0.1	0.1	0.1	2.0	100.0	642
Total 15-49	4.7	22.3	5.0	14.8	15.6	33.3	0.0	0.1	0.0	2.0	2.2	100.0	3,199
50-54	3.6	23.9	4.2	9.0	9.0	44.7	0.3	0.4	0.0	2.2	2.7	100.0	532
Total men 15-54	4.6	22.5	4.9	14.0	14.7	35.0	0.1	0.1	0.0	2.0	2.3	100.0	3,731

Note: An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

3.7 EARNINGS AND CONTINUITY OF EMPLOYMENT

Table 3.7 shows the percent distribution of women by type of earnings and continuity of employment. This table also presents data on whether respondents are involved in agricultural or nonagricultural occupations.

Table 3.7 Type of employment: Women

Percent distribution of women age 15-49 employed in the 12 months preceding the survey by type of earnings, and continuity of employment, according to type of employment (agricultural or nonagricultural), Bangladesh 2007

Employment characteristic	Agricultural work	Nonagricultural work	Total
Type of earnings			
Cash only	35.9	77.7	74.5
Cash and in-kind	8.6	8.5	8.5
In-kind only	20.4	3.0	4.3
Not paid	35.1	10.7	12.5
Missing	0.0	0.2	0.2
Total	100.0	100.0	100.0
Continuity of employment			
All year	45.9	83.6	80.9
Seasonal	48.0	6.1	9.2
Occasional	6.2	10.2	9.9
Missing	0.0	0.1	0.1
Total	100.0	100.0	100.0
Number of women employed during the past 12 months	281	3,559	3,849

Note: Total includes women with information missing on type of employment who are not shown separately

Thirty-five percent of women engaged in agricultural work are not paid. Another 20 percent are paid entirely in kind. Women are more likely to be paid in cash if they are employed in the nonagricultural sector: about 78 percent of women holding nonagricultural jobs are paid in cash, compared with just 36 percent of women employed in agriculture. Overall, 13 percent of employed women receive no pay at all for their work.

About 81 percent of employed women work all year round, while the remaining 19 percent work either seasonally or occasionally. Continuity of employment varies by sector. Around half (48 percent) of the women employed in the agricultural sector are seasonal workers, compared with just 6 percent of those working in the nonagricultural sector. Likewise, 46 percent of women working in the agricultural sector work year round, compared with 84 percent of women engaged in nonagricultural work.

3.8 KNOWLEDGE AND ATTITUDES CONCERNING TUBERCULOSIS

Tuberculosis (TB) is a leading cause of death and a major public health problem in the developing world. TB is caused by the bacterium *mycobacterium tuberculosis*, which is mainly transmitted through the air when infected persons cough or sneeze. The infection is primarily concentrated in the lungs, but in some cases it can be transmitted to other areas of the body.

For the first time in 2007, a BDHS collected information about women's and men's level of awareness of TB. Specifically, respondents were asked whether they had ever heard of the illness, how it spreads from one person to another, and whether it can be cured. This information is useful in policy formulation and implementation of programs designed to combat and limit the spread of the disease. Tables 3.8.1 and 3.8.2 show the percentage of women and men who have heard of TB and, among those who have heard of it, their knowledge of TB by various background characteristics. Awareness of TB is almost universal in Bangladesh (98 percent of women and 99 percent of men have heard of the disease), with little difference by background characteristics.

Among women who have heard of TB, 35 percent know that TB is spread through the air by coughing or sneezing (Table 3.8.1). Urban women are more likely to know this than rural women (42 percent compared with 32 percent). Correct knowledge of how TB is spread is low in the divisions of Chittagong (30 percent) and Barisal (31 percent) and higher in Rajshahi (38 percent) and Sylhet (37 percent). Correct knowledge increases with both education and household wealth. Of those women who

have heard of TB, four in five believe that it can be cured. Knowledge that TB can be cured is higher in urban than rural areas (91 percent compared with 78 percent). Almost all women who have completed secondary or higher education (94 percent) and who come from the highest wealth quintile (93 percent) believe that TB can be cured, compared with 72 percent of women with no education and 71 percent of those in the lowest wealth quintile.

Table 3.8.1 Knowledge and attitudes concerning tuberculosis: Women

Percentage of ever-married women age 15-49 who have heard of tuberculosis (TB), and among women who have heard of TB, the percentages who know that TB is spread through the air by coughing and the percentage who believe that TB can be cured, by background characteristics, Bangladesh 2007

Background characteristic	Among all women		Among women who have heard of TB, the percentage who:		
	Percentage who have heard of TB	Number	Report that TB is spread through the air by coughing	Believe that TB can be cured	Number
Age					
15-19	97.5	1,424	31.2	84.1	1,389
20-24	97.7	2,175	34.1	83.4	2,125
25-29	96.9	1,931	36.0	80.7	1,870
30-34	98.3	1,660	34.5	79.8	1,631
35-39	97.2	1,564	37.4	80.6	1,520
40-44	98.3	1,213	33.8	77.2	1,192
45-49	96.2	1,030	33.3	75.5	990
Residence					
Urban	99.0	2,482	41.5	90.9	2,458
Rural	97.0	8,514	32.4	77.6	8,258
Division					
Barisal	97.7	662	30.6	71.6	647
Chittagong	94.7	2,023	29.8	77.0	1,917
Dhaka	98.8	3,431	35.4	85.1	3,389
Khulna	99.0	1,396	33.1	75.6	1,382
Rajshahi	97.5	2,776	37.6	84.6	2,708
Sylhet	95.2	707	37.2	72.5	673
Educational attainment					
No education	94.6	3,746	25.9	71.8	3,545
Primary incomplete	98.2	2,320	28.2	77.9	2,277
Primary complete[1]	98.1	929	31.4	81.3	911
Secondary incomplete	99.5	2,681	41.0	88.2	2,669
Secondary complete or higher[2]	99.6	1,304	57.6	93.9	1,298
Wealth quintile					
Lowest	95.4	2,115	27.9	71.4	2,018
Second	96.7	2,157	29.3	73.8	2,086
Middle	97.3	2,186	31.5	78.4	2,128
Fourth	98.4	2,259	35.2	84.8	2,223
Highest	99.3	2,278	47.1	93.4	2,261
Total	97.5	10,996	34.5	80.7	10,716

Note: Total includes 16 women with information missing on educational attainment
[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

Among men who have heard of TB, 41 percent know that it is spread through the air by coughing or sneezing (Table 3.8.2). Urban men are more likely to know this than rural men (46 percent compared with 40 percent). Correct knowledge of how TB is spread is lowest in Khulna division (35 percent) and highest in Chittagong division (48 percent). As with women, correct knowledge of how TB is spread increases with education and household wealth. Ninety percent of men age 15-49 believe that TB can be cured.

Table 3.8.2 Knowledge and attitudes concerning tuberculosis: Men

Percentage of ever-married men age 15-49 who have heard of tuberculosis (TB), and among men who have heard of TB, the percentages who know that TB is spread through the air by coughing and the percentage who believe that TB can be cured, by background characteristics, Bangladesh 2007

Background characteristic	Among all men		Among men who have heard of TB, the percentage who:		
	Percentage who have heard of TB	Number	Report that TB is spread through the air by coughing	Believe that TB can be cured	Number
Age					
15-19	*	*	*	*	20
20-24	98.7	290	32.5	91.5	286
25-29	99.3	616	37.4	90.2	612
30-34	98.6	476	43.1	91.4	470
35-39	98.2	674	43.0	89.1	662
40-44	98.5	567	42.0	89.0	559
45-49	99.2	583	45.8	88.1	579
Residence					
Urban	99.5	742	45.8	94.2	738
Rural	98.5	2,486	39.8	88.3	2,449
Division					
Barisal	98.9	186	38.2	82.5	184
Chittagong	96.5	531	47.9	91.2	513
Dhaka	99.6	977	37.4	92.8	973
Khulna	99.0	438	35.4	86.7	434
Rajshahi	99.3	907	45.9	90.5	901
Sylhet	97.3	188	36.7	79.2	182
Educational attainment					
No education	97.0	964	26.5	83.1	935
Primary incomplete	99.1	859	35.1	87.1	851
Primary complete[1]	100.0	218	39.6	91.8	218
Secondary incomplete	99.6	607	50.7	95.5	605
Secondary complete or higher[2]	99.8	580	64.7	97.1	578
Wealth quintile					
Lowest	99.4	592	30.2	82.2	588
Second	98.1	677	33.4	87.1	664
Middle	98.2	671	41.0	87.7	658
Fourth	98.7	634	46.8	95.0	625
Highest	99.6	654	54.0	95.8	651
Total 15-49	98.8	3,227	41.2	89.7	3,187
50-54	99.9	544	44.5	83.5	543
Total men 15-54	98.9	3,771	41.7	88.8	3,730

Note: An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

3.9 USE OF TOBACCO

Smoking tobacco has negative effects on health, including an increased risk of lung and heart disease. Men interviewed in the 2007 BDHS were asked about their use of tobacco products. Table 3.9 shows the percentage of men who smoke cigarettes or use other tobacco products and the percent distribution of cigarette smokers by the number of cigarettes smoked in the preceding 24 hours, according to background characteristics.

Tobacco use is common among Bangladeshi men: 60 percent smoke cigarettes and 20 percent consume other forms of tobacco. Overall, seven in ten Bangladeshi men use some form of tobacco. Use of tobacco is more common among older men, those living in rural areas, men with no education, and men in the lowest wealth quintile. Regional variations are notable; cigarette use ranges from 45 percent in Barisal to 73 percent in Sylhet. More than half of men who smoke cigarettes smoked at least one cigarette in the 24 hours preceding the survey. One-fourth of men who smoke reported consuming more than 10 cigarettes in the previous 24 hours. Although rural men are more likely to smoke cigarettes then urban men, urban smokers tend to smoke more cigarettes per day than their rural counterparts.

Table 3.9 Use of tobacco: Men

Percentage of ever-married men age 15-49 who smoke cigarettes or use other tobacco products, and the percent distribution of cigarette smokers by number of cigarettes smoked in preceding 24 hours, according to background characteristics, Bangladesh 2007

Background characteristic	Smoked cigarettes	Uses other tobacco	Does not use tobacco	Number of men	Number of cigarettes in the past 24 hours					Total	Number of cigarette smokers
					0	1-2	3-5	6-9	10+		
Age											
15-19	*	*	*	*	*	*	*	*	*	100.0	11
20-24	63.7	10.2	32.8	290	31.9	16.8	26.6	9.3	15.4	100.0	185
25-29	53.9	16.3	39.3	616	32.7	12.3	21.8	8.8	24.5	100.0	332
30-34	57.7	15.3	34.7	476	31.8	9.5	17.6	10.4	30.6	100.0	275
35-39	57.6	19.6	32.1	674	43.7	6.6	12.6	9.2	27.9	100.0	389
40-44	62.2	24.7	26.3	567	51.5	7.1	12.8	5.7	22.5	100.0	353
45-49	67.7	27.9	19.5	583	48.9	4.7	10.6	9.2	26.7	100.0	395
Residence											
Urban	54.3	17.7	37.0	742	16.0	7.4	19.4	15.0	42.2	100.0	403
Rural	61.8	20.5	28.8	2,486	48.0	9.0	15.1	7.1	20.8	100.0	1,537
Division											
Barisal	45.3	20.5	42.1	186	39.1	14.5	21.1	6.6	18.7	100.0	84
Chittagong	61.8	12.8	33.2	531	25.0	2.8	13.1	10.7	48.3	100.0	328
Dhaka	66.3	15.8	27.9	977	43.9	8.2	15.4	9.7	22.8	100.0	648
Khulna	51.8	23.8	36.7	438	49.5	7.9	17.4	5.4	19.7	100.0	227
Rajshahi	56.9	25.3	30.0	907	45.3	12.9	16.8	7.8	16.9	100.0	516
Sylhet	72.9	24.3	15.9	188	40.7	6.9	16.9	9.9	25.6	100.0	137
Educational attainment											
No education	73.4	23.1	18.4	964	61.2	5.1	10.6	3.9	19.0	100.0	707
Primary incomplete	63.1	24.6	25.9	859	42.4	12.2	15.0	7.0	23.5	100.0	542
Primary complete[1]	67.1	12.5	28.2	218	33.7	11.8	14.0	11.0	29.6	100.0	146
Secondary incomplete	52.8	16.8	37.8	607	22.9	7.8	24.0	16.2	29.1	100.0	321
Secondary complete or higher[2]	38.6	13.2	51.7	580	7.3	10.6	25.2	16.2	40.8	100.0	223
Wealth quintile											
Lowest	70.9	24.1	18.9	592	70.7	8.7	6.0	4.6	9.7	100.0	419
Second	65.4	23.3	24.8	677	58.3	9.0	13.6	5.6	13.5	100.0	443
Middle	61.7	23.1	28.2	671	35.2	11.7	19.7	6.8	26.6	100.0	414
Fourth	56.9	15.0	35.2	634	22.9	6.1	21.6	13.7	35.7	100.0	360
Highest	46.4	13.7	45.6	654	6.3	7.2	21.4	15.7	49.5	100.0	303
Total 15-49	60.1	19.8	30.7	3,227	41.3	8.7	16.0	8.7	25.2	100.0	1,940
50-54	59.4	30.7	23.6	544	57.4	7.3	10.7	6.7	17.6	100.0	323
Total men 15-54	60.0	21.4	29.7	3,771	43.6	8.5	15.2	8.4	24.1	100.0	2,263

Note: An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

FERTILITY 4

The Government of Bangladesh (GOB) outlined its first population policy in 1976; this made the population and family planning program an integral component of development activities. It gave couples the opportunity to choose from different methods of family planning, strengthened mother and child health care activities, initiated educational programs on family planning issues, developed research and training activities, and emphasized adherence to marriage at the legal age (GOB, 1976). Approximately two decades later, the Ministry of Health and Family Welfare prepared "Strategic Directions for the Bangladesh National Family Planning Program: 1995-2005," which focused on a client-oriented approach to expand good quality family planning services. The policy aimed to achieve replacement fertility in ten years (GOB, 1996). The population policy was last reviewed and updated in 2004. The targets of this latest policy are to stabilize population growth and improve the living standard of the people of Bangladesh. The 2004 Population Policy also envisions a reduction in the total fertility rate and an increase in the use of family planning methods among eligible couples by raising awareness of family planning. Other aims of the policy are to attain a net reproduction rate (NRR) equal to one by the year 2010 (in order to attain a stable population by 2060) and to improve maternal and child health, with an emphasis on the reduction of maternal and child mortality.

Following an impressive decline in fertility in the late 1970s and 1980s from 6.3 to 3.4 births per woman, fertility in Bangladesh began to plateau, causing concern among policy makers. Multiple sources of data show that the total fertility rate stalled at 3.3 for about ten years during the 1990s and then resumed its decline during the early 2000s (Mitra et al., 1994; Mitra et al., 1997; NIPORT et al., 2001; NIPORT et al, 2005; ICDDR,B, 1994; ICDDR,B, 2002).

A major objective of the 2007 BDHS is to examine fertility levels, trends, and differentials in Bangladesh. The focus on fertility is due to its important role in determining Bangladesh's population growth rate and its impact on economic development. This chapter describes current and past fertility, cumulative fertility and family size, birth intervals, age at first birth, and the reproductive behavior of adolescents.

Most of the fertility measures are based on the birth histories collected during interviews with ever-married women age 15-49. Each woman was asked a series of questions that could be used to construct a retrospective history of all of her births. To encourage complete reporting, the interviewer asked the respondent about the number of sons and daughters living with her, the number living elsewhere, and the number who had died. She was then asked for a history of all of her births, including the month and year of birth, name, sex, and survival status of each birth. Interviewers were given extensive training in probing techniques designed to help respondents report this information accurately.

The following measures of current fertility are derived from the birth history data:

Age-specific fertility rates[1] (ASFR) are expressed as the number of births per 1,000 women in a certain age group. They are a valuable measure to assess the current age pattern of childbearing. ASFRs are defined as the number of live births during a specific period to women in a particular age group, divided by the number of woman-years lived in that age group during the specified period.

The total fertility rate (TFR) is defined as the total number of births a woman would have by the end of her childbearing period if she were to pass through those years bearing children at currently observed ASFRs. The TFR is obtained by summing the ASFRs and multiplying by five.

The general fertility rate (GFR) is the number of live births that occur during a specified period per 1,000 women of reproductive age.

The crude birth rate (CBR) is the number of births per 1,000 population during a specified period.

The various measures of current fertility are calculated for the three-year period preceding the survey, which roughly corresponds to the calendar years 2004-2006. A three-year period was chosen because it reflects the current situation without unduly increasing sampling error.

Despite efforts to improve data quality, data from the BDHS are subject to the same types of errors that are inherent in all retrospective sample surveys: the possibility of omitting some births (especially births of children who died at a very young age) and the difficulty of accurately determining each child's date of birth. These errors can bias estimates of fertility trends, which therefore have to be interpreted within the context of data quality and sample sizes. A summary of the quality of the BDHS data appears in the tables in Appendix C.

Table 4.1 Current fertility rates

Age-specific fertility rates, the total fertility rate, the general fertility rate, and the crude birth rate for the three years preceding the survey, by residence, Bangladesh 2007

	Residence		
Age group	Urban	Rural	Total
15-19	90	137	126
20-24	161	177	173
25-29	123	129	127
30-34	66	71	70
35-39	31	35	34
40-44	7	11	10
45-49	0	1	1
TFR	2.4	2.8	2.7
GFR	92	109	105
CBR	24.7	26.5	26.1

Note: Age-specific fertility rates are per 1,000 women. Rates for age group 45-49 may be slightly biased due to truncation. Rates are for the period 1-36 months prior to interview.
TFR: Total fertility rate expressed per woman
GFR: General fertility rate expressed per 1,000 women
CBR: Crude birth rate, expressed per 1,000 population

4.1 CURRENT FERTILITY LEVELS

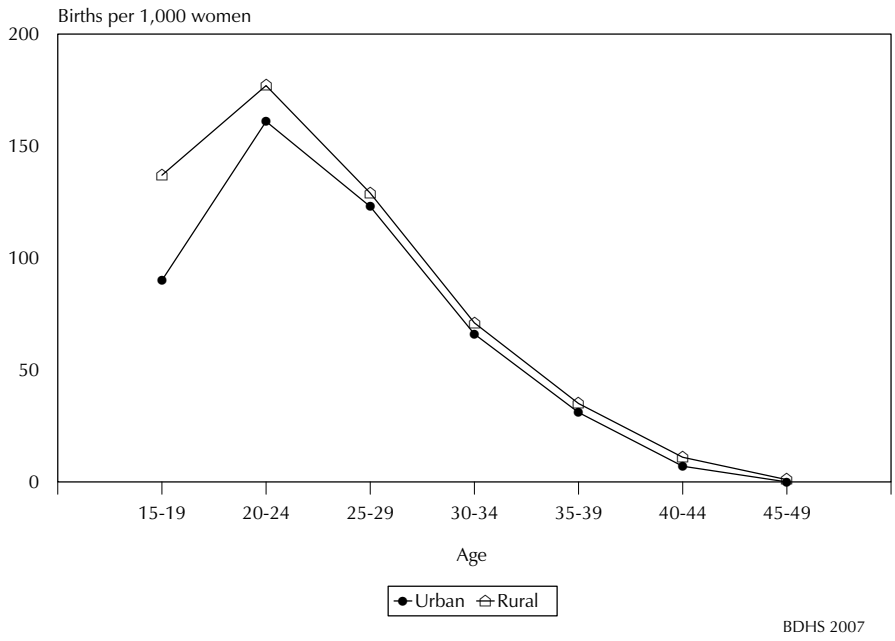
Age-specific and total fertility rates for Bangladesh as a whole and for urban and rural areas are shown in Table 4.1, along with the general fertility rate and crude birth rate. According to the 2007 BDHS, the total fertility rate for women age 15-49 is 2.7. This means that a Bangladeshi woman would have, on average, 2.7 children in her lifetime if the current age-specific fertility rates remained constant. This is 10 percent lower than the TFR of 3.0 children found by the 2004 BDHS.

For the three-year period preceding the survey, the general fertility rate in Bangladesh was 105 births per 1,000 women of reproductive age. Data show a crude birth rate of 26 births per 1,000 population for the same period.

[1] Numerators for age-specific fertility rates are calculated by summing the number of live births that occurred in the period 1-36 months preceding the survey (determined by the date of interview and the date of birth of the child) and classifying them by the age of the mother (in five-year groups) at the time of birth (determined by the mother's date of birth). The denominators for the rates are the number of woman-years lived in each of the specified five-year age groups during the period 1-36 months preceding the survey. Because only women who had ever married were interviewed in the BDHS, the number of women in the denominator of the rates was inflated by factors calculated from information in the Household Questionnaire on the proportions ever married to produce a count of all women. Never-married women are presumed not to have given birth.

Bangladeshi women exhibit a pattern of early childbearing (Figure 4.1). According to current fertility rates, women will have 23 percent of their children before reaching age 20, on average. They will have more than half of their children (55 percent) during their twenties, and one-fifth during their thirties.

Figure 4.1 Age-Specific Fertility Rates by Urban-Rural Residence



4.2 Fertility Differentials

Table 4.2 shows differentials in fertility by urban-rural residence, administrative division, educational attainment, and household wealth. As expected, the TFR is higher for rural women than urban women. On average, rural women will give birth to 0.4 children more than urban women. Nevertheless, the differential in rural-urban fertility has narrowed over the past decade, from 1.3 births in the 1996-97 BDHS to 0.4 births in the 2007 BDHS. Urban-rural differentials remain large at younger ages (Figure 4.1), which probably reflects the fact that urban women spend more years in school and marry later than rural women.

Fertility varies widely by administrative divisions (Figure 4.2). Khulna has reached replacement level fertility, and Rajshahi is close to it. Sylhet has the highest TFR (3.7 births) followed by Chittagong (3.2 births).

As expected, women's education is strongly associated with fertility. The TFR decreases from 3.0 births for women with no education to 2.3 births for women who have completed secondary or higher education. Fertility is also negatively associated with wealth; the difference in fertility between women in the lowest and highest wealth quintiles amounts to one child per woman, on average.

Table 4.2 presents the percentage of women who reported that they were pregnant at the time of the survey, according to age group. These reports may be underestimates, especially in the case of pregnancies at early stages, because some women may be unaware of or unwilling to reveal their current status. At the time of the survey, 5 percent of women age 15-49 reportedly were pregnant. The percentage of women currently pregnant is higher in rural areas than urban areas (6 percent and 5 percent, respectively). Seven percent of women are currently pregnant in Sylhet, compared with 5 percent in Dhaka and Khulna. The relationship between the percentage currently pregnant and education is U-shaped, rising from a low of 4 percent among women with no education to a high of 7 percent among women with some secondary education, and then dipping again to 4 percent among women who have completed secondary or higher education. Women in the lower three wealth quintiles are somewhat more likely to be currently pregnant (6 percent) than women in the highest two quintiles (4 percent).

Table 4.2 also presents the TFR and the mean number of children ever born to women age 40-49, which allows a crude assessment of trends in fertility. The former is a measure of current fertility, while the latter is a measure of past or completed fertility. Although comparing completed fertility among women age 40-49 with the total fertility rate can provide an indication of fertility change, it is vulnerable to the understatement of parity by older women. Findings on age at marriage and contraceptive use are also of crucial importance in reaching a balanced judgment about fertility trends. Unless there is evidence of increased age at marriage and/or appreciable use of contraception, it is unlikely that fertility has declined. However, the comparison of past and present fertility indicators, together with corresponding increases in contraceptive use and women's age at marriage, suggests a decline of two children per woman, from 4.6 to 2.7 children. There has been a substantial decline in fertility in both urban and rural areas, and in all administrative divisions. Fertility declined by two or more children in three of Bangladesh's six divisions: Barisal, Chittagong, and Khulna.

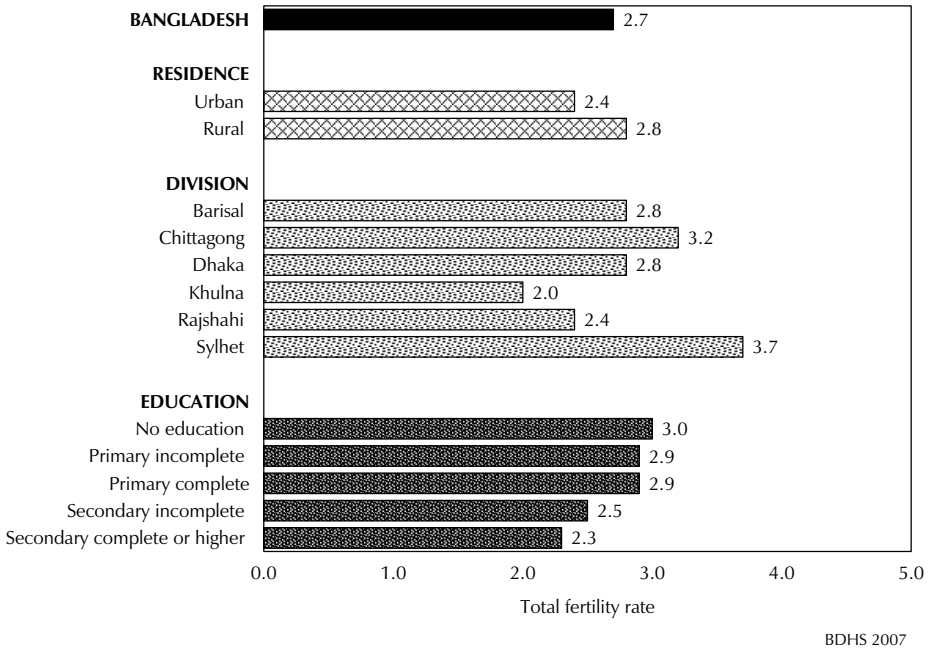
Table 4.2 Fertility by background characteristics

Total fertility rate for the three years preceding the survey, percentage of women age 15-49 currently pregnant, and mean number of children ever born to women age 40-49 years, by background characteristics, Bangladesh 2007

Background characteristic	Total fertility rate	Percentage of women age 15-49 currently pregnant	Mean number of children ever born to women age 40-49
Residence			
Urban	2.4	4.6	4.1
Rural	2.8	5.6	4.7
Division			
Barisal	2.8	5.8	4.9
Chittagong	3.2	5.8	5.2
Dhaka	2.8	4.9	4.5
Khulna	2.0	4.9	4.0
Rajshahi	2.4	5.4	4.1
Sylhet	3.7	6.9	5.5
Educational attainment			
No education	3.0	3.8	4.8
Primary incomplete	2.9	6.1	4.7
Primary complete[1]	2.9	5.7	4.6
Secondary incomplete	2.5	7.1	4.0
Secondary complete or higher[2]	2.3	4.3	3.1
Wealth quintile			
Lowest	3.2	6.0	4.9
Second	3.1	6.4	4.8
Middle	2.7	6.1	4.9
Fourth	2.5	4.3	4.5
Highest	2.2	4.4	3.9
Total	2.7	5.4	4.6

Note: Total fertility rates are for the period 1-36 months prior to interview.
[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10 .

Figure 4.2 Total Fertility Rates by Background Characteristics



BDHS 2007

4.3 FERTILITY TRENDS

Trends in fertility in Bangladesh since the early 1970s can be examined by observing a time series of estimates produced from demographic surveys fielded over the last three decades, beginning with the 1975 Bangladesh Fertility Survey (BFS). Data from the 2007 BDHS and previous surveys show that following a nearly decade-long plateau in fertility from 1993 to 2000, fertility in Bangladesh has resumed its decline. The estimates shown in Table 4.3.1 describe the ongoing fertility transition in Bangladesh. Fertility has declined sharply, from 6.3 births per woman in 1971-75 to 2.7 births per woman in 2004-2006 (Table 4.3.1 and Figure 4.3). There was an initial rapid decline in fertility of nearly two children per women up to the early 1990s. Fertility then plateaued at around 3.3 births per woman for most of the 1990s. This was followed by another noteworthy decline in fertility during the current decade. The 2007 BDHS data, along with earlier rounds of the survey beginning in 1993, indicate that the decline in fertility has continued during the last three years, reaching 2.7 births per woman. Since 2001, a marked decline in fertility has been observed in Khulna, Chittagong, and Sylhet divisions. The decline in fertility in the last two decades occurred mostly among older women (Mitra et al., 1994; Mitra et al., 1997 ; NIPORT et al., 2001; NIPORT et al., 2005).

Table 4.3.1 Trends in current fertility rates

Age-specific fertility rates (per 1,000 women) and total fertility rates (TFRs) among women age 15-49, selected sources, Bangladesh, 1975-2007

	Survey and approximate time period							
	1975 BFS	1989 BFS	1991 CPS	1993-1994 BDHS	1996-1997 BDHS	1999-2000 BDHS	2004 BDHS	2007 BDHS
Age group	1971-1975	1984-1988	1989-1991	1991-1993	1994-1996	1997-1999	2001-2003	2004-2006
15-19	109	182	179	140	147	144	135	126
20-24	289	260	230	196	192	188	192	173
25-29	291	225	188	158	150	165	135	127
30-34	250	169	129	105	96	99	83	70
35-39	185	114	78	56	44	44	41	34
40-44	107	56	36	19	18	18	16	10
45-49	35	18	13	14	6	3	3	1
TFR 15-49	6.3	5.1	4.3	3.4	3.3	3.3	3.0	2.7

Note: For the 1975 Bangladesh Fertility Survey (BFS) and 1989 BFS, the rates refer to the five year period preceding the survey; for the other surveys, the rates refer to the three year period preceding the survey. The BFS and Bangladesh Demographic and Health Survey (BDHS) utilized full birth histories, while the 1991 Contraceptive Prevalence Survey (CPS) used an eight year truncated birth history.
Sources: 1975 BFS (MHPC, 1978:73), 1989 BFS (Huq and Cleland, 1990:103), 1991 CPS (Mitra et al., 1993 :34), 1993-1994 BDHS (Mitra et al., 1994:24), 1996-1997 BDHS (Mitra et al., 1997:30), 1999-2000 BDHS (NIPORT et al., 2001:34) and 2004 BDHS (NIPORT et al., 2005: 53)

Another way to assess trends in fertility is by using retrospective data on birth histories collected from respondents to the same survey. This method of examining trends controls for differences in quality between surveys. The age-specific fertility rates for successive five-year periods preceding the 2007 BDHS are presented in Table 4.3.2. The results show that fertility has dropped substantially among all age groups over the past two decades. The largest fertility decline is observed between the two most recent five-year periods. Fertility decline is steepest among the cohort age 30-34, with a 45 percent decline between the period 15-19 years before the survey and the period 0-4 years before the survey.

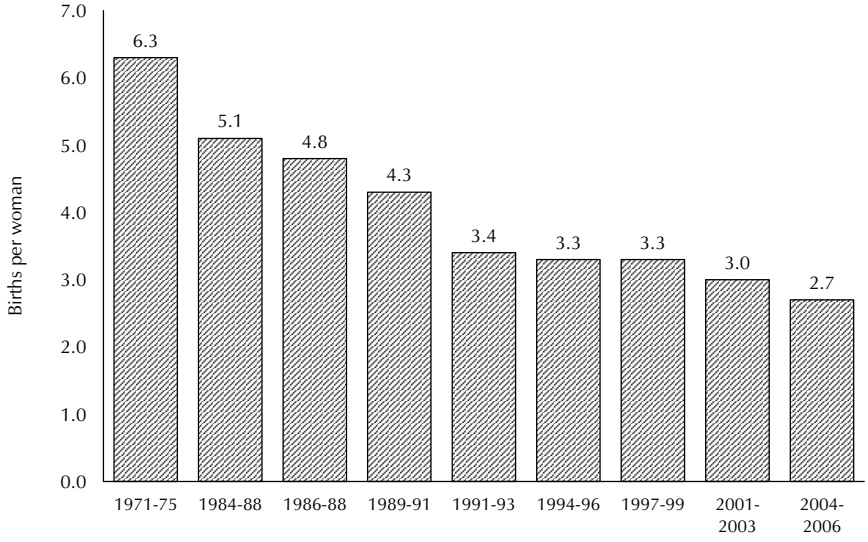
Table 4.3.2 Trends in age-specific fertility rates

Age-specific fertility rates for five-year periods preceding the survey, by mother's age at the time of the birth, Bangladesh 2007

Mother's age at birth	Number of years preceding survey			
	0-4	5-9	10-14	15-19
15-19	133	174	187	207
20-24	172	207	226	244
25-29	132	167	177	210
30-34	78	109	124	[142]
35-39	38	55	[76]	-
40-44	12	[23]	-	-
45-49	[1]	-	-	-

Note: Age-specific fertility rates are per 1,000 women. Estimates in brackets are truncated. Rates exclude the month of interview.

Figure 4.3 **Trends in Total Fertility Rate**
Bangladesh 1971 to 2007



4.4 CHILDREN EVER BORN AND LIVING

Table 4.4 shows the distribution of all women and currently married women by age and number of children ever born. It also shows the mean number of children ever born to women in each five-year age group, an indicator of the momentum of childbearing. The mean number of children ever born for all women is 2.3, while currently married women have 2.8 births on average. Allowing for mortality of children, Bangladeshi women have, on average, 2.0 living children. Currently married women have an average of 2.4 living children.

Currently married women age 45-49 have given birth to an average of 5.0 children, of whom 4.1 survived. Among all women age 15-49, the average number of children who have died per woman is 0.29. Among currently married women, it is 0.34; that is, 12 percent of children born to currently married women have died. The percentage of children who have died increases with women's age. Among currently married women, for example, the proportion of children ever born who have died increases from 7 percent for women age 20-24 to 19 percent for women age 45-49.

Nearly three-fourths of women age 15-19 have never given birth. However, this proportion declines to 25 percent among women age 20-24 years and rapidly decreases further for older women, except for a slight increase among women age 45-49. The percentage of women who have never given birth is extremely low, (less than 3 percent among women age 35-44), indicating that childbearing among Bangladeshi women is nearly universal.

The percentage of women in their forties who have never had children is an indicator of the level of primary infertility—that is, the proportion of women who are unable to bear children at all. Since voluntary childlessness is rare in Bangladesh, it is likely that married women with no births are unable to have children. The 2007 BDHS results suggest that primary infertility is low, at slightly more than 3 percent. (This estimate does not include secondary infertility, that is, women who may have had one or more births but who are unable to have additional children.)

Table 4.4 Children ever born and living

Percent distribution of all women and currently married women age 15-49 by number of children ever born, mean number of children ever born, and mean number of living children, according to age group, Bangladesh 2007

Age	Number of children ever born											Total	Number of women	Mean number of children ever born	Mean number of living children
	0	1	2	3	4	5	6	7	8	9	10+				
ALL WOMEN															
15-19	73.4	21.7	4.4	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	100.0	3,019	0.32	0.29
20-24	25.1	36.2	27.9	8.4	2.0	0.2	0.1	0.1	0.0	0.0	0.0	100.0	2,537	1.27	1.18
25-29	8.6	15.3	33.9	24.5	12.4	4.1	0.9	0.3	0.1	0.0	0.0	100.0	2,018	2.34	2.15
30-34	3.5	7.4	25.1	26.5	18.2	10.8	5.6	2.0	0.4	0.2	0.2	100.0	1,670	3.19	2.86
35-39	2.6	5.6	17.3	22.0	21.8	14.3	8.3	5.0	1.9	0.9	0.4	100.0	1,573	3.76	3.27
40-44	2.2	3.4	13.2	18.0	21.4	13.6	13.2	8.2	4.2	2.0	0.6	100.0	1,216	4.32	3.64
45-49	3.4	3.3	8.4	14.2	17.2	15.7	12.1	12.0	7.8	3.3	2.6	100.0	1,038	4.86	3.93
Total	24.4	16.6	18.8	14.4	10.6	6.3	4.0	2.6	1.3	0.6	0.3	100.0	13,071	2.33	2.04
CURRENTLY MARRIED WOMEN															
15-19	43.1	46.3	9.6	1.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	100.0	1,376	0.69	0.63
20-24	12.1	42.0	33.2	9.9	2.4	0.2	0.1	0.1	0.0	0.0	0.0	100.0	2,094	1.50	1.39
25-29	3.8	15.6	35.7	26.1	13.4	4.3	0.8	0.3	0.1	0.0	0.0	100.0	1,859	2.48	2.27
30-34	2.5	6.0	25.4	27.3	18.8	11.2	5.7	2.2	0.5	0.2	0.3	100.0	1,551	3.28	2.94
35-39	1.5	4.5	16.9	22.4	22.7	14.6	8.7	5.4	2.0	0.9	0.4	100.0	1,437	3.88	3.38
40-44	1.4	2.5	11.3	17.9	22.2	14.6	14.0	8.7	4.8	2.0	0.7	100.0	1,040	4.50	3.81
45-49	2.0	1.8	7.3	14.4	18.2	17.3	12.3	12.2	8.1	3.2	3.1	100.0	835	5.04	4.08
Total	9.9	19.7	22.6	17.2	12.8	7.5	4.7	3.1	1.5	0.6	0.4	100.0	10,192	2.77	2.43

Table 4.5 compares the mean number of children ever born as reported by the 2007 BDHS and earlier surveys. This comparison does not highlight recent changes in fertility, but rather indicates the cumulative changes in fertility over the decades preceding the 2007 BDHS. Despite fluctuations between surveys, the data generally show only modest declines until the late 1980s. From 1989 to 2007, the mean number of children ever born started to decrease substantially in all but the youngest age groups (15-24 years). The mean number of children ever born to women age 15-19 years remained mostly unchanged during this period.

Table 4.5 Trends in children ever born

Mean number of children ever born by age group, selected sources, Bangladesh, 1975-2007

Age group	1975 BFS	1981 CPS	1983 CPS	1985 CPS	1989 BFS	1989 CPS	1991 CPS	1993-1994 BDHS	1996-1997 BDHS	1999-2000 BDHS	2004 BDHS	2007 BDHS
15-19	0.6	0.5	0.6	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.3
20-24	2.3	2.0	2.2	2.0	1.7	1.8	1.7	1.6	1.5	1.4	1.4	1.3
25-29	4.2	3.7	3.8	3.6	3.1	3.3	3.2	2.9	2.8	2.6	2.6	2.3
30-34	5.7	5.4	5.5	5.1	4.7	4.7	4.5	4.1	3.9	3.6	3.4	3.2
35-39	6.7	6.4	6.5	6.5	5.9	5.9	5.7	5.2	4.8	4.3	4.1	3.8
40-44	7.1	7.3	7.4	7.4	6.6	7.0	6.7	6.4	5.6	5.1	4.7	4.3
45-49	6.7	7.6	7.5	7.2	7.3	7.5	7.4	6.9	6.4	6.1	5.6	4.9
Total	u	u	u	u	u	u	3.5	3.0	2.8	2.6	2.5	2.3

u = Unknown (not available)

Source: 1975 Bangladesh Fertility Survey (BFS), 1983 and 1985 CPSs (Kantner and Frankenberg, 1988:21); 1991 CPS (Mitra et al., 1993:31); 1993-1994 BDHS (Mitra et al., 1994:33); 1996-1997 BDHS (Mitra et al., 1997: 36); 1999-2000 BDHS (NIPORT et al., 2001:39); 2004 BDHS (NIPORT et al., 2005:57); all others (Cleland et al., 1994:11)

4.5 BIRTH INTERVALS

Examination of birth intervals, defined as the length of time between two successive live births, is important in providing insights into birth spacing patterns and, subsequently, maternal and child health. Short birth intervals are associated with an increased risk of death for mother and child. Studies have shown that children born less than 24 months after a previous sibling risk poorer health. Short birth intervals also threaten maternal health. Table 4.6 shows the percent distribution of non-first births that occurred in the five years preceding the BDHS by the number of months since the previous birth.

Table 4.6 Birth intervals

Percent distribution of non-first births in the five years preceding the survey by number of months since preceding birth, and median number of months since preceding birth, according to background characteristics, Bangladesh 2007

Background characteristic	Months since preceding birth					Total	Number of non-first births	Median number of months since preceding birth
	7-17	18-23	24-35	36-47	48+			
Age								
15-19	20.8	25.5	31.5	16.5	5.6	100.0	163	25.3
20-29	7.8	8.2	24.0	21.4	38.5	100.0	2,441	41.1
30-39	4.4	5.6	17.5	17.8	54.7	100.0	1,233	51.1
40-49	1.5	5.8	11.6	13.2	68.0	100.0	157	59.6
Birth order								
2-3	6.8	7.7	20.7	19.1	45.6	100.0	2,564	45.1
4-6	7.5	8.8	22.7	21.3	39.8	100.0	1,212	41.2
7+	7.3	8.0	29.4	19.0	36.4	100.0	219	37.7
Sex of preceding birth								
Male	7.0	8.6	20.6	19.8	43.9	100.0	1,973	43.8
Female	7.2	7.4	22.9	19.7	42.8	100.0	2,021	43.4
Survival of preceding birth								
Living	5.2	7.6	21.4	20.1	45.7	100.0	3,612	45.2
Dead	24.5	12.4	25.7	16.4	20.9	100.0	382	27.5
Residence								
Urban	5.4	8.4	19.7	18.5	47.9	100.0	799	46.8
Rural	7.5	7.9	22.3	20.1	42.2	100.0	3,195	42.8
Division								
Barisal	7.4	7.0	17.4	21.1	47.0	100.0	271	45.9
Chittagong	7.3	10.3	27.1	20.7	34.6	100.0	874	38.2
Dhaka	6.8	7.1	21.2	21.1	43.9	100.0	1,287	44.0
Khulna	5.0	4.4	17.4	13.1	60.0	100.0	340	53.3
Rajshahi	5.6	5.8	15.7	19.1	53.7	100.0	812	49.7
Sylhet	11.8	14.3	30.7	19.7	23.5	100.0	411	32.9
Educational attainment								
No education	6.3	8.7	22.5	21.0	41.5	100.0	1,438	41.8
Primary incomplete	7.8	8.3	21.8	18.0	44.0	100.0	981	44.1
Primary complete[1]	8.8	6.9	22.3	20.3	41.7	100.0	361	43.2
Secondary incomplete	7.2	8.9	21.8	19.3	42.9	100.0	825	43.7
Secondary complete or higher[2]	5.9	3.9	18.6	20.3	51.2	100.0	380	48.7
Wealth quintile								
Lowest	6.2	7.9	24.1	20.5	41.3	100.0	1,068	41.9
Second	7.0	8.0	23.0	20.1	42.0	100.0	906	42.1
Middle	8.7	8.9	22.2	20.5	39.7	100.0	736	41.1
Fourth	9.3	8.0	18.3	19.9	44.5	100.0	667	44.7
Highest	4.2	7.3	19.3	17.2	52.1	100.0	618	49.2
Total	7.1	8.0	21.8	19.8	43.3	100.0	3,994	43.6

Note: First-order births are excluded. The interval for multiple births is the number of months since the preceding pregnancy that ended in a live birth. Total includes 9 cases with information missing on educational attainment.
[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10 .

Birth intervals are generally long in Bangladesh, with a median interval of 44 months. Lengthy breastfeeding and a long period of postpartum amenorrhea are likely to contribute to the relatively high percentage of births occurring after an interval of 24 months or more in Bangladesh. More than three-fifths of non-first births occur three or more years after the previous birth, while one-fifth of births take place 24-35 months after the previous birth. Fifteen percent of children are born after an interval that is considered "too short," i.e., less than 24 months. The median birth interval is substantially shorter for teenage mothers (25 months). Just under half of births to mothers age 15-19 follow an interval of less than 24 months.

A comparison with earlier BDHS surveys shows that the median birth interval has increased markedly, rising from 35 months in 1993-1994 to 39 months in 2004 and 44 months in 2007. Between 1991 and 2007, the median birth interval increased by 26 percent.

The length of the birth interval is closely associated with the survival status of the previous sibling. The median birth interval is 18 months shorter when the previous sibling has died than when the previous sibling is still alive (28 and 45 months, respectively). The percentage of births occurring within a very short interval (less than 18 months) is five times higher for children whose previous sibling died than for children whose previous sibling survived (25 and 5 percent, respectively). The shorter interval following the death of a child is partly due to a shortened period of breastfeeding (or no breastfeeding) for the preceding child, which leads to an earlier return of ovulation and hence increased chance of pregnancy. Minimal use of contraception, presumably because of a desire to have another child as soon as possible, could also be partly responsible for the shorter birth interval in these cases. The median number of months since the preceding birth increases both with mother's education and household wealth.

4.6 Age at First Birth

Age at first birth has a direct effect on fertility. Early initiation of childbearing lengthens the reproductive period and subsequently increases fertility. In many countries, postponement of first births—reflecting an increase in the age at marriage—has contributed greatly to overall fertility decline. Moreover, bearing children at a young age involves substantial risks to the health of both the mother and child. Early childbearing also tends to restrict educational and economic opportunities for women.

Table 4.7 presents the percentage of all women by exact age at first birth for different age cohorts. The median age at first birth is not shown for young women age 15-19, because a large majority had not become mothers before age 15. The median age at first birth is about 18 years across all age cohorts, except for women age 20-24 years, whose median age at first birth is 19 years, indicating a slight increase in the age at first birth in recent years. This increase in age at first birth is also reflected in the smaller proportion of younger women having a child by age 15: 16 percent of women in their late forties reported having had their first birth by age 15, compared with only 5 percent of women age 15-19. A comparison of data from the 2004 and 2007 BDHS surveys shows a slight increase in the median age at first birth for women in all age groups.

Table 4.7 Age at first birth

Percentage of women age 15-49 who gave birth by exact ages, percentage who have never given birth, and median age at first birth, according to current age, Bangladesh 2007

	Percentage who gave birth by exact age					Percentage who have never given birth	Number of women	Median age at first birth
Current age	15	18	20	22	25			
15-19	5.0	na	na	na	na	73.4	3,019	a
20-24	8.4	40.0	61.1	na	na	25.1	2,537	19.0
25-29	10.8	49.1	67.8	79.9	88.9	8.6	2,018	18.1
30-34	12.4	52.3	72.0	84.2	91.9	3.5	1,670	17.8
35-39	10.6	47.6	71.2	82.8	91.6	2.6	1,573	18.2
40-44	10.0	53.2	73.5	86.1	93.7	2.2	1,216	17.8
45-49	16.4	55.2	72.9	83.6	90.3	3.4	1,038	17.6
20-49	10.9	48.2	68.6	na	na	9.7	10,052	18.2
25-49	11.8	51.0	71.1	83.0	91.1	4.4	7,515	17.9

na = Not applicable
a = Omitted because less than 50 percent of women had a birth before reaching the beginning of the age group

Table 4.8 summarizes the median age at first birth for different age cohorts by respondents' background characteristics. Among women age 20-49, the median age at first birth is a year higher in urban areas than in rural areas. Among administrative divisions, it is highest in Sylhet. Median age at first birth is more than two years higher for women in the highest wealth quintile (19.7 years), compared with those in the lowest wealth quintile (17.3 years). Women who have completed secondary or higher education start childbearing later than those with little or no education.

Table 4.8 Median age at first birth

Median age at first birth among women age 20-49 years, by current age, according to background characteristics, Bangladesh 2007

	Age						Women age 20-49	Women age 25-49
Background characteristic	20-24	25-29	30-34	35-39	40-44	45-49		
Residence								
Urban	a	19.4	18.8	18.7	18.1	18.2	19.1	18.7
Rural	18.7	17.8	17.7	18.0	17.7	17.4	17.9	17.7
Division								
Barisal	18.4	17.9	18.0	18.0	17.6	17.4	17.9	17.8
Chittagong	19.5	18.7	17.9	18.4	17.9	18.3	18.6	18.2
Dhaka	19.1	17.9	17.8	18.2	17.7	17.6	18.2	17.9
Khulna	18.1	18.4	17.9	18.4	18.0	17.0	18.0	17.9
Rajshahi	18.2	17.5	17.5	17.8	17.3	17.2	17.7	17.5
Sylhet	a	19.0	19.5	19.7	19.2	18.5	19.5	19.2
Educational attainment								
No education	17.0	17.1	17.0	17.8	17.6	17.5	17.4	17.4
Primary incomplete	17.3	17.5	17.5	17.8	17.8	17.3	17.5	17.6
Primary complete[1]	18.4	17.3	18.1	17.8	17.3	17.0	17.8	17.6
Secondary incomplete	19.2	18.8	18.8	19.1	17.5	18.3	18.9	18.6
Secondary complete or higher[2]	a	22.0	21.3	20.9	20.2	19.5	a	21.2
Wealth quintile								
Lowest	17.5	17.1	17.1	18.2	17.2	17.1	17.3	17.2
Second	17.9	17.7	17.7	17.7	18.4	17.1	17.8	17.7
Middle	18.7	17.8	17.5	17.8	17.4	18.1	17.9	17.7
Fourth	19.5	18.4	18.2	18.2	17.9	17.4	18.4	18.1
Highest	a	20.5	19.5	19.1	18.1	18.3	19.7	19.2
Total	19.0	18.1	17.8	18.2	17.8	17.6	18.2	17.9

a = Omitted because less than 50 percent of the women had a birth before reaching the beginning of the age group
[1] Primary complete is defined as completing grade 5
[2] Secondary complete is defined as completing grade 10

4.7 ADOLESCENT FERTILITY

Adolescent fertility is a major social and health concern. The 2004 Bangladesh Population Policy focused on ensuring adequate availability of and access to reproductive health services for adolescents, especially family planning information, counseling, and services (GOB, 2004). Teenage mothers are more likely to suffer from severe complications during delivery, which result in higher morbidity and mortality for both themselves and their children. In addition, young mothers may not be sufficiently emotionally mature to bear the burden of childbearing and rearing. Early entry into reproduction also reduces women's opportunity to pursue academic goals. This hurts their job prospects, which often lowers their status in society.

Table 4.9 Teenage pregnancy and motherhood

Percentage of women age 15-19 who have had a live birth or who are pregnant with their first child and percentage who have begun childbearing, by background characteristics, Bangladesh 2007

Background characteristic	Percentage who are: Mothers	Pregnant with first child	Percentage who have begun childbearing	Number of women
Age				
15	7.3	4.0	11.4	603
16	12.9	5.8	18.6	621
17	26.7	6.7	33.4	528
18	36.0	6.5	42.5	718
19	51.1	7.4	58.5	549
Residence				
Urban	18.1	6.2	24.3	707
Rural	29.2	6.0	35.2	2,315
Division				
Barisal	24.7	4.7	29.4	181
Chittagong	22.4	5.6	28.1	656
Dhaka	27.0	6.4	33.4	855
Khulna	27.3	6.6	33.9	324
Rajshahi	32.8	7.0	39.8	741
Sylhet	19.7	3.6	23.2	254
Educational attainment				
No education	40.3	8.1	48.4	234
Primary incomplete	36.0	7.2	43.1	427
Primary complete[1]	35.6	4.4	40.1	266
Secondary incomplete	23.0	6.3	29.2	1,651
Secondary complete or higher[2]	18.5	4.2	22.6	431
Wealth quintile				
Lowest	35.0	6.5	41.5	426
Second	34.1	5.4	39.6	593
Middle	26.4	7.4	33.8	660
Fourth	27.4	6.1	33.5	634
Highest	14.7	5.0	19.7	709
Total	26.6	6.1	32.7	3,019

Note: Total includes 9 cases with information missing on educational attainment
[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10 .

Table 4.9 shows that one-third of adolescents age 15-19 have begun childbearing. Twenty-seven percent of teenagers in Bangladesh have given birth, and another 6 percent are pregnant with their first child. As expected, the proportion of women age 15-19 who have begun childbearing rises rapidly with age. Early childbearing among teenagers is more common in rural than urban areas, and in Rajshahi compared with other divisions. Childbearing begins later in Sylhet than in other divisions, mainly because of the later age at marriage in Sylhet. Delayed childbearing is strongly related to education among women age 15-19. Only 23 percent of the teenagers who completed secondary or higher education had begun childbearing, compared with almost half of those with no education. Childbearing begins earlier in the lowest wealth quintile: 42 percent of adolescents in this group have begun childbearing, compared with only 20 percent of adolescents in the highest wealth quintile. The proportion of adolescents age 15-19 who had begun childbearing remained the same (33 percent) in the 2004 and 2007 BDHS surveys.

FERTILITY REGULATION 5

This chapter presents results from the 2007 BDHS on contraceptive knowledge, attitudes, and behavior. Use of family planning is one of the primary determinants of family size. This chapter includes information on knowledge of contraceptives, ever use and current use of contraceptives, use of socially marketed brands of pills and condoms, contact with family planning workers, exposure to family planning messages in the media, discussion of family planning with the spouse, and other issues associated with family planning.

5.1 KNOWLEDGE OF FAMILY PLANNING METHODS

Information on knowledge of family planning methods was collected by asking female respondents to name ways or methods by which a couple could delay or avoid pregnancy. If the respondent did not mention a particular method spontaneously, the interviewer described a method and asked whether the respondent had heard about the method. In this manner, knowledge was assessed for seven modern methods of family planning (the pill, IUD, injectables, implants, condoms, female sterilization, and male sterilization) and two traditional methods of family planning (periodic abstinence and withdrawal). Any other methods spontaneously mentioned by the respondent were also recorded.

Table 5.1 Knowledge of contraceptive methods

Percentage of ever-married and currently married women age 15-49 who know any contraceptive method and mean number of methods known, by specific method, Bangladesh 2007

Method	Ever-married women	Currently married women
Any method	99.8	99.9
Any modern method	99.8	99.8
Pill	99.6	99.7
IUD	84.0	84.3
Injectables	98.5	98.8
Implants	81.3	82.1
Male condom	90.1	90.9
Female sterilization	95.2	95.3
Male sterilization	73.3	73.6
Any traditional method	71.5	72.6
Periodic abstinence	58.6	59.5
Withdrawal	49.7	50.8
Other	2.7	2.6
Mean number of methods known	7.3	7.4
Number of women	10,996	10,192

Knowledge of family planning methods is widespread in Bangladesh (Table 5.1). Almost all ever-married and currently married women know of at least one modern method of family planning, and seven out of every ten women know of at least one traditional method. On average, a currently married woman has heard of 7.4 methods of family planning. Difference in knowledge between ever-married and currently married women is small.

Almost all currently married women have heard of pills, injectables, and female sterilization. More than nine out of ten women know of condoms. Knowledge of other modern methods is also widespread; a majority of currently married women have heard of the IUD (84 percent), implants (82 percent), and male sterilization (74 percent). Knowledge of traditional methods is lower than knowledge of modern methods. Knowledge of specific methods is similar for both currently married and ever-married women.

Since the 1999-2000 BDHS, there has been little overall change in knowledge of contraceptives. However, knowledge of some specific methods has changed. For example, knowledge of implants has increased from 56 percent of currently married women in 1999-2000 to 82 percent in 2007 (NIPORT et al., 2001).

5.2 EVER USE OF CONTRACEPTION

Respondents who said that they had heard of a method of family planning were asked whether they had ever used that method. Ever use of family planning methods in the 2007 BDHS thus refers to use of a method at any time, with no distinction between past and current use. Collection and analysis of ever-use data have special significance for family planning programs. These data indicate the proportion of the population who have been exposed to contraceptive use at least once. Therefore, data on ever use reflect the success of programs in promoting use of family planning methods among eligible couples. In addition, data on ever use, together with data on current use, are valuable for studying contraceptive discontinuation.

Among ever-married women, four-fifths have used a contraceptive method at some time, three-fourths have used a modern method, and one-fourth have used a traditional method (Table 5.2). The pill is by far the most commonly used method: two in three ever-married women say they have used this method at some time. The next most commonly used method is injectables (28 percent), followed by male condoms (21 percent). Very few women report having ever relied on male sterilization (less than 1 percent). As expected, currently married women are somewhat more likely than ever-married women to report ever using a family planning method.

Table 5.2 Ever use of contraception

Percentage of ever-married women and currently married women age 15-49 who have ever used any contraceptive method, by specific method and age, Bangladesh 2007

			Modern method							Any traditional method	Traditional method			
Age	Any method	Any modern method	Pill	IUD	Injectables	Implants	Male condom	Female sterilization	Male sterilization		Periodic abstinence	Withdrawal	Other	Number of women
EVER-MARRIED WOMEN														
15-19	67.4	64.3	57.0	0.9	9.1	0.1	22.9	0.1	0.1	15.0	6.2	10.0	0.1	1,424
20-24	80.8	78.1	70.7	1.7	25.4	1.7	26.5	0.4	0.4	20.2	10.5	12.2	0.5	2,175
25-29	87.3	84.5	74.9	3.5	34.1	3.0	26.8	3.4	0.8	24.5	13.9	14.2	1.1	1,931
30-34	88.0	85.0	75.8	6.0	37.3	2.6	21.9	5.2	1.0	28.1	18.4	14.0	1.1	1,660
35-39	84.7	80.9	70.3	9.1	36.6	1.9	19.5	7.3	0.9	30.8	21.1	14.2	2.2	1,564
40-44	77.8	72.6	59.4	7.7	28.8	1.3	14.0	10.3	1.4	29.0	21.4	11.3	2.0	1,213
45-49	69.1	61.4	41.2	8.1	19.0	0.2	8.6	15.2	1.8	27.2	22.7	7.3	1.5	1,030
Total	80.4	76.7	66.4	4.9	28.0	1.7	21.4	5.1	0.8	24.6	15.6	12.3	1.2	10,996
CURRENTLY MARRIED WOMEN														
15-19	68.5	65.4	58.0	0.9	9.3	0.1	23.4	0.1	0.0	15.2	6.3	10.2	0.1	1,376
20-24	81.9	79.2	71.8	1.8	25.9	1.7	27.2	0.4	0.4	20.3	10.8	12.3	0.4	2,094
25-29	89.0	86.2	76.4	3.6	34.9	3.0	27.5	3.5	0.8	25.0	14.1	14.6	1.2	1,859
30-34	89.8	86.9	77.9	6.2	38.5	2.8	22.6	5.2	1.0	29.1	19.0	14.5	1.2	1,551
35-39	88.0	84.1	73.7	9.5	38.7	1.9	20.5	7.4	0.8	33.0	22.7	15.2	2.4	1,437
40-44	83.7	78.5	65.0	8.6	32.0	1.4	15.4	10.7	1.6	32.0	23.7	12.5	2.2	1,040
45-49	74.6	66.8	45.6	8.9	21.1	0.2	9.8	16.3	1.6	30.2	25.3	8.5	1.3	835
Total	83.0	79.4	69.1	5.0	29.2	1.8	22.5	5.0	0.8	25.6	16.2	12.9	1.2	10,192

Use of family planning has increased steadily in Bangladesh (Table 5.3). In 2007, 80 percent of ever-married women of reproductive age reported having used a family planning method at some time, compared with only 14 percent in 1975; this is more than a fivefold increase over the past three decades.

Table 5.3 Trends in ever use of family planning methods

Percentage of ever-married women age 10-49 who have ever used specific family planning methods, selected sources, Bangladesh 1975-2007

Method	1975 BFS	1983 CPS	1985 CPS	1989 CPS	1989 BFS[1]	1991 CPS	1993-1994 BDHS	1996-1997 BDHS	1999-2000 BDHS	2004 BDHS	2007 BDHS[2]
Any method	13.6	33.4	32.5	44.2	45.0	59.0	63.1	69.2	74.6	80.2	80.4
Any modern method	u	23.8	25.9	37.5	u	49.2	56.4	63.0	67.9	74.5	76.7
Pill	5.0	14.1	14.3	23.3	22.0	34.1	42.0	48.9	55.4	62.4	66.4
IUD	0.9	2.2	2.7	4.6	4.0	6.2	7.3	6.9	6.9	5.6	4.9
Injectables	u	1.2	1.3	2.8	2.0	6.6	11.0	15.7	20.1	26.0	28.0
Vaginal methods	0.5	2.2	1.6	2.4	1.0	2.9	u	u	u	u	u
Condom	4.8	7.1	5.7	9.3	6.0	13.4	13.9	15.0	18.6	20.5	21.4
Female sterilization	0.3	5.8	7.4	8.7	9.0	8.0	7.9	7.6	6.6	5.2	5.1
Male sterilization	0.4	1.4	1.6	1.6	1.0	1.4	1.4	1.2	0.6	0.7	0.8
Any traditional method	u	17.3	11.9	15.3	u	29.6	24.0	23.0	28.8	29.3	24.6
Periodic abstinence	4.5	11.0	7.8	9.7	13.0	21.5	16.5	16.7	18.9	19.3	15.6
Withdrawal	2.6	5.3	2.9	3.6	7.0	11.1	10.1	9.5	14.0	14.0	12.3
Number of women	6,515	8,523	8,541	10,293	11,907	10,573	9,640	9,127	10,544	11,440	10,996

u = Unknown (no information)

[1] Published data were presented in whole numbers; the decimal was added to balance the table.

[2] Data from 2007 is restricted to ever-married women age 15-49

Sources: 1975 Bangladesh Fertility Survey (BFS) (MHPC, 1978:A275); 1983 Contraceptive Prevalence Survey (CPS) (Mitra and Kamal, 1985:117, 122); 1985 CPS (Mitra, 1987:108-112); 1989 CPS (Mitra et al., 1990:88, 92); 1989 BFS (Huq and Cleland, 1990:61); 1991 CPS (Mitra et al., 1993:52); 1993-1994 Bangladesh Demographic and Health Survey (BDHS) (Mitra et al., 1994:43); 1996-1997 BDHS (Mitra et al., 1997:47); 1999-2000 BDHS (NIPORT et al., 2001:50); and 2004 BDHS (NIPORT et al., 2005: 65)

5.3 KNOWLEDGE AND EVER USE OF MENSTRUAL REGULATION

The 2007 BDHS asked women if they knew about or had ever used menstrual regulation (MR). MR is a procedure used to bring on menses in women who have missed their menstrual cycle. According to government policy in Bangladesh, the MR procedure can be performed within eight weeks from the first day of the last menstrual period (LMP) by a paramedic (that is, a trained family welfare visitor) or within ten weeks from the first day of the LMP by a trained medical doctor.

Four in five ever-married and currently married women know about MR (Table 5.4). Rates of ever use of MR increased gradually between the 1996-1997 and 2004 BDHS surveys. Since 2004 ever use of MR has remained steady, with around 6 percent of women reporting that they had ever used MR. In both the 2004 and 2007 BDHS surveys, rates of ever use are highest among women in their thirties; more than 8 percent of both currently married women and ever-married women in this age group have ever used MR.

Table 5.4 Menstrual regulation

Percent of ever-married and currently married women who know of menstrual regulation (MR) and the percentage who ever used MR, by age group, Bangladesh 2007

	Ever-married women			Currently-married women		
Age	Know of MR	Ever used MR	Number of women	Know of MR	Ever used MR	Number of women
15-19	73.2	1.3	1,424	73.2	1.3	1,376
20-24	80.0	3.5	2,175	80.0	3.6	2,094
25-29	83.1	5.9	1,931	83.4	5.8	1,859
30-34	84.1	7.9	1,660	84.4	8.2	1,551
35-39	82.4	8.5	1,564	83.2	8.6	1,437
40-44	82.1	7.1	1,213	82.7	7.9	1,040
45-49	76.6	4.8	1,030	77.3	5.2	835
Total	80.5	5.5	10,996	80.9	5.7	10,192

5.4 CURRENT USE OF CONTRACEPTION

In BDHS surveys, current use of contraception is defined as the proportion of currently married women who report that they are currently using a family planning method.

Overall, 56 percent of currently married women in Bangladesh are currently using a contraceptive method (Table 5.5). Almost half (48 percent) use a modern method and 8 percent use a traditional method. The pill is by far the most widely used method (29 percent), followed by injectables (7 percent), female sterilization (5 percent), periodic abstinence (5 percent), male condoms (5 percent), and withdrawal (3 percent). Less than 1 percent of women use the IUD, implants, male sterilization, and traditional methods other than periodic abstinence and withdrawal.

Table 5.5 Current use of contraception by age

Percent distribution of currently married women age 15-49 by contraceptive method currently used, according to age group, Bangladesh 2007

			Modern method							Any tradi-	Traditional method					
Age	Any method	Any modern method	Pill	IUD	Inject-ables	Im-plants	Male con-dom	Female sterili-zation	Male sterili-zation	tional method	Periodic absti-nence	With-drawal	Other	Not currently using	Total	Number of women
15-19	41.8	37.6	29.4	0.6	3.3	0.1	4.1	0.1	0.0	4.3	1.8	2.5	0.0	58.2	100.0	1,376
20-24	52.4	47.5	33.6	0.7	7.0	0.7	4.7	0.4	0.3	4.9	2.5	2.4	0.1	47.6	100.0	2,094
25-29	60.9	55.4	33.4	0.7	9.7	1.6	5.6	3.5	0.8	5.6	2.6	2.2	0.7	39.1	100.0	1,859
30-34	65.1	56.4	33.0	1.5	9.3	1.2	5.3	5.2	0.9	8.7	5.0	2.9	0.7	34.9	100.0	1,551
35-39	66.5	52.3	27.5	1.7	9.4	0.5	5.0	7.4	0.8	14.2	8.8	4.3	1.1	33.5	100.0	1,437
40-44	55.3	40.2	18.7	0.6	4.7	0.4	3.6	10.7	1.6	15.0	10.1	4.2	0.7	44.7	100.0	1,040
45-49	40.9	30.2	8.7	0.4	2.3	0.0	1.2	16.3	1.3	10.7	7.5	2.0	1.2	59.1	100.0	835
Total	55.8	47.5	28.5	0.9	7.0	0.7	4.5	5.0	0.7	8.3	4.9	2.9	0.6	44.2	100.0	10,192

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

Current use of contraception varies by age. Initially use of any method increases with age, rising from 42 percent among currently married women age 15-19 to a peak of 67 percent at age 35-39. Then it decreases to 41 percent at age 45-49. This inverted U-shaped pattern of contraceptive use by age is typical of most countries. The drop in current use among older women is usually attributed to their declining fecundity—whether perceived or real—while lower levels of use among younger women are usually attributed to their desire to have (more) children. Contraceptive use among women age 15-19 has increased from 25 percent in 1993-94 to 42 percent in 2007.

There are also variations in the use of specific methods by age. The pill is the most popular method among married women in all age groups, with one exception: women in the oldest age group are more likely to be sterilized. Injectables are the second most popular modern method after the pill for women age 20-39. Condoms are the second most popular modern method for women age 15-19.

5.4.1 Trends in Current Use of Family Planning

The contraceptive prevalence rate for married women in Bangladesh has increased from 8 percent in 1975 to 56 percent in 2007, a sevenfold increase over more than three decades (Table 5.6 and Figure 5.1). Overall, current contraceptive use has declined by two percentage points in the past three years, from 58 percent in 2004 to 56 percent in 2007, but use of modern methods has remained unchanged. Use of oral pills has continued to rise, but a two-decade trend of increasing injectable use was interrupted in 2007 (Table 5.6 and Figure 5.2). The observed decline in injectable use, from 10 percent in 2004 to 7 percent in 2007, could be the result of a significant shortage in injectable supplies during some periods of 2006-2007 that affected public-sector and NGO family planning service delivery. Between 2004 and 2007, use of traditional methods also declined from 11 percent to 8 percent.

Table 5.6 Trends in current use of contraceptive methods

Percentage of currently married women age 10 49 who are currently using specific family planning methods, selected sources, Bangladesh 1975-2007

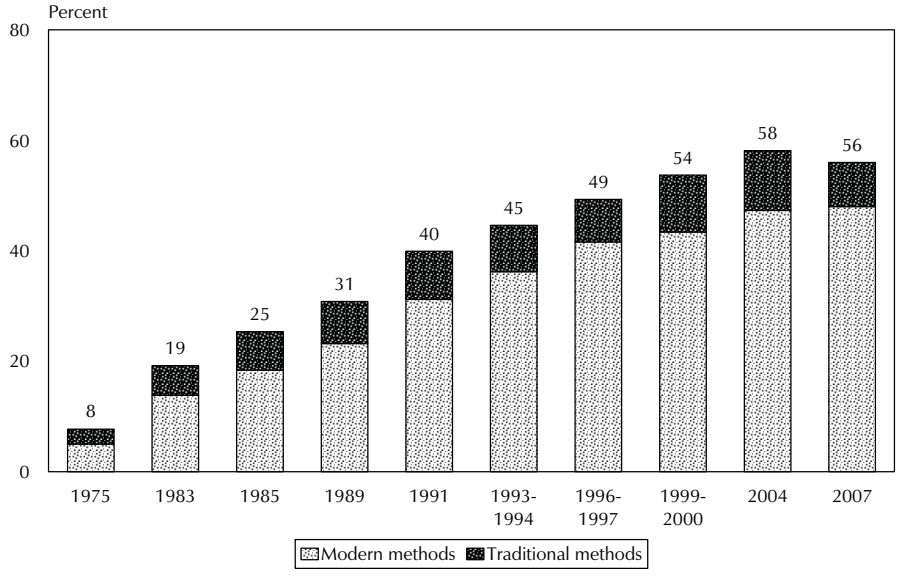
Method	1975 BFS	1983 CPS	1985 CPS	1989 BFS	1991 CPS	1993-1994 BDHS	1996-1997 BDHS	1999-2000 BDHS	2004 BDHS	2007 BDHS[1]
Any method	7.7	19.1	25.3	30.8	39.9	44.6	49.2	53.8	58.1	55.8
Any modern method	5.0	13.8	18.4	23.2	31.2	36.2	41.5	43.4	47.3	47.5
Pill	2.7	3.3	5.1	9.6	13.9	17.4	20.8	23.0	26.2	28.5
IUD	0.5	1.0	1.4	1.4	1.8	2.2	1.8	1.2	0.6	0.9
Injectables	u	0.2	0.5	0.6	2.6	4.5	6.2	7.2	9.7	7.0
Norplant	u	u	u	u	u	u	0.1	0.5	0.8	0.7
Vaginal methods	0.0	0.3	0.2	0.1	u	u	u	u	u	u
Condom	0.7	1.5	1.8	1.8	2.5	3.0	3.9	4.3	4.2	4.5
Female sterilization	0.6	6.2	7.9	8.5	9.1	8.1	7.6	6.7	5.2	5.0
Male sterilization	0.5	1.2	1.5	1.2	1.2	1.1	1.1	0.5	0.6	0.7
Any traditional method	2.7	5.4	6.9	7.6	8.7	8.4	7.7	10.3	10.8	8.3
Periodic abstinence	0.9	2.4	3.8	4.0	4.7	4.8	5.0	5.4	6.5	4.9
Withdrawal	0.5	1.3	0.9	1.8	2.0	2.5	1.9	4.0	3.6	2.9
Other traditional mathods	1.3	1.8	2.2	1.8	2.0	1.1	0.8	0.9	0.6	0.6
Number of women	u	7,662	7,822	10,907	9,745	8,980	8,450	9,720	10,582	10,192

u = Unknown (not available)

[1] Data from 2007 is restricted to currently married women age 15-49

Sources: 1975 Bangladesh Fertility Survey (BFS) (Islam and Islam, 1993:43); 1983 Contraceptive Prevalence Survey (CPS) (Mitra and Kamal, 1985:159); 1985 CPS (Mitra 1987:147); 1989 BFS (Huq and Cleland, 1990:64); 1991 CPS (Mitra et al., 1993:53); 1993-1994 Bangladesh Demographic and Health Survey (BDHS) (Mitra et al., 1994:45); 1996-1997 BDHS (Mitra et al., 1997:50); 1999-2000 BDHS (NIPORT et al., 2001:53); and 2004 BDHS (NIPORT et at., 2005:67)

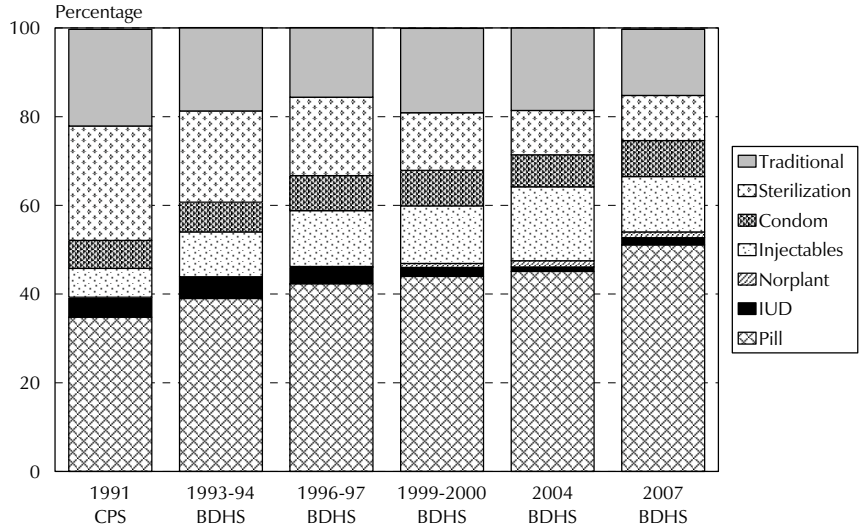
Figure 5.1 Trends in Contraceptive Use among Currently Married Women Age 10-49, Selected Surveys 1975-2007



Note: Contraceptive use in 2007 is for women age 15-49.

The decade-long decline in the use of long-lasting contraceptive methods stabilized in 2007. As in 2004, only 7 percent of currently married women are using sterilization, IUD or Norplant in 2007, compared with 11 percent in 1993-1994. Consequently, the method mix has also changed in the past decade. In 1993-1994, long-lasting methods accounted for 26 percent of total contraceptive use, and now they account for only 13 percent.

Figure 5.2 **Trends in the Contraceptive Method Mix among Currently Married Women Age 10-49 Using a Method 1991-2007**



Note: Contraceptive use in 2007 is for women age 15-49.

5.4.2 Differentials in Current Use of Family Planning

Use of contraceptives varies by women's background characteristics (Table 5.7 and Figure 5.3). Contraceptive use varies markedly by place of residence and continues to be higher in urban (62 percent) than rural areas (54 percent). The urban-rural differential in contraceptive use is primarily due to the greater use of condoms in urban areas. Contraceptive use ranges from a high of 66 percent in Rajshahi to a low of 32 percent in Sylhet.

There is little variation overall in contraceptive use by women's education. Only completion of secondary or higher education makes a substantial difference in contraceptive use. The pill is the most popular method among women from all educational levels. Among women with secondary or higher education, the second most preferred method is the condom. In contrast, injectables are the second most popular method among women with primary education, while female sterilization is the second most popular method among women with no education.

Between 2004 and 2007 contraceptive use decreased

- Markedly among women age 30 and over, and marginally among younger women,
- In both urban and rural areas, but the change was greater in the latter,

- In all administrative divisions except Barisal and Sylhet. The decline was largest in Chittagong and Dhaka (three percentage points). In Barisal, contraceptive use increased by two percentage points, and in Sylhet there was little change, and
- Among women with little or no education. The decrease in use was greatest among women who have no education and those who have completed primary education (more than 4 percentage points).

There are notable variations in contraceptive use among women by number of living children. Only one out of five currently married women with no children currently use contraception. After the first child, contraceptive use increases sharply to 52 percent. It continues to increase to 66 percent after two children and peaks at 67 percent after three children. Then it decreases to 56 percent after four or more children. This decrease in use may be due to declining fecundity associated with the older age of higher parity women. The pill is the most widely used method across all categories of women by number of living children.

Table 5.7 Current use of contraception by background characteristics

Percent distribution of currently married women age 15-49 by contraceptive method currently used, according to background characteristics, Bangladesh 2007

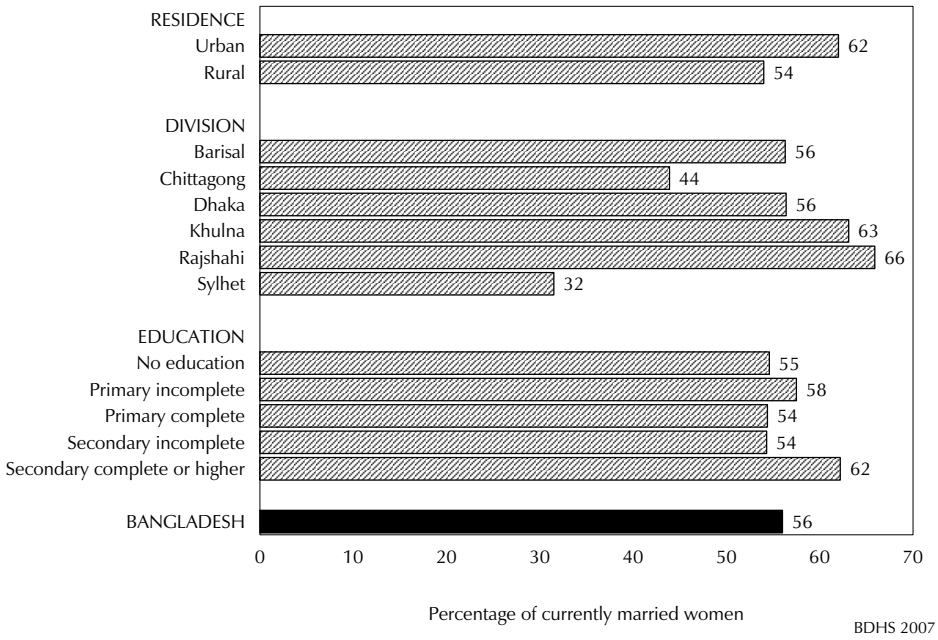
Background characteristic	Any method	Any modern method	Modern method							Any traditional method	Traditional method			Not currently using	Total	Number of women
			Pill	IUD	Injectables	Implants	Male condom	Female sterilization	Male sterilization		Periodic abstinence	Withdrawal	Other			
Residence																
Urban	62.0	52.4	29.7	0.8	6.0	0.8	9.5	4.9	0.6	9.6	6.0	3.3	0.3	38.0	100.0	2,283
Rural	54.0	46.0	28.1	0.9	7.3	0.7	3.1	5.0	0.8	8.0	4.6	2.8	0.6	46.0	100.0	7,909
Division																
Barisal	56.3	47.1	27.9	1.0	8.9	1.8	3.4	3.2	1.0	9.2	4.9	3.7	0.7	43.7	100.0	626
Chittagong	43.9	38.2	24.0	1.0	5.1	0.4	3.4	4.1	0.2	5.7	3.2	1.4	1.1	56.1	100.0	1,877
Dhaka	56.4	47.5	27.6	0.9	7.5	0.7	5.9	4.5	0.4	8.9	5.3	3.0	0.5	43.6	100.0	3,189
Khulna	63.1	53.0	30.7	1.1	8.1	1.1	4.8	6.2	0.9	10.1	5.3	4.6	0.2	36.9	100.0	1,281
Rajshahi	65.9	57.1	35.7	0.9	7.4	0.7	4.3	6.6	1.5	8.9	5.4	3.0	0.5	34.1	100.0	2,584
Sylhet	31.5	24.7	13.3	0.7	5.0	0.4	2.4	3.0	0.0	6.8	4.8	1.7	0.2	68.5	100.0	635
Educational attainment																
No education	54.6	46.3	24.7	0.8	8.1	1.0	1.0	9.3	1.4	8.3	5.6	1.7	0.9	45.4	100.0	3,282
Primary incomplete	57.5	49.6	30.4	1.4	8.1	0.9	2.9	5.3	0.7	8.0	4.4	2.8	0.8	42.5	100.0	2,161
Primary complete[1]	54.3	44.5	27.0	0.7	7.8	0.7	3.9	3.6	0.9	9.9	5.9	3.3	0.7	45.7	100.0	888
Secondary incomplete	54.2	47.1	32.1	1.0	5.9	0.4	6.2	1.3	0.2	7.0	3.6	3.2	0.1	45.8	100.0	2,584
Secondary complete or higher[2]	60.3	49.5	28.6	0.4	4.3	0.5	13.7	2.0	0.0	10.7	5.6	5.0	0.0	39.7	100.0	1,260
Number of living children																
0	19.1	15.0	9.6	0.0	0.0	0.0	4.4	0.1	0.9	4.1	0.8	3.2	0.1	80.9	100.0	1,093
1	52.1	46.3	32.7	0.6	5.0	0.4	6.3	1.0	0.4	5.8	2.8	3.0	0.1	47.9	100.0	2,176
2	66.1	57.9	35.2	1.1	9.1	0.8	6.0	5.0	0.7	8.2	5.3	2.8	0.0	33.9	100.0	2,592
3	66.5	57.0	30.8	1.3	9.4	1.2	3.8	9.7	0.7	9.5	5.5	3.1	0.8	33.5	100.0	1,991
4+	55.9	44.0	24.0	1.2	8.0	0.9	1.9	7.0	1.1	11.9	7.8	2.5	1.6	44.1	100.0	2,340
Wealth quintile																
Lowest	54.8	46.9	26.7	1.0	8.7	1.1	1.5	6.3	1.6	7.9	4.7	2.3	1.0	45.2	100.0	1,903
Second	54.7	47.2	30.3	0.7	8.2	0.7	1.2	5.3	0.8	7.5	5.2	1.6	0.7	45.3	100.0	1,994
Middle	54.1	46.1	28.8	1.5	7.2	0.9	2.6	4.3	0.8	8.1	4.8	2.8	0.5	45.9	100.0	2,055
Fourth	55.2	47.6	28.6	0.9	7.1	0.5	4.8	5.5	0.4	7.6	3.8	3.3	0.5	44.8	100.0	2,136
Highest	59.9	49.4	28.0	0.6	4.3	0.6	12.0	3.8	0.1	10.5	6.0	4.3	0.2	40.1	100.0	2,104
Total	55.8	47.5	28.5	0.9	7.0	0.7	4.5	5.0	0.7	8.3	4.9	2.9	0.6	44.2	100.0	10,192

Note: If more than one method is used, only the most effective method is considered in this tabulation. Total includes 17 women with information missing on educational attainment

[1] Primary complete is defined as completing grade 5.

[2] Secondary complete is defined as completing grade 10.

Figure 5.3 Contraceptive Use by Background Characteristics



Women generally report higher use of contraception if they are from wealthier households, upholding the relationship that contraceptive use increases with the improved economic status of women. Sixty percent of women in the highest wealth quintile reported that they use a contraceptive method, compared with 55 percent of those in the lowest wealth quintile. Aside from the pill, which is the most widely used method among women across all wealth quintiles, condoms are popular among women in the highest quintile and injectables among women in the other four wealth quintiles.

5.5 Number of Children at First Use of Contraception

The 2007 BDHS asked all women who had ever used a contraceptive method how many living children they had when they first used contraception. Table 5.8 presents this information for five-year age groups. These data permit an examination of both periodic and cohort changes in when women begin using contraceptive use during the family-building process.

Table 5.8 Number of living children at first use of contraception

Percent distribution of ever-married women age 15-49 by number of living children at the time of first use of contraception, according to current age, Bangladesh 2007

Current age	Never used	Number of living children at time of first use of contraception						Total	Number of women
		0	1	2	3	4+	Missing		
15-19	32.6	44.3	21.2	1.7	0.1	0.0	0.0	100.0	1,424
20-24	19.2	32.4	39.3	7.3	1.6	0.2	0.0	100.0	2,175
25-29	12.7	20.8	43.9	13.7	6.0	2.9	0.0	100.0	1,931
30-34	12.0	13.6	35.7	18.8	10.4	9.4	0.0	100.0	1,660
35-39	15.3	9.3	24.7	22.3	13.2	15.1	0.0	100.0	1,564
40-44	22.2	4.8	17.1	16.4	17.1	22.4	0.0	100.0	1,213
45-49	30.9	3.9	10.4	11.8	14.5	28.4	0.1	100.0	1,030
Total	19.6	20.1	30.0	13.0	8.1	9.3	0.0	100.0	10,996

Overall, 63 percent of ever-married women started using contraception when they had fewer than three living children, and 20 percent adopted a method before they had their first child. Younger cohorts of women show a tendency to initiate family planning use at lower parities. For example, only 14 percent of women age 45-49 started using family planning before having two children, compared with 72 percent of women age 20-24 and 66 percent of women age 15-19.

A comparison of information from successive BDHS surveys provides further evidence that Bangladeshi women are starting to use family planning at lower parities than before. In 2007, for example, half of women reportedly began using family planning before they had two children, compared with 27 percent in 1993-94. Although few women adopt a method to delay the first birth, that proportion has also been increasing. In 1993-94 about one in nine women reported using family planning to delay the first birth; in 2007 one in five women reported adopting family planning before having a first child.

5.6 USE OF SOCIAL MARKETING BRANDS

Bangladesh has an active contraceptive social marketing program that distributes pills, condoms, injectables, and oral rehydration salts (ORS) through a network of retail outlets (pharmacies, small shops, and kiosks) and Blue Star Providers spread across the country. The Social Marketing Company carries several brands of oral contraceptives, including Nordette-28, Femicon, and Minicon. To obtain information on the number of users purchasing the social marketing brands, the BDHS interviewer asked current pill users to show her a packet of the pills they were using. If the user had the packet available, the interviewer recorded the brand on the questionnaire. If not, the interviewer showed the woman a chart depicting all major pill brands and asked the user to identify which brand she was currently using.

As shown in Table 5.9, 45 percent of pill users use social marketing brands compared with 52 percent who use the government-supplied brand, Shuki. The government-supplied brand is provided free of charge through government fieldworkers and clinics and at a nominal charge through nongovernmental service providers. More than one-third of pill users take Femicon, the most popular social marketing brand of pills; it is somewhat more common in rural (36 percent) than urban (32 percent) areas. The next most widely used social marketing brand is Nordette-28, with twice as many urban as rural customers (14 percent and 6 percent, respectively). Minicon, a socially marketed progestin-only pill for lactating mothers, is used by 2 percent of pill users. The percentage of pill users using a social marketing brand has risen consistently, from 14 percent in 1993-94 to 40 percent in 2004 and 45 percent in 2007.

Table 5.9 Use of pill brands

Percent distribution of current pill users by brand of pill used, according to urban-rural residence, Bangladesh 2007

Pill brand	Residence		Total
	Urban	Rural	
Social marketing	48.3	43.7	44.8
Nordette-28	14.0	6.3	8.1
Femicon	31.9	35.5	34.7
Minicon	2.4	1.8	1.9
Government	45.0	54.1	52.0
Shukhi	45.0	54.1	52.0
Private	6.0	1.7	2.7
Marvelon	2.9	0.5	1.1
Ovostat	3.1	1.2	1.6
Other/don't know	0.7	0.5	0.5
Total	100.0	100.0	100.0
Number	679	2,225	2,904

To assess the social marketing program's reach in condom use, the 2007 BDHS gathered information on what type of condoms couples used. Interviewers showed a chart depicting all major condom brands to women who reported that their husbands were currently using condoms. They were asked to identify the brand they use. Men would presumably be a more reliable source of data on condom brands; however, because of the larger sample of women than men in the BDHS survey, the data shown in Table 5.10 are derived from women.

Condom brands sold by the Social Marketing Company have a high market share. Almost three in five condom users buy social marketing brands, with 27 percent using Panther, 13 percent each for Raja and Sensation, and another 3 percent using the newly launched Hero condom. The Panther and Sensation brands are more popular in urban than rural areas, while the reverse is true for the Raja and Hero brands. The total percentage of condom users supplied through the Social Marketing Company has decreased slightly in the last three years, from 66 percent in 2004 to 57 percent in 2007. Interruptions in the supply of Raja brand condoms from the Social Marketing Company during 2006-2007 may have played a role. The use of Raja decreased eleven percentage points, from 24 percent to 13 percent, over the last three years.

Table 5.10 Use of condom brands

Percentage distribution of current condom users by brand of condom used, according to urban-rural residence, Bangladesh 2007

Condom brand	Residence		Total
	Urban	Rural	
Social marketing	60.5	53.0	56.5
Raja	9.3	15.7	12.7
Panther	31.4	23.7	27.4
Sensation	18.6	8.8	13.4
Hero	1.1	4.7	3.0
Government	16.7	30.9	24.2
Nirapad	16.7	30.9	24.2
Private	9.5	3.5	6.3
Carex	3.3	0.0	1.6
Titanic	0.3	0.5	0.4
Twin Lotus	1.2	0.0	0.6
Feelings	0.0	1.0	0.5
Greenlove	4.7	2.0	3.3
Other/don't know	13.3	12.6	13.0
Total	100.0	100.0	100.0
Number	217	243	460

Note: Table is based on women's reports

5.7 AGE AT STERILIZATION

Table 5.11 shows the distribution of sterilized women by the age at which they had the procedure, according to the number of years preceding the survey that the procedure was done. Because data on age at sterilization are derived from a question on the month and year of the operation, it is possible that the data are distorted by recall errors in reporting either the date of the operation or the date of birth or age of the woman.

Women who decide to get sterilized generally have the procedure early in their reproductive years. Seven in ten sterilized women had the procedure done before age 30. The median age of sterilization is 26.9 years, and this has remained the same since the 1993-94 BDHS.

Table 5.11 Timing of sterilization

Percent distribution of sterilized women age 15-49 by age at the time of sterilization and median age at sterilization, according to the number of years since the operation, Bangladesh 2007

Years since operation	Age at time of sterilization						Total	Number of women	Median age[1]
	<25	25-29	30-34	35-39	40-44	45-49			
<2	14.5	34.0	31.4	14.8	4.4	0.9	100.0	77	29.4
2-3	15.5	35.3	32.7	7.9	3.6	5.0	100.0	53	29.0
4-5	(25.8)	(23.8)	(41.3)	(3.8)	(2.4)	(2.9)	100.0	24	29.4
6-7	(32.2)	(34.9)	(16.9)	(15.8)	(0.3)	(0.0)	100.0	52	27.7
8-9	(16.2)	(51.7)	(19.3)	(12.9)	(0.0)	(0.0)	100.0	28	28.8
10+	48.9	33.9	16.3	0.9	0.0	0.0	100.0	324	a
Total	36.8	34.6	21.2	5.6	1.1	0.7	100.0	558	26.9

Note: Figures in parentheses are based on 25-49 unweighted cases.
[1] Median ages are calculated only for women sterilized at less than 40 years of age to avoid problems of censoring.
a = Not calculated due to censoring

5.8 SOURCE OF FAMILY PLANNING METHOD

To ascertain the sources of family planning methods in Bangladesh, the 2007 BDHS asked women who were currently using a modern method of contraception where they obtained the method the last time. Since women often do not know what category their source fits into (hospital, upazila health complex, family welfare center, or private clinic), interviewers were instructed to write the name of the source in the questionnaire. Team supervisors verified that the name and the type of source coded were consistent.

The sources of family planning methods are classified into four major categories: public-sector sources (including government hospitals, upazila health complexes, family welfare centers, satellite/EPI clinics, maternal and child welfare centers, and government fieldworkers), NGO-sector sources (including static clinics, satellite clinics, depot holders, and fieldworkers), private medical sources (including private hospitals and clinics, qualified or traditional doctors, and pharmacies), and other private sources (including shops and friends or relatives). Table 5.12 and Figure 5.4 show the percentage of current users of modern methods who obtained their method from a specific source.

The public sector is the predominant source, providing contraceptive methods to half of all users. Government fieldworkers are the most important source in the public sector, supplying one in five users. The contribution of the public sector to family planning provision has been declining, however; it is seven percentage points lower in 2007 than in 2004. Fieldworkers' share of the contraceptive supply also has decreased slightly, from 23 percent in 2004 to 20 percent in 2007.

Table 5.12 Source of modern contraception methods

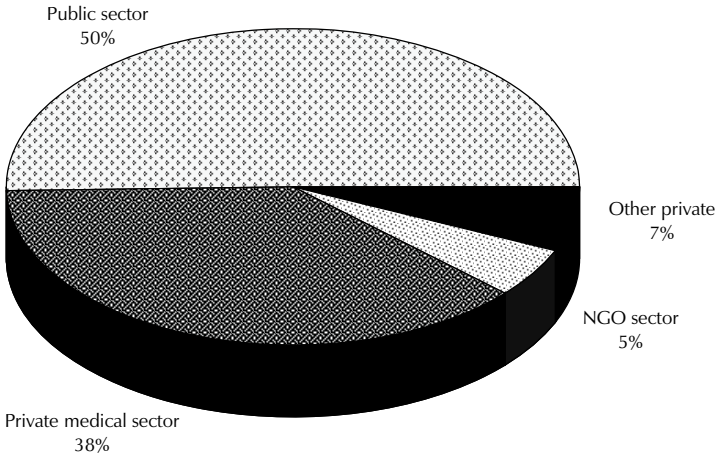
Percent distribution of users of modern contraceptive methods age 15-49 by most recent source of method, according to method, Bangladesh 2007

Source of supply	Pill	IUD	Inject-ables	Implants	Male condom	Female sterili-zation	Male steriliz-ation	Total
Public sector	41.2	90.4	68.0	88.9	16.2	85.5	84.5	50.2
Government hospital	0.4	2.7	1.3	9.2	1.0	22.3	35.3	3.8
Family welfare center	4.4	59.1	30.4	5.6	0.9	6.0	1.4	9.1
Upazila health complex	1.5	23.3	8.2	57.9	0.8	44.2	34.7	9.1
Satellite clinic or EPI outreach site	4.4	2.6	16.8	1.2	0.4	0.2	0.0	5.2
Maternal and child welfare center	0.2	2.8	2.1	13.6	0.6	11.2	12.1	2.2
Government fieldworker	29.6	0.0	7.9	0.0	11.3	0.0	0.0	19.8
Community clinic	0.2	0.0	0.1	0.0	0.2	0.0	0.0	0.2
Other public	0.4	0.0	1.1	1.4	0.9	1.6	1.1	0.7
Private medical sector	45.4	3.9	20.9	5.6	66.9	10.8	0.0	37.8
Private hospital	0.1	3.9	0.8	5.6	0.8	10.8	0.0	1.6
Qualified doctor	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.4
Traditional doctor	0.2	0.0	4.5	0.0	0.0	0.0	0.0	0.8
Pharmacy	45.0	0.0	13.2	0.0	66.1	0.0	0.0	34.9
Other private	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NGO sector	4.6	5.7	10.8	4.6	2.8	3.2	0.8	5.2
Static clinic	1.0	4.8	4.8	4.6	1.9	3.2	0.8	2.0
Satellite clinic	0.5	0.8	5.0	0.0	0.3	0.0	0.0	1.1
Depot holder	0.4	0.0	0.0	0.0	0.1	0.0	0.0	0.3
Fieldworker	2.6	0.0	1.0	0.0	0.5	0.0	0.0	1.7
Other NGO	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Other private	8.7	0.0	0.2	0.0	13.8	0.1	0.0	6.5
Shop	6.7	0.0	0.0	0.0	13.4	0.0	0.0	5.2
Friends/ relatives	1.9	0.0	0.0	0.0	0.2	0.0	0.0	1.2
Other	0.1	0.0	0.2	0.0	0.1	0.1	0.0	0.1
Don't know	0.0	0.0	0.0	0.0	0.0	0.1	9.9	0.2
Missing	0.1	0.0	0.2	0.8	0.3	0.2	4.8	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	2,904	93	718	75	460	558	75	4,884

The private sector continues to rapidly gain in importance as a source of contraceptive supply. In 2007, 44 percent of modern contraceptive users were getting their methods from a private source compared with 36 percent in 2004. About 38 percent of the users are getting their supplies from a private medical source, with the pharmacy being the most important source, serving 35 percent of users. An additional 7 percent use non-medical private sources, mainly shops. The public sector is the predominant source for female and male sterilization, the IUD, injectables, and implants, while the private sector is the predominant source for pills and condoms. The contribution of the private medical sector as a source for injectables increased substantially from 7 percent in 2004 to 21 percent in 2007.

The NGO sector supplies contraceptives to 5 percent of users.

Figure 5.4 Distribution of Current Users of Modern Contraceptive Methods by Source of Supply



BDHS 2007

5.9 CONTRACEPTIVE DISCONTINUATION

Couples can realize their reproductive goals only when they consistently and correctly use contraceptive methods. A key concern for family planning programs is the rate at which contraceptive users discontinue using their method. Life table contraceptive discontinuation rates are presented in Table 5.13. These rates are based on information collected in the five-year, month-by-month calendar in the BDHS questionnaire. All episodes of contraceptive use that occured 3-59 months prior to the date of the interview were recorded in the calendar. The month of interview and the two preceding months are ignored to avoid the bias that might be introduced by an unrecognized pregnancy.

The rates presented in Table 5.13 are cumulative one-year discontinuation rates and represent the proportion of users who discontinue using a method within 12 months after starting. The rates

Table 5.13 First-year contraceptive discontinuation rates

Percentage of contraceptive users who discontinued use of a method within 12 months after beginning its use, by specific method, Bangladesh 2007

Method	Total
Pill	54.2
IUD	32.7
Injectable	53.0
Male condom	75.7
Periodic abstinence	51.2
Withdrawal	66.5
All methods	56.5
Number of episodes of use	6,069

Note: Table is based on episodes of contraceptive use that began 3-59 months prior to the survey

are calculated by dividing the number of discontinuations at each duration of use in single months by the number of months of exposure for that duration. The single-month rates are then summed to produce a one-year rate.

The results indicate that 57 percent of contraceptive users in Bangladesh stop using the method within 12 months of starting. Not surprisingly, discontinuation rates are much higher for condoms (76 percent) and withdrawal (67 percent) than other methods. Around half of women who used the pill, injectables, and periodic abstinence stopped using those methods within the first 12 months. Discontinuation rates were lowest for the IUD (33 percent).

The overall discontinuation rate has increased over the past three years from 49 percent in the 2004 BDHS. Discontinuation rates have increased ten percentage points for periodic abstinence, eight percentage points for the pill, seven percentage points for withdrawal, and four percentage points for injectables and condoms since 2004.

5.10 Future Intentions To Use Family Planning

5.10.1 Future Use of Contraception

Currently married women who were not using contraception at the time of survey—defined as nonusers—were asked about their intention to use family planning in the future. The results are presented in Table 5.14, according to the number of living children the women had.

Table 5.14 Future use of contraception

Percent distribution of currently married women age 15-49 who are not using a contraceptive method by intention to use in the future, according to number of living children, Bangladesh 2007

	Number of living children					
Intention	0	1	2	3	4+	Total
Intends to use	82.3	86.6	77.7	66.5	42.1	70.1
Unsure	6.1	1.8	1.1	2.6	1.1	2.2
Does not intend to use	11.6	11.5	21.3	30.6	56.2	27.5
Missing	0.0	0.1	0.0	0.2	0.5	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	589	1,150	949	724	1,094	4,506

An important indicator of the changing demand for family planning is the extent to which nonusers of contraception plan to use family planning in the future. Among nonusers, seven in ten say they intend to use family planning methods. Only a few nonusers (2 percent) say they are unsure of their intention. Intention to use varies with the number of children. The proportion of nonusers who say they intend to use family planning in the future peaks at 87 percent for women with one child and falls sharply to 42 percent among women with four or more children. The proportion of nonusers intending to use family planning in the future has decreased slightly from 73 percent in 2004 to 70 percent in 2007.

5.10.2 Reasons for Not Intending to Use Contraception

Table 5.15 presents the main reasons for not intending to use contraception in the future as reported by nonintenders (nonusers who do not intend to use family planning in the future). Three-fourths of the nonintenders do not plan to use family planning for reasons related to fertility. The most common fertility-related reason for nonuse is infecundity, cited by 61 percent of nonintenders, who are either menopausal, have had a hysterectomy, are subfecund, or are infecund. Ten percent do not intend to use a contraceptive method because of infrequent sex or no sex. Three percent of nonintenders—mostly younger women age 15-29—do not intend to use contraception because they want more children.

Other major reasons for nonuse are opposition to family planning and method-related reasons. Twelve percent of nonintenders do not intend to use contraceptives because of opposition to family planning—by themselves, their husband, or others, or because of religious prohibitions. Only 8 percent do not intend to use because of method-related reasons, mainly fear of side effects.

Table 5.15 Reason for not intending to use contraception

Percent distribution of currently married women age 15-49 who are not using a contraceptive method and who do not intend to use in the future, by main reason for not intending to use, according to age, Bangladesh 2007

	Age		
Reason	15-29	30-49	Total
Fertility-related reasons	36.7	77.9	74.1
Infrequent sex/no sex	9.2	10.5	10.4
Menopausal/had hysterectomy	5.5	31.1	28.7
Subfecund/ infecund	9.3	34.3	32.0
Wants as many children as possible	12.6	2.0	3.0
Opposition to use	37.5	9.5	12.1
Respondent opposed	14.2	4.3	5.2
Husband/partner opposed	11.4	2.1	3.0
Others opposed	0.0	0.1	0.0
Religious prohibition	11.9	3.0	3.8
Lack of knowledge	2.6	0.4	0.6
Knows no method	1.3	0.2	0.3
Knows no source	1.3	0.2	0.3
Method-related reasons	11.3	7.8	8.1
Health concerns	4.6	2.3	2.6
Fear of side effects	5.4	3.2	3.4
Lack of access/too far	0.5	0.1	0.1
Inconvenient to use	0.0	0.2	0.2
Interferes with body's normal process	0.8	1.9	1.8
Other	9.3	4.3	4.7
Don't know	2.6	0.0	0.2
Missing	0.0	0.2	0.1
Total	100.0	100.0	100.0
Number of women	115	1,126	1,241

5.10.3 Preferred Method for Future Use

Another question assessed future demand for specific contraceptive methods among currently married women who were not using contraception but said they intended to use a method in the future. They were asked which method they would prefer to use. The results are presented in Table 5.16. The largest proportion of prospective users prefer the pill (43 percent), while 15 percent favor injectables.

Table 5.16 Preferred method of contraception for future use

Percent distribution of currently-married women age 15-49 who are not using a contraceptive method but who intend to use in the future, by preferred method, according to age, Bangladesh 2007

	Age		
Reason	15-29	30-49	Total
Pill	44.1	41.3	43.4
IUD	0.1	0.2	0.1
Injectable	14.6	16.1	15.0
Condom	2.2	2.6	2.3
Female sterilization	1.9	3.0	2.2
Male sterilization	0.3	0.2	0.2
Periodic abstinence	0.5	2.3	1.0
Withdrawal	0.5	0.9	0.6
Other	0.2	0.9	0.4
Norplant	0.6	0.5	0.6
Don't know	35.1	32.0	34.3
Total	100.0	100.0	100.0
Number of women	2,348	812	3,160

5.11 FAMILY PLANNING OUTREACH SERVICES

Fieldworkers and satellite clinics are crucial elements in the provision of family planning services in Bangladesh. The 2007 BDHS asked women whether a family planning fieldworker had visited them in the six months prior to the survey. One in five currently married women reported such a visit from a government, NGO, or other worker; almost all visits were by government family planning fieldworkers (Table 5.17). Visits from fieldworkers have increased by three percentage points since 2004.

Table 5.17 Contact with family planning worker

Percentage of currently-married women age 15-49 who reported being visited by government or non-governmental organization (NGO) fieldworkers for family planning services in the six months prior to the survey, by selected background characteristics and contraceptive use status, Bangladesh 2007

Background characteristic	Fieldworker visit for family planning services				Number of women
	No one	Government family planning worker	Government health worker	NGO worker/ other	
Age					
15-19	85.8	10.5	1.1	2.7	1,376
20-24	79.7	15.3	1.8	3.6	2,094
25-29	74.4	18.8	2.2	4.6	1,859
30-34	72.7	21.0	3.2	3.1	1,551
35-39	77.7	16.6	2.4	3.8	1,437
40-44	80.2	15.2	1.7	3.2	1,040
45-49	88.8	8.3	0.7	2.5	835
Residence					
Urban	83.0	10.8	1.7	4.7	2,283
Rural	77.9	17.2	2.1	3.1	7,909
Division					
Barisal	77.9	14.8	3.6	4.8	626
Chittagong	85.8	9.8	2.7	2.2	1,877
Dhaka	79.7	15.9	0.9	3.4	3,189
Khulna	76.4	19.4	2.4	1.8	1,281
Rajshahi	74.3	18.7	2.3	5.1	2,584
Sylhet	81.2	13.8	1.6	3.4	635
Educational attainment					
No education	81.1	14.6	2.2	2.3	3,282
Primary incomplete	76.7	17.0	1.9	4.6	2,161
Primary complete[1]	78.9	17.7	1.4	2.4	888
Secondary incomplete	77.5	16.6	2.1	4.1	2,584
Secondary complete or higher[2]	80.7	13.6	1.7	4.0	1,260
Number of living children					
0	92.8	5.2	1.0	1.1	798
1	81.2	14.0	1.5	3.6	2,284
2	75.6	18.6	2.1	4.0	2,661
3	76.4	17.4	3.0	3.4	2,047
4+	78.4	16.3	1.7	3.7	2,402
Current contraceptive use					
Pill	64.2	27.7	3.0	5.3	2,904
IUD	71.3	23.8	3.1	1.8	93
Injectable	70.6	22.9	2.0	4.7	718
Condom	76.4	17.6	1.2	5.1	460
Female sterilization	94.0	4.0	0.6	2.0	511
Male sterilization	91.4	2.6	0.0	5.9	75
Periodic abstinence	79.6	16.0	2.0	2.1	499
Withdrawal	75.6	17.5	1.8	6.0	292
Other	83.8	14.0	1.6	0.6	133
Not using	88.5	8.0	1.6	2.2	4,506
Total	79.0	15.7	2.0	3.5	10,192

Note: Total includes 17 women with information missing on educational attainment
[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

The likelihood of receiving a visit varied with women's background characteristics. Fieldworkers were less likely to visit younger (age 15-19) and older (age 40 and over) women than women in the prime reproductive ages. They were less likely to visit women with no children and most likely to visit those who had two or three children. Among administrative districts, visits were most frequent in Rajshahi, where one in four women reported a visit. Fieldworker visits were least likely in Chittagong, where just one in seven women reported a visit. One in five women in Sylhet received a visit.

Fieldworker visits also varied by women's contraceptive use status and the method used. Fieldworkers were more likely to visit pill, injectable, and IUD users; nonusers and sterilized women received the fewest visits. Visits by government family planning workers were more common in rural areas (17 percent) than urban areas (11 percent).

As shown in Table 5.18, seven in ten ever-married women are aware of the satellite clinic in their community. Awareness of satellite clinics is lower among younger women, women in urban areas, women in Barisal and Chittagong divisions, women who completed secondary or higher education, and women in the highest wealth quintile.

Table 5.18 Satellite clinics

Percentage of ever-married women age 15-49 who reported a satellite clinic in their community in the past three months, the percentage who visited a satellite clinic, and the percentage who reported various types of services provided at the clinic, by background characteristics, Bangladesh 2007

Background characteristic	Percentage reporting a satellite clinic in the community	Number of women	Of those reporting a satellite clinic in the community: Percentage who visited clinic	Number of women	Of those who visited a satellite clinic, percentage reporting availability of various services: Family planning methods	Immunizations	Child growth monitoring	Tetanus toxoid injections	Antenatal care	Vitamin A for children	Other	Don't know/ missing	Number of women
Age													
15-19	66.7	1,424	40.0	950	7.1	78.2	1.5	12.8	4.2	39.0	4.4	0.0	380
20-24	72.4	2,175	45.8	1,575	10.5	78.3	2.1	9.1	2.5	47.9	6.1	0.3	721
25-29	74.6	1,931	39.5	1,440	11.6	81.0	2.0	4.7	1.8	49.9	6.3	0.0	569
30-34	73.2	1,660	31.1	1,216	19.1	67.0	1.7	7.2	0.7	46.5	7.8	0.5	378
35-39	71.0	1,564	20.6	1,110	22.2	65.2	1.5	6.4	0.0	43.1	12.0	0.7	228
40-44	72.4	1,213	13.5	878	20.6	61.4	0.7	7.9	0.0	36.1	9.9	0.0	119
45-49	70.3	1,030	12.0	724	22.8	58.5	0.6	3.2	0.0	31.0	9.7	0.0	87
Residence													
Urban	59.4	2,482	28.9	1,474	15.7	72.8	2.2	5.8	1.2	43.7	5.0	0.4	427
Rural	75.4	8,514	32.0	6,417	13.1	74.8	1.7	8.3	2.1	45.5	7.4	0.2	2,056
Division													
Barisal	55.2	662	35.0	366	20.7	61.3	4.9	5.1	0.6	36.2	7.2	0.5	128
Chittagong	62.0	2,023	30.5	1,255	9.4	82.3	0.9	6.4	0.9	45.1	4.0	0.5	382
Dhaka	74.3	3,431	29.9	2,550	15.7	73.4	1.6	6.5	1.2	43.5	8.1	0.1	763
Khulna	70.9	1,396	29.0	990	20.1	57.2	0.3	13.8	0.8	35.8	9.0	0.0	287
Rajshahi	81.3	2,776	32.8	2,257	12.2	77.9	1.7	7.7	4.2	49.6	6.6	0.2	740
Sylhet	67.0	707	38.4	474	3.5	85.3	4.5	9.5	0.1	55.4	6.6	0.2	182
Educational attainment													
No education	74.1	3,746	27.6	2,776	14.9	73.5	1.2	6.5	1.3	47.7	6.2	0.4	767
Primary incomplete	75.2	2,320	32.4	1,744	15.9	69.7	1.8	9.4	1.6	39.7	8.1	0.1	565
Primary complete[1]	72.2	929	33.9	670	12.0	79.7	2.3	3.8	0.8	55.8	11.6	0.9	227
Secondary incomplete	69.9	2,681	35.8	1,875	12.2	77.3	2.3	9.1	3.2	45.0	4.7	0.0	670
Secondary complete or higher[2]	62.4	1,304	30.3	814	9.2	75.2	1.4	8.8	1.9	39.5	9.4	0.0	247
Wealth quintile													
Lowest	78.9	2,115	37.1	1,668	14.1	73.8	2.5	6.7	1.9	47.9	9.1	0.4	619
Second	75.5	2,157	34.8	1,630	14.5	75.9	1.3	7.3	2.8	42.8	7.7	0.0	568
Middle	73.8	2,186	30.0	1,613	14.3	73.9	2.1	9.5	2.0	48.9	7.0	0.2	484
Fourth	72.8	2,259	27.6	1,644	14.4	73.8	1.4	8.9	1.0	41.7	5.7	0.0	454
Highest	58.7	2,278	26.8	1,336	9.0	75.2	1.2	7.2	1.4	43.7	3.9	0.7	358
Total	71.8	10,996	31.5	7,891	13.5	74.5	1.8	7.8	1.9	45.2	7.0	0.2	2,483

[1] Primaray complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

Nearly one-third of women who were aware of satellite clinics reported visiting such a clinic in the three months before the 2007 BDHS. About three-fourths of women who visited a satellite clinic knew that it provided immunization services for children. This reverses a downward trend: awareness that immunization services are available at satellite clinics decreased from 83 percent in 1999-2000 to 65 percent in 2004, before increasing to 75 percent in the 2007 BDHS. Forty-five percent of the women who visited a satellite clinic knew that it provided vitamin A for children. However, only 14 percent knew that it provided family planning methods.

5.12 Discussion about Family Planning between Spouses

Discussion between husbands and wives about family planning is an important intermediate step towards eventual adoption and sustained use of contraception. Use of family planning methods is facilitated when husbands and wives discuss the issue and share their views. Lack of discussion may reflect a lack of personal interest, hostility to the subject, or a customary reticence in talking about sex-related matters. The 2007 BDHS assessed couple communication on family planning among currently married women who were not sterilized and who knew a contraceptive method. Interviewers asked how often they had talked with their husband about family planning in the three months preceding the survey. The results are presented in Table 5.19.

More than half (55 percent) of the women questioned had not talked with their husband about family planning in the past three months, 36 percent had discussed it once or twice, and 10 percent had discussed it more than twice. Husband and wife discussions of family planning were generally more common among women under age 40 than among older women.

Table 5.19 Discussion of family planning with spouse

Percent distribution of currently married, nonsterilized women age 15-49 who know a contraceptive method, by the number of times they have discussed family planning with their husband in the past three months, according to age, Bangladesh 2007

	Number of times family planning was discussed in the last three months					
Age	Never	Once or twice	More often	Missing	Total	Number of women
15-19	50.1	38.0	12.0	0.0	100.0	1,376
20-24	45.5	42.1	12.3	0.1	100.0	2,094
25-29	46.9	41.8	11.2	0.1	100.0	1,859
30-34	50.8	39.4	9.8	0.0	100.0	1,551
35-39	57.9	34.0	8.1	0.0	100.0	1,437
40-44	69.9	24.2	5.7	0.2	100.0	1,040
45-49	84.2	12.3	3.6	0.0	100.0	835
Total	54.6	35.7	9.7	0.1	100.0	10,192

5.13 Exposure to Family Planning Messages

In assessing the reach of family planning messages, the 2007 BDHS asked women and men whether they had heard or seen a message about family planning on the radio, on television, in a newspaper or magazine, on a billboard, poster, or leaflet, or at a community event in the month before the survey. Table 5.20 presents the proportion of ever-married women who had heard or seen such a message from a media source, by background characteristics.

Table 5.20 Exposure to family planning messages

Percentage of ever-married women and men age 15-49 who heard or saw a family planning message via the radio, television, newspaper/magazine, poster/billboard/leaflet, or community event in the past month, according to background characteristics, Bangladesh 2007

	Women								Men							
Background characteristic	Radio	Tele-vision	News-paper/ maga-zine	Poster/ billboard/ leaflet	Com-munity event	At least one of these sources	None of these sources	Number of women	Radio	Tele-vision	News-paper/ maga-zine	Poster/ billboard/ leaflet	Com-munity event	At least one of these sources	None of these sources	Number of men
Age																
15-19	17.8	34.6	3.2	11.8	2.3	44.9	55.1	1,424	*	*	*	*	*	*	*	20
20-24	14.6	38.0	4.1	12.0	2.1	46.2	53.8	2,175	24.7	42.8	16.4	34.9	8.6	60.6	39.4	290
25-29	12.8	33.7	4.4	10.8	2.0	40.9	59.1	1,931	22.4	42.0	14.8	38.1	8.3	62.3	37.7	616
30-34	10.1	29.0	3.3	10.4	2.2	35.7	64.3	1,660	18.7	41.4	19.7	38.9	6.6	62.3	37.7	476
35-39	11.1	27.0	3.8	8.1	1.9	33.6	66.4	1,564	17.6	38.2	14.6	34.4	6.7	58.9	41.1	674
40-44	9.7	24.8	2.7	7.2	1.4	31.3	68.7	1,213	19.1	36.3	13.1	31.4	7.6	55.8	44.2	567
45-49	9.1	22.7	2.5	5.8	1.4	27.8	72.2	1,030	16.0	34.6	12.3	32.7	6.2	53.5	46.5	583
Residence																
Urban	9.5	50.8	7.6	18.7	2.7	56.3	43.7	2,482	14.2	49.2	24.2	45.1	6.9	69.3	30.7	742
Rural	13.3	25.2	2.4	7.3	1.7	33.1	66.9	8,514	21.0	35.7	12.1	32.1	7.5	55.7	44.3	2,486
Division																
Barisal	16.2	19.3	3.8	9.8	2.7	33.4	66.6	662	22.4	32.8	12.9	30.5	11.0	55.9	44.1	186
Chittagong	14.0	30.8	5.3	11.1	2.8	39.3	60.7	2,023	25.7	40.9	20.6	32.1	7.5	63.3	36.7	531
Dhaka	11.0	36.3	3.4	11.3	1.7	41.8	58.2	3,431	17.9	43.5	14.5	34.3	6.0	60.2	39.8	977
Khulna	12.4	28.7	3.6	10.8	1.7	38.0	62.0	1,396	17.3	30.9	13.0	38.0	5.2	51.9	48.1	438
Rajshahi	12.6	30.6	2.7	7.5	1.6	37.3	62.7	2,776	18.5	38.0	14.5	38.9	9.6	60.3	39.7	907
Sylhet	11.2	22.8	2.5	6.9	1.9	28.5	71.5	707	15.9	36.6	8.6	27.0	4.4	50.9	49.1	188
Educational attainment																
No education	6.8	16.1	0.0	3.6	0.9	21.3	78.7	3,746	17.1	24.6	0.4	18.0	3.8	40.2	59.8	964
Primary incomplete	11.6	26.3	0.3	6.3	1.3	33.2	66.8	2,320	19.9	36.2	2.7	29.7	5.4	55.3	44.7	859
Primary complete[1]	11.7	28.5	1.4	7.2	1.3	36.4	63.6	929	22.8	42.9	12.8	31.9	4.9	62.1	37.9	218
Secondary incomplete	19.6	45.5	5.9	15.1	2.6	54.8	45.2	2,681	24.6	49.8	24.4	45.7	8.3	72.0	28.0	607
Secondary complete or higher[2]	16.2	54.2	16.3	25.4	4.9	64.1	35.9	1,304	16.0	53.3	47.8	61.7	16.0	79.9	20.1	580
Wealth quintile																
Lowest	6.3	10.1	0.4	2.5	1.0	14.6	85.4	2,115	16.0	21.4	2.8	19.4	4.4	38.1	61.9	592
Second	11.7	13.8	0.8	4.8	1.2	23.3	76.7	2,157	21.8	30.4	5.1	25.1	6.0	50.5	49.5	677
Middle	15.3	24.3	1.1	6.5	1.4	34.6	65.4	2,186	26.2	36.2	9.0	32.5	6.2	56.7	43.3	671
Fourth	16.6	46.2	4.0	13.5	3.0	54.3	45.7	2,259	18.8	50.0	20.5	43.0	9.4	69.7	30.3	634
Highest	12.1	58.0	11.0	21.2	3.0	62.5	37.5	2,278	13.7	55.1	36.4	54.7	10.6	77.8	22.2	654
Total 15-49	12.5	31.0	3.6	9.9	2.0	38.4	61.6	10,996	19.4	38.8	14.9	35.1	7.4	58.8	41.2	3,227
50-54	na	na	na	na	na	na	na	na	20.6	31.0	12.6	33.1	5.5	52.3	47.7	544
Total men 15-54	na	na	na	na	na	na	na	na	19.6	37.7	14.5	34.8	7.1	57.9	42.1	3,771

Note: Total includes 16 women with information missing on educational attainment. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
na = Not applicable
[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

OTHER PROXIMATE DETERMINANTS OF FERTILITY 6

6.1 INTRODUCTION

Fertility levels in most populations can be explained by four key proximate determinants that affect a woman's risk of becoming pregnant: nuptiality (including age at first marriage and age at first sexual intercourse); postpartum amenorrhea and sexual abstinence; menopause; and contraceptive use. This chapter addresses the principal factors other than contraception that influence fertility. Marriage is a key factor in women's exposure to the risk of childbearing in societies where sexual activity usually takes place within marriage. Postpartum amenorrhea and sexual abstinence affect the duration of a woman's insusceptibility to pregnancy which, in turn, affects birth spacing. The onset of menopause marks the end of a woman's reproductive life. These variables taken together determine the length and pace of a woman's reproductive life and therefore are important for understanding fertility levels and differentials.

Only women who had ever been married were interviewed with the Individual Questionnaire in the 2007 BDHS. However, a number of the tables presented in this chapter are based on all women, both ever-married and never-married. For these tables, the number of ever-married women interviewed in the survey is multiplied by an inflation factor that is equal to the ratio of all women to ever-married women, as reported in the Household Questionnaire. This procedure expands the denominators in the tables so that they represent all women. The inflation factors are calculated by single years of age, and where the results are presented by background characteristics, single-year inflation factors are calculated separately for each category of the characteristic. A similar procedure is employed for the sample of ever-married men in the 2007 BDHS.

It is important to note the definition of marriage used in the 2007 BDHS. In Bangladesh, it is common for a woman to wait several months or even years after formal marriage before going to live with her husband. Since the 2007 BDHS is interested in marriage mainly as it affects exposure to the risk of pregnancy, interviewers were instructed to ask questions about marriage in terms of cohabitation rather than formal marriage.

6.2 CURRENT MARITAL STATUS

Table 6.1 shows marital status by age and sex. In Bangladesh a greater proportion of men than women have never married: 16 percent of women age 15-49 have never married, compared with 27 percent of men age 15-54. The proportion never-married falls sharply with age for both women and men. Among women it falls from 53 percent in the age group 15-19 to less than 1 percent among women in the age group 30-34; and among men it falls from 68 percent in the age group 20-24 to less than 1 percent in the age group 45-49. The low proportion (2 percent) of women age 30 and older who have never been married indicates that marriage is universal in Bangladesh and that almost all women marry before age 30. Similarly, 8 percent of men age 35 and older have never been married and the proportion of never-married men decreases to 4 percent after age 40, indicating that almost all men marry before age 40.

The leading cause of disruption to marriage is widowhood, followed by marital separation. Just over 3 percent of women age 15-49 are widowed, compared with less than 1 percent of men age 15-54. The proportion of women who are widowed increases with age, and it rises sharply in older age groups. In other words, widowhood is limited until older ages. One in ten women age 40-44 and one in six age 45-49 are widowed.

Divorce and separation are uncommon in Bangladesh, but the proportions of women who are divorced and separated are higher than the proportions of men who are divorced and separated. About 3 percent of women age 15-49 are either divorced or separated compared with less than 1 percent of men age 15-54. The proportion divorced or separated does not vary markedly across age groups among both women and men.

Table 6.1 Current marital status

Percent distribution of women age 15-49 and men age 15-54 by current marital status, according to age, Bangladesh 2007

Age	Marital status					Total	Number of women and men
	Never married	Married	Divorced	Separated	Widowed		
				WOMEN			
15-19	52.8	45.6	0.5	0.9	0.1	100.0	3,019
20-24	14.3	82.5	1.1	1.5	0.6	100.0	2,537
25-29	4.3	92.1	0.9	1.4	1.3	100.0	2,018
30-34	0.6	92.8	1.2	2.2	3.2	100.0	1,670
35-39	0.6	91.4	0.9	2.5	4.6	100.0	1,573
40-44	0.2	85.6	1.5	3.0	9.7	100.0	1,216
45-49	0.8	80.4	1.0	2.2	15.5	100.0	1,038
Total	15.9	78.0	1.0	1.8	3.4	100.0	13,071
				MEN			
15-19	*	*	*	*	*	100.0	363
20-24	67.5	32.1	0.2	0.1	0.0	100.0	893
25-29	33.8	65.9	0.3	0.0	0.0	100.0	931
30-34	13.2	86.0	0.3	0.0	0.6	100.0	549
35-39	4.5	94.9	0.4	0.1	0.1	100.0	706
40-44	1.7	96.9	0.7	0.3	0.3	100.0	577
45-49	0.9	98.6	0.0	0.3	0.2	100.0	588
50-54	0.9	96.8	0.3	0.0	1.9	100.0	549
Total	26.9	72.4	0.3	0.1	0.3	100.0	5,155

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

The proportion of the female population that remains single and never marries impacts fertility levels in a society like Bangladesh, where childbearing outside marriage is uncommon. Table 6.2 shows trends in the proportion of women never married by age group from previous surveys in Bangladesh. Between 1975 and 2007, the proportion of never-married women in the age group 15-19 increased. The proportion of never-married women age 20-24 increased from 1975 to 2000, after which it declined.

Table 6.2 Trends in proportion never married

Percentage of women who have never married, by age group, as reported in various surveys, Bangladesh 1975-2007

Age	1975 BFS	1983 CPS	1985 CPS	1989 BFS	1989 CPS	1991 CPS	1993-1994 BDHS	1996-1997 BDHS	1999-2000 BDHS	2004 BDHS	2007 BDHS
10-14	91.2	98.0	98.7	96.2	96.4	98.5	95.2	95.2	92.7	88.6	u
15-19	29.8	34.2	47.5	49.0	45.8	46.7	50.5	49.8	51.9	52.1	52.8
20-24	4.6	4.0	7.1	12.0	9.3	12.3	12.4	17.2	18.5	15.2	14.3
25-29	1.0	0.7	1.0	2.3	1.6	2.8	2.2	3.4	4.2	4.2	4.3
30-34	0.2	0.4	0.1	0.3	0.5	0.5	0.3	0.5	0.1	1.2	0.6
35-39	0.4	-	-	0.1	0.5	0.1	0.3	0.0	0.2	0.4	0.6
40-44	0.1	0.1	-	0.2	0.2	0.3	0.7	0.0	0.0	0.3	0.2
45-49	0.0	0.1	-	0.1	0.1	-	0.2	0.0	0.0	0.0	0.8

- = Less than 0.1 percent
u = (Unknown (not available)
Sources: 1975 Bangladesh Fertility Survey (BFS) (MHPC, 1978:49); 1983, 1985, 1989, and 1991 Contraceptive Prevalence Surveys (CPSs) (Mitra et al., 1993:24); 1989 BFS (Huq and Cleland, 1990:43); 1993-1994 Bangladesh Demographic and Health Survey (BDHS) (Mitra et al, 1994:72); 1996-1997 BDHS (Mitra et al., 1997:82); and 1999-2000 BDHS (NIPORT et al., 2001:78)

6.3 AGE AT FIRST MARRIAGE

Marriage in Bangladesh marks the point in a woman's life when childbearing becomes socially acceptable. Age at first marriage has a major effect on childbearing because women who marry early have, on average, a longer period of exposure to the risk of becoming pregnant and a greater number of lifetime births.

Table 6.3 shows the percentage of women and men who are married by specific ages and the median age at first marriage, according to current age. Marriage occurs early for women in Bangladesh: among women age 20-49, 78 percent are married by age 18, and 88 percent are married by age 20. Men in Bangladesh tend to marry later in life than women. Among men age 20-49, only 5 percent are married by age 18, and 15 percent by age 20. Overall, only 17 percent of men age 25-54 marry on or before their 20th birthday, and a little more than half marry at or before age 25.

Within a given age cohort, there is much greater variation in the proportion of men marrying by different ages than in the proportion of women marrying by those same ages. In the 25-29 age cohort, for example, three-fourths of women are married by age 18 and 95 percent by age 25. In contrast, only 6 prcent of men in the same age cohort are married by age 18 and 53 percent by age 25.

There has been a slow but steady increase over the past 25 years in the age at which Bangladeshi women first marry, from a median age of 14.1 years for women in their late forties to 16.4 years for those in their early twenties. The increase is less pronounced among men: the median age at marriage rises from 22.9 years for men in their early fifties to 25.2 years for men age 30-34, and then declines to 24.5 years for men in their late twenties. Overall, men marry more than nine years later than women. The median age at first marriage among men age 25-54 is 24.5 years compared with 15.3 years for women age 20-49, indicating large age differences between husbands and wives.

A dramatic decline in the proportion of women marrying in their early teens has been observed. The proportion of women marrying by age 15 has declined by two-thirds over time, from 65 percent among women in the oldest cohort to 21 percent among women in the youngest cohort. Similarly, the proportion of women marrying by ages 18 and 20 decreases substantially from the oldest cohort to the youngest cohort. Changes in the proportion of men marrying by specific ages over time are much smaller.

The proportion of men marrying by age 18 has declined from 9 percent among men in the oldest cohort to 5 percent among men in the youngest cohort. Similarly, the proportion of men marrying by ages 20, 22, and 25 is about ten percentage points lower in the youngest cohort than in the oldest cohort.

A comparison of the 2007 BDHS with previous surveys shows that median age at first marriage has been increasing over time. The median age at marriage among women age 20-49 has increased by one year over the past decade, from 14.2 years in 1996-1997 to the current figure of 15.3 years. However, the median age at marriage among men age 25-54 has not changed since 2004 (Mitra et al., 1997; NIPORT et al., 2005).

Table 6.3 Age at first marriage

Percentage of women and men age 15-49 who were first married by specific exact ages, and median age at first marriage, according to current age, Bangladesh 2007

Current age	Percentage first married by exact age: 15	18	20	22	25	Percentage never married	Number	Median age at first marriage
				WOMEN				
15-19	21.1	na	na	na	na	52.8	3,019	a
20-24	32.3	66.2	79.2	na	na	14.3	2,537	16.4
25-29	41.3	75.4	86.4	91.4	94.7	4.3	2,018	15.6
30-34	48.5	81.1	90.2	94.2	97.3	0.6	1,670	15.1
35-39	47.2	81.8	91.0	94.5	97.3	0.6	1,573	15.2
40-44	54.4	87.1	94.0	97.2	99.3	0.2	1,216	14.7
45-49	64.7	90.1	95.3	97.0	98.3	0.8	1,038	14.1
20-49	45.2	78.0	87.8	na	na	4.8	10,052	15.3
25-49	49.5	81.9	90.7	94.4	97.1	1.6	7,515	15.0
				MEN				
15-19	*	na	na	na	na	*	363	*
20-24	0.2	5.1	14.7	na	na	67.5	893	a
25-29	0.2	5.7	16.9	31.0	53.4	33.8	931	24.5
30-34	0.0	4.5	13.8	26.1	47.8	13.2	549	25.2
35-39	0.3	3.5	13.1	28.2	51.2	4.5	706	24.8
40-44	0.0	5.3	13.6	28.9	48.0	1.7	577	25.2
45-49	0.0	7.6	19.4	34.0	58.8	0.9	588	23.8
50-54	0.0	9.3	26.3	41.4	62.2	0.9	549	22.9
20-49	0.1	5.3	15.3	na	na	24.4	4,244	a
25-49	0.1	5.3	15.5	29.8	52.1	12.9	3,351	24.7
20-54	0.1	5.7	16.6	na	na	21.7	4,793	a
25-54	0.1	5.9	17.0	31.4	53.5	11.3	3,900	24.5

Note: The age at first marriage is defined as the age at which the respondent began living with her/his first spouse/partner. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
na = Not applicable due to censoring
a = Omitted because less than 50 percent of the women married for the first time before reaching the beginning of the age group

The legal age of marriage in Bangladesh is 18 years for women, but a large proportion of marriages still take place before the legal age. The 2007 BDHS found that 66 percent of women age 20-24 were married before age 18 (Figure 6.1). Over the past two decades, the proportion of women marrying before the legal age gradually decreased until 2000, then increased slightly in 2004 and declined in 2007.

Figure 6.1 Trends in Percentage of Women Age 20-24 Who Were First Married by Age 18

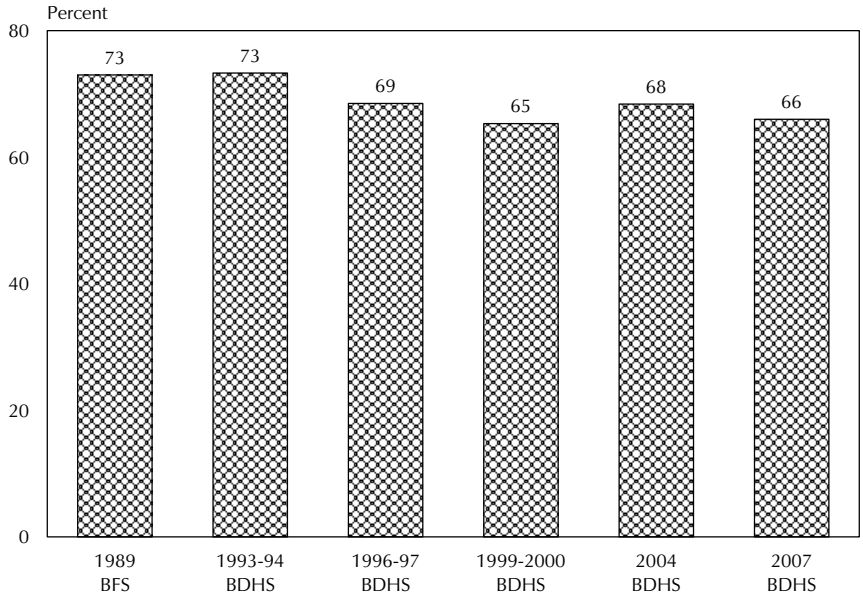


Table 6.4.1 further examines the median age at first marriage for women age 20-49 by five-year age groups, according to background characteristics. Urban women age 25-49 tend to marry one year later than their rural counterparts. The median age at marriage by administrative divisions shows greater variation. The median age at first marriage for women age 25-49 is highest for women in Sylhet (16.4 years) and lowest for those in Rajshahi and Khulna (14.7 years). Women in Chittagong enter into marriage about one year later than women in Rajshahi and Khulna.

Level of education has a positive association with the median age at marriage. For example, women who have completed secondary or higher education marry two years later than those with no education. Similarly, the median age at marriage increases with household wealth. Women from the highest wealth quintile marry two years later than those from the lowest wealth quintile.

Table 6.4.1 Median age at first marriage: Women

Median age at first marriage among women by five-year age groups, age 20-49, and age 25-49, according to background characteristics, Bangladesh 2007

Background characteristic	Age						Women age 20-49	Women age 25-49
	20-24	25-29	30-34	35-39	40-44	45-49		
Residence								
Urban	17.7	17.0	16.0	15.9	15.0	14.7	16.3	15.8
Rural	16.1	15.4	14.9	14.9	14.7	14.0	15.1	14.8
Division								
Barisal	15.8	15.4	15.4	15.2	14.7	14.0	15.2	15.1
Chittagong	17.4	16.5	15.4	15.5	15.0	14.8	16.0	15.6
Dhaka	16.3	15.3	14.9	15.0	14.9	14.1	15.2	14.9
Khulna	15.7	15.4	14.8	15.5	14.2	13.7	14.9	14.7
Rajshahi	15.8	15.3	14.8	14.6	14.3	13.8	14.9	14.7
Sylhet	18.3	16.7	16.8	16.6	16.0	14.8	16.7	16.4
Educational attainment								
No education	15.0	14.4	14.3	14.4	14.5	13.8	14.3	14.2
Primary incomplete	15.0	15.0	14.6	15.0	14.6	14.0	14.8	14.7
Primary complete[1]	15.5	15.0	15.5	15.2	14.7	14.6	15.1	15.1
Secondary incomplete	16.9	16.4	16.0	16.2	15.3	15.4	16.4	16.0
Secondary complete or higher[2]	17.7	17.1	16.2	16.3	(15.8)	(14.5)	16.8	16.3
Wealth quintile								
Lowest	15.0	14.6	14.3	14.2	14.3	13.7	14.4	14.3
Second	15.6	15.3	14.7	14.6	14.5	13.8	14.9	14.7
Middle	16.0	15.4	14.8	15.1	14.7	14.2	15.2	14.9
Fourth	17.2	16.0	15.6	15.2	14.7	14.2	15.6	15.2
Highest	18.4	18.0	16.7	16.3	15.4	15.0	16.9	16.4
Total	16.4	15.6	15.1	15.2	14.7	14.1	15.3	15.0

Note: The age at first marriage is defined as the age at which the respondent began living with her/his first spouse/partner. Figures in parentheses are based on 25-29 unweighted cases.
[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

The median age at first marriage for men displays patterns and associations by rural-urban residence, educational attainment, and household wealth that are similar to those observed for women. Table 6.4.2 shows a difference of slightly more than one year in the median age at first marriage between urban men (26.2 years) and rural men (25.0 years) age 30-34. Median age at first marriage among men also varies by administrative division. Among men age 30-34, the median age at first marriage for men is highest in Sylhet and Dhaka and lowest in Rajshahi.

As observed for women, men with lower levels of education enter into marriage earlier than other men. Men age 30-34 who have completed secondary or higher education marry four years later than those with no education and three years later than those with primary education. Similarly, men from the highest wealth quintile marry later than those from the other quintiles.

Table 6.4.2 Median age at first marriage: Men

Median age at first marriage among men by five-year age groups and age 25-54, according to background characteristics, Bangladesh 2007

Background characteristic	Age						Men age
	25-29	30-34	35-39	40-44	45-49	50-54	25-54
Residence							
Urban	a	26.2	25.6	26.2	25.6	24.5	a
Rural	24.3	25.0	24.4	25.0	23.0	22.7	24.1
Division							
Barisal	24.7	25.6	24.1	27.0	25.1	24.1	a
Chittagong	a	25.2	25.5	25.9	24.5	24.0	a
Dhaka	25.0	25.9	25.1	25.2	24.5	22.6	24.9
Khulna	23.6	25.0	24.1	24.1	23.3	21.2	23.5
Rajshahi	23.9	24.2	23.4	23.2	22.5	22.7	23.3
Sylhet	a	25.9	26.1	28.1	25.8	25.3	a
Educational attainment							
No education	23.0	23.5	23.4	23.9	22.9	22.4	23.0
Primary incomplete	24.3	24.4	24.4	25.0	23.8	22.6	24.1
Primary complete[1]	a	*	(22.7)	(23.3)	(22.9)	(22.3)	23.9
Secondary incomplete	a	26.6	25.4	26.0	23.3	24.1	a
Secondary complete or higher[2]	a	(27.5)	(26.9)	(22.9)	(25.9)	(22.0)	a
Wealth quintile							
Lowest	23.0	22.7	23.6	24.8	23.7	22.5	23.3
Second	24.5	25.1	24.6	25.3	23.5	22.4	24.3
Middle	24.7	24.7	24.1	24.5	23.3	24.1	24.2
Fourth	24.3	25.5	25.3	25.1	22.6	22.8	24.4
Highest	a	27.2	26.0	26.6	25.1	24.3	a
Total	24.5	25.2	24.8	25.2	23.8	22.9	24.5

Note: The age at first marriage is defined as the age at which the respondent began living with her/his first spouse/partner. Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
a = Omitted because less than 50 percent of the men married for the first time before reaching the beginning of the age group
[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

6.4 AGE AT FIRST SEXUAL INTERCOURSE

Age at first marriage is often used as a proxy for first exposure to intercourse and risk of pregnancy. But the two events may not occur at the same time because some people may engage in sexual activity before marriage. Data from the 2007 BDHS confirm that sex outside of marriage is negligible among women and that the median age at first marriage is identical to the median age at first sex. The 2007 BDHS asked men how old they were when they first had sexual intercourse. Table 6.5 shows the percentage of men age 15-54 who had first sexual intercourse by specific ages, the percentage who never had sexual intercourse, and the median age of first sexual intercourse, by current age.

Less than 1 percent of men age 25-54 had sexual intercourse by age 15, compared with about 24 percent by age 20 and 39 percent by age 22. By age 25, 58 percent of Bangladeshi men have had first sexual intercourse. Table 6.5 also shows that men in younger age cohorts are likely to initiate sex later than their older counterparts. The median age at first sexual intercourse is 24.1 years for men age 25-29 and 22.1 years for men age 50-54. The proportion of men having first exposure to intercourse by specific ages also increases sharply with age. By age 25, 55 percent of men in the 25-29 age group had initiatied sex compared with 68 percent of men in the 50-54 age group.

The median age at first sexual intercourse among men age 25-54 is 23.6 years, which is nearly one year earlier than the median age at first marriage (24.5 years). This indicates that some Bangladeshi men initiate sexual intercourse prior to marriage.

Table 6.5 Age at first sexual intercourse: Men

Percentage of men age 15-54 who had first sexual intercourse by specific exact ages, percentage who never had intercourse, and median age at first intercourse, according to current age, Bangladesh 2007

	Percentage who had first sexual intercourse by exact age					Percentage who never had		Median age at first
Current age	15	18	20	22	25	intercourse	Number	intercourse
15-19	*	na	na	na	na	*	363	*
20-24	0.8	8.1	17.5	na	na	67.6	893	a
25-29	1.1	10.0	22.2	36.2	55.4	33.8	931	24.1
30-34	0.6	10.7	22.3	34.7	52.3	13.2	549	24.6
35-39	0.5	8.6	20.3	36.9	58.0	4.5	706	23.7
40-44	1.3	9.5	20.0	37.1	55.0	1.7	577	24.0
45-49	0.3	13.5	27.3	40.8	63.3	0.9	588	22.9
50-54	0.4	15.6	32.9	48.9	67.6	0.9	549	22.1
20-49	0.8	9.9	21.3	na	na	24.4	4,244	a
25-49	0.8	10.3	22.3	37.1	56.8	13.0	3,351	23.9
15-24	0.6	na	na	na	na	75.4	1,255	a
20-54	0.7	10.5	22.6	na	na	21.8	4,793	a
25-54	0.7	11.1	23.8	38.7	58.3	11.3	3,900	23.6

Note: An asterisk indicates that a figure is based on fewer than 25 cases and has been suppressed.
na = Not applicable due to censoring
a = Omitted because less than 50 percent of the respondents had intercourse for the first time before reaching the beginning of the age group

Table 6.6 examines the median age at first sexual intercourse among men age 25-54 by five-year age groups and background characteristics. Men living in urban areas tend to initiate sexual intercourse somewhat earlier than their rural counterparts. There is greater variation in median age at first sexual intercourse among administrative divisions. Men in Barisal and Chittagong are likely to start having sexual intercourse about two years later than men in Rajshahi and Khulna.

Men who have completed secondary or higher education initiate sex two years later than men with no education. Age at first sexual intercourse also increases with household wealth.

Table 6.6 Median age at first intercourse: Men

Median age at first sexual intercourse among men by five-year age groups and age 25-54, according to background characteristics, Bangladesh 2007

Background characteristic	Age						Men age
	25-29	30-34	35-39	40-44	45-49	50-54	25-54
Residence							
Urban	a	26.1	25.2	24.5	24.8	23.8	a
Rural	23.5	23.9	23.4	23.9	22.6	21.8	23.0
Division							
Barisal	24.4	25.4	23.3	26.9	23.9	23.0	24.7
Chittagong	a	23.8	25.3	25.0	23.6	23.5	24.7
Dhaka	24.6	25.4	24.4	23.9	23.5	22.2	24.1
Khulna	23.1	24.9	23.1	23.5	23.0	20.6	22.8
Rajshahi	22.3	23.1	22.5	21.8	22.2	21.7	22.3
Sylhet	a	27.9	25.4	27.1	25.6	23.1	a
Educational attainment							
No education	21.3	22.2	22.7	22.6	22.6	22.0	22.3
Primary incomplete	22.1	22.5	23.2	23.5	23.4	21.2	22.7
Primary complete[1]	24.9	*	(21.3)	(22.4)	(22.4)	(20.6)	22.7
Secondary incomplete	a	25.1	23.9	25.0	22.5	22.9	24.3
Secondary complete or higher[2]	a	(26.9)	(25.8)	(22.8)	(25.1)	(21.7)	a
Wealth quintile							
Lowest	21.1	21.6	22.5	24.0	23.0	22.1	22.4
Second	22.6	24.0	23.4	22.9	22.4	21.7	22.7
Middle	23.8	23.0	23.3	24.0	22.9	21.9	23.3
Fourth	24.3	24.6	24.8	24.5	21.8	22.0	23.7
Highest	a	27.2	25.6	25.2	24.7	23.2	a
Total	24.1	24.6	23.7	24.0	22.9	22.1	23.6

Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
a = Omitted because less than 50 percent of the men had intercourse for the first time before reaching the beginning of the age group
[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

6.5 POSTPARTUM AMENORRHEA, ABSTINENCE, AND INSUSCEPTIBILITY

Postpartum amenorrhea is the interval between the birth of a child and the resumption of menstruation, during which the risk of pregnancy is very low. Postpartum protection from conception can be prolonged by the intensity and length of breastfeeding. Postpartum abstinence refers to the period of voluntary sexual inactivity after childbirth. Delaying the resumption of sexual relations after a birth prolongs the period of postpartum protection. A woman is considered insusceptible to pregnancy if she is not exposed to the risk of pregnancy either because she is amenorrheic or because she is abstaining from sexual intercourse following a birth. The duration of amenorrhea and sexual abstinence following birth jointly determine the length of insusceptibility.

The 2007 BDHS collected information about the duration of amenorrhea and the duration of postpartum sexual abstinence for births in the three years preceding the survey. Almost all women are insusceptible to pregnancy during the first two months following childbirth (Table 6.7). In general, the proportion of women who are amenorrheic or abstaining decreases with time after delivery. The proportion amenorrheic drops from 96 percent in the first two months after birth to 1 percent at 24-25 months. The majority (86 percent) of Bangladeshi women abstain from sex during the first two months following a birth. After that, the proportion abstaining drops sharply to 25 percent at 2-3 months and then to 13 percent at 4-5 months.

The period of postpartum amenorrhea is considerably longer than the period of postpartum abstinence and is by far the major determinant of the length of postpartum insusceptibility to pregnancy. At 6-7 months after birth about half of all women are still amenorrheic, but only 6 percent are abstaining. At 16-17 months after birth, the proportion amenorrheic is 10 percent, while 3 percent of women are abstaining. The results show that Bangladeshi women are amenorrheic for a median of 5.8 months, abstain for a median of 2.0 months, and are insusceptible to pregnancy for a median of 6.5 months.

A comparison of the 2007 BDHS with earlier BDHS surveys indicates that the duration of abstinence has remained constant since 1993-1994, possibly because of the Muslim tradition of abstaining for 40 days after birth. The median duration of postpartum amenorrhea has steadily decreased over time, from 10.3 months in 1993-1994 to 8.4 months in 1996-1997, 7.9 months in 1999-2000, 6.1 months in 2004, and 5.8 months in 2007 (Mitra et al., 1994:77, Mitra et al., 1997:86; NIPORT et al., 2001:82; NIPORT et al., 2005:97). Similarly, there has been a slow and steady decline in the median duration of insusceptibility from 10.8 months in 1993-1994 to 6.5 months in 2004. Since 2004 the median duration of insusceptibility has not changed.

Table 6.7 Postpartum amenorrhea, abstinence, and insusceptibility

Percentage of births in the three years preceding the survey for which mothers are postpartum amenorrheic, abstaining, and insusceptible, by number of months since birth, and median and mean durations, Bangladesh 2007

Months since birth	Percentage of births for which the mother is:			Number of births
	Amenorrheic	Abstaining	Insusceptible[1]	
< 2	96.0	86.3	96.9	133
2-3	72.6	25.2	77.0	156
4-5	53.8	13.3	56.7	214
6-7	49.2	6.1	52.9	244
8-9	35.0	7.9	40.2	211
10-11	28.7	8.4	33.2	181
12-13	24.4	4.1	26.6	130
14-15	15.4	3.5	18.9	204
16-17	10.1	2.5	12.3	216
18-19	5.9	3.8	9.3	240
20-21	8.8	3.7	11.1	219
22-23	6.2	5.7	11.9	189
24-25	0.8	4.1	4.8	208
26-27	1.4	2.7	4.1	183
28-29	1.5	4.2	4.5	203
30-31	2.3	2.0	4.0	237
32-33	1.2	0.5	1.7	227
34-35	0.2	1.3	1.6	173
Total	21.0	8.6	24.0	3,568
Median	5.8	2.0	6.5	na
Mean	8.5	4.0	9.6	na

Note: Estimates are based on status at the time of the survey.
na = Not applicable
[1] Includes births for which mothers are either still amenorrheic or still abstaining (or both) following birth

Table 6.8 shows the median durations of postpartum amenorrhea, abstinence, and insusceptibility by background characteristics. The median duration of abstinence in Bangladesh varies little by background characteristics. Older women (age 30-49) have a longer median period of insusceptibility than younger women (age less than 30). Urban women have a shorter median duration of amenorrhea than rural women and hence a shorter period of insusceptibility. There are considerable variations by administrative division in the period of insusceptibility. The median duration in Sylhet (9.1 months) is twice that in Dhaka (4.3 months).

The duration of postpartum amenorrhea, and hence of insusceptibility, is longer among women with no education than women with some primary or secondary education. The median duration of postpartum amenorrhea also declines with household wealth. The poorest women have the longest duration of amenorrhea and hence of postpartum insusceptibility.

Table 6.8 Median duration of postpartum amenorrhea, postpartum abstinence, and postpartum insusceptibility

Median number of months of postpartum amenorrhea, postpartum abstinence, and postpartum insusceptibility following births in the three years preceding the survey, by background characteristics, Bangladesh 2007

Background characteristic	Postpartum amenorrhea	Postpartum abstinence	Postpartum insusceptibility[1]
Mother's age			
15-29	5.2	2.1	6.0
30-49	9.0	(1.9)	9.2
Residence			
Urban	5.2	2.3	6.0
Rural	5.9	1.9	6.8
Division			
Barisal	6.1	(1.8)	6.2
Chittagong	5.7	2.2	7.2
Dhaka	3.8	2.1	4.3
Khulna	5.2	(1.8)	5.2
Rajshahi	7.8	(1.7)	8.1
Sylhet	8.9	2.3	9.1
Educational attainment			
No education	9.9	1.9	10.2
Primary incomplete	7.2	1.9	7.5
Primary complete[2]	6.3	(1.9)	7.4
Secondary incomplete	4.3	2.1	5.0
Secondary complete or higher[3]	(4.4)	(2.2)	(6.3)
Wealth quintile			
Lowest	10.1	2.0	10.1
Second	5.0	1.8	5.2
Middle	5.7	1.6	6.8
Fourth	4.9	2.3	5.8
Highest	4.0	2.7	5.2
Total	5.8	2.0	6.5

Note: Medians are based on the status at the time of the survey (current status). Figures in parentheses are based on 25-49 unweighted cases.
[1] Includes births for which mothers are either still amenorrheic or still abstaining (or both) following birth
[2] Primary complete is defined as completing grade 5.
[3] Secondary complete is defined as completing grade 10.

6.6 TERMINATION OF EXPOSURE TO PREGNANCY

The risk of becoming pregnant declines with age. After age 30, women's susceptibility to pregnancy declines as an increasing proportion of women become infecund. The term infecundity denotes a process rather than a well-defined event. Although the onset of infecundity is difficult to determine for an individual woman, there are ways of estimating it for a group of women. One indicator of infecundity is the onset of menopause. Menopause is the culmination of a gradual decline in fecundity with increasing age. The 2007 BDHS defines menopausal women as women who are neither pregnant nor postpartum amenorrheic, but who have not had a menstrual period in the six months preceding the survey. Women who report that they have had a hysterectomy are also defined as menopausal.

Table 6.9 presents data on menopause for women age 30 and over. Nineteen percent of women age 30-49 are estimated to be menopausal. The proportion menopausal increases with age, from 5 percent among women age 30-34 to 61 percent among women age 48-49.

Table 6.9 Menopause

Percentage of ever-married women age 30-49 who are menopausal, by age, Bangladesh 2007

Age	Percentage menopausal[1]	Number of women
30-34	4.9	1,660
35-39	8.0	1,564
40-41	19.1	503
42-43	24.8	479
44-45	32.5	396
46-47	45.5	360
48-49	61.3	504
Total	18.7	5,466

[1] Percentage of all women who are not pregnant and not postpartum amenorrheic whose last menstrual period occurred six or more months preceding the survey

FERTILITY PREFERENCES 7

The subject of future reproductive preferences is of fundamental importance for population policy and for refining and modifying existing family planning programs. Whether couples want to cease childbearing or delay the next pregnancy determines the demand for family planning. Like previous BDHS surveys, the 2007 BDHS asked women a series of questions to ascertain their fertility preferences. These data are used to quantify fertility preferences and—in combination with data on contraceptive use—to estimate unmet need for family planning, including for spacing and limiting births. Another indicator of fertility preferences pertains to both past and future reproductive behavior and is perhaps the most common measure of fertility preferences: the ideal number of children, i.e., how many children a woman would want in total if she could start afresh. The information on ideal family size provides two measures. First, for men and women who have not yet started a family the data provide an idea of future fertility (to the extent that couples are able to realize their fertility desires). Second, the excess of past fertility over ideal family size provides a measure of unwanted fertility. Two other topics are discussed in this chapter: fertility planning in the past and the effect of unwanted births on fertility rates.

The interpretation of data on fertility preferences can be controversial because respondents' reported preferences are, in most cases, hypothetical. They do not take into consideration the influence of social pressures or attitudes of other family members and therefore are subject to change and rationalization.

7.1 DESIRE FOR MORE CHILDREN

Future fertility preferences of currently married respondents were determined by asking whether or not they wanted to have another child and, if so, how soon. Table 7.1 and Figure 7.1 show the percent distribution of currently married women by desire for another child, according to the number of living children. More than three in five currently married women in Bangladesh want to limit child bearing: 57 percent say they want no more children, and an additional 6 percent have been sterilized. This is slightly higher than the 59 percent of women who wanted to limit childbearing or were sterilized in the 2004 BDHS.

Table 7.1 Fertility preferences by number of living children

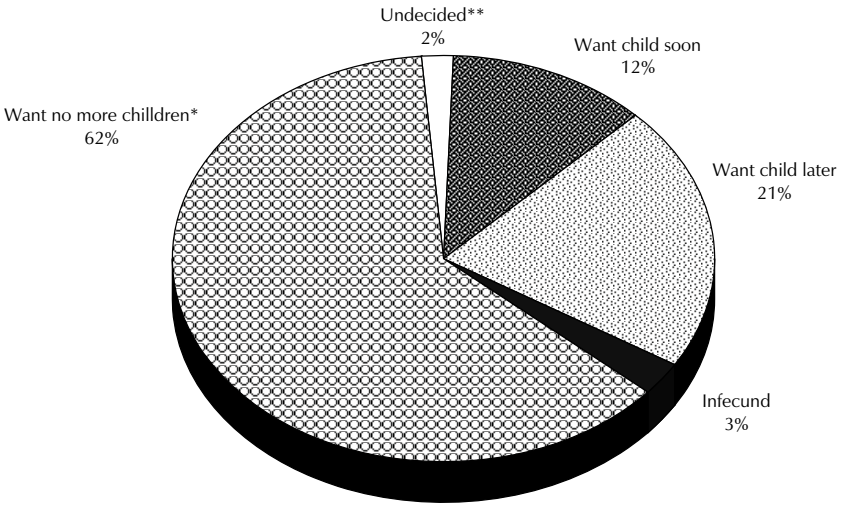
Percent distribution of currently married women age 15-49 by desire for children, according to number of living children, Bangladesh 2007

Desire for children	Number of living children[1]							Total 15-49
	0	1	2	3	4	5	6+	
Have another soon[2]	65.5	19.4	6.4	3.2	0.6	0.3	0.5	11.9
Have another later[3]	27.3	61.1	15.3	4.7	1.7	1.2	0.0	21.0
Have another, undecided when	0.9	1.9	0.8	0.6	0.1	0.1	0.0	0.8
Undecided	0.7	1.4	1.6	0.8	0.4	0.4	0.2	1.0
Want no more	0.7	13.6	68.7	78.7	83.8	83.9	86.5	56.7
Sterilized[4]	1.4	1.3	5.6	10.1	9.5	9.0	3.3	5.7
Declared infecund	3.5	1.3	1.7	1.9	3.9	5.1	9.5	2.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	798	2,284	2,661	2,047	1,178	652	572	10,192

[1] The number of living children includes current pregnancy.
[2] Wants next birth within 2 years
[3] Wants to delay next birth for 2 or more years
[4] Includes both female and male sterilization

Thirty-four percent of married women want to have a child at some time in the future, but most do not want a child soon. Only 12 percent of women want a child within two years, 21 percent would prefer to wait two or more years and, 1 percent are undecided on the timing. Thus, the vast majority of married women want to either space their next birth or limit childbearing altogether.

Figure 7.1 Fertility Preferences among Currently Married Women Age 15-49

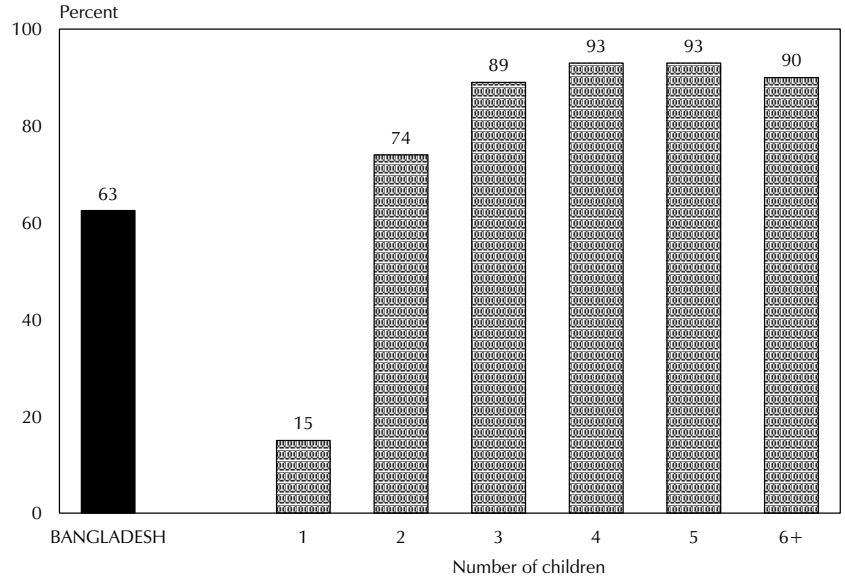


* Includes sterilized women
** Includes undecided about when or if to have a child

BDHS 2007

The proportion of women who want to stop childbearing or are sterilized increases rapidly with the number of living children, from 15 percent of women with one child to 74 percent of women with two living children and over 90 percent of women with four or more children (Figure 7.2). On the other hand, the proportion of women who want to have another child decreases with the number of living children.

Figure 7.2 Percentage of Currently Married Women Who Want No More Children, by Number of Living Children



Note: Includes sterilized women and men

BDHS 2007

Table 7.2 shows the percent distribution of currently married women by desire for children, according to age. As expected, the proportion of women who want no more children increases with age. Eleven percent of women age 15-19 want no more children or are sterilized, compared with 82 percent of women age 45-49 years. The proportion that wants to delay the next birth for two or more years declines with age, as does the proportion of women who want the next birth within two years. The proportion who report themselves to be unable to have more children (infecund) is less than 1 percent among women under 35, but this proportion rises to 16 percent among women age 45-49.

Table 7.2 Fertility preferences by age

Percent distribution of currently married women age 15-49 by desire for children, according to age, Bangladesh 2007

Desire for children	Age							Total
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	15-49
Have another soon[1]	23.9	17.0	12.7	10.1	6.5	2.1	2.5	11.9
Have another later[2]	62.2	41.3	17.4	4.8	1.4	0.6	0.0	21.0
Have another, undecided when	1.2	1.6	1.2	0.3	0.5	0.1	0.0	0.8
Undecided	1.3	1.6	1.8	0.7	0.4	0.4	0.0	1.0
Want no more	11.2	37.5	62.2	77.2	80.6	76.3	64.2	56.7
Sterilized[3]	0.1	0.8	4.3	6.1	8.2	12.3	17.6	5.7
Declared infecund	0.1	0.1	0.2	0.8	2.4	8.3	15.8	2.7
Missing	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	1,376	2,094	1,859	1,551	1,437	1,040	835	10,192

[1] Wants next birth within 2 years
[2] Wants to delay next birth for 2 or more years
[3] Includes both female and male sterilization

7.2 DESIRE TO LIMIT CHILDBEARING

The proportion of women who want no more children is an important and easily understood measure of fertility preference. Table 7.3 shows the percentage of currently married women who desire to stop childbearing by urban-rural residence, division, education, and household wealth, by the number of living children the women have. Roughly the same proportion of women desire to limit childbearing in urban and rural areas; however, rural women already have more children than urban women (see Table 4.2 in Chapter 4). Among women who have two living children, the desire to limit childbearing is notably higher among urban women than rural women (Figure 7.3).

The desire to limit childbearing varies somewhat among administrative divisions. For example, respondents in Sylhet are more pronatalist than those in the other divisions. About half of currently married women with two children in Sylhet do not want to have another child, compared with 84 percent of women in Khulna and Rajshahi. The proportion of women with two children who want no more children is also lower than average in Chittagong (58 percent) and Barisal (69 percent).

There are also major differences in women's fertility preferences by level of education. Overall, the desire to limit childbearing is higher among women with no education than among those with any level of education. For example, 79 percent of currently married women with no education want to stop childbearing, compared with 50 percent of those who have completed secondary education. However, it is important to note that the number of children ever born and age also vary with level of education. Women with higher educational attainment may have a lower average age and a lower number of living children than those with no education. Examining the relationship between fertility desires and educational attainment by number of living children reveals no clear association, although it is interesting to note that 32 percent of women with one child who have no education want no more children, compared with only 16 percent or less of women with some education.

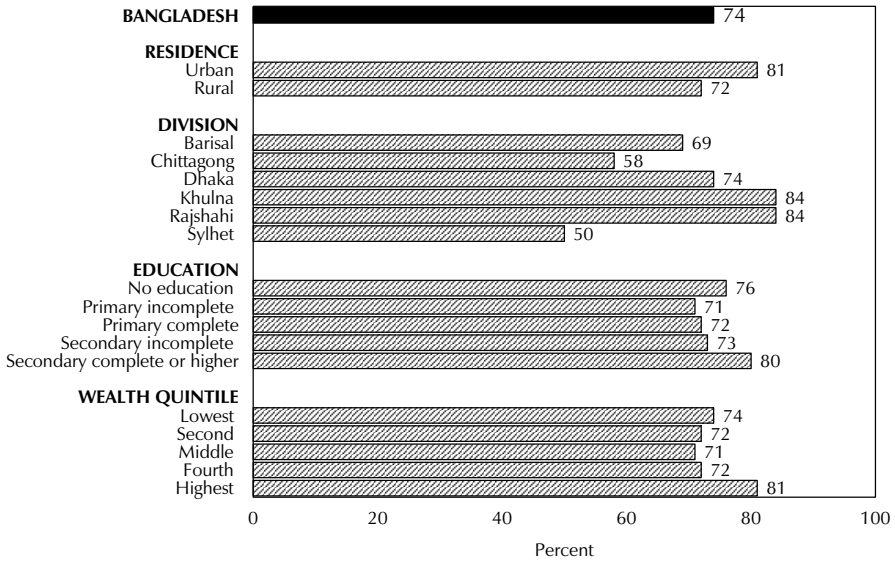
Table 7.3 Desire to limit childbearing

Percentage of currently married women age 15-49 who want no more children, by number of living children, according to background characteristics, Bangladesh 2007

Background characteristic	Number of living children[1]							Total
	0	1	2	3	4	5	6+	
Residence								
Urban	*	16.4	81.3	92.9	94.3	92.3	88.0	63.7
Rural	*	14.3	71.9	87.7	93.0	93.0	90.1	62.1
Division								
Barisal	*	(17.7)	69.2	89.7	91.7	97.3	81.9	63.4
Chittagong	*	(11.0)	58.2	82.2	94.7	95.8	95.4	59.6
Dhaka	*	12.4	73.7	89.7	92.4	95.0	95.5	62.5
Khulna	*	18.4	84.0	92.1	96.2	87.8	(77.6)	63.7
Rajshahi	*	18.8	83.5	93.8	95.1	92.2	(79.4)	65.6
Sylhet	*	*	50.2	67.5	85.9	83.7	85.4	54.4
Educational attainment								
No education	*	31.8	76.1	89.0	92.8	91.6	91.5	78.7
Primary incomplete	*	(11.8)	70.8	87.2	92.1	94.1	88.3	67.0
Primary complete[2]	*	*	72.0	92.2	92.9	(93.7)	(88.8)	60.4
Secondary incomplete	*	10.4	72.5	88.7	97.0	94.8	*	44.7
Secondary complete or higher[3]	*	16.4	80.2	89.1	95.5	*	*	50.1
Wealth quintile								
Lowest	*	(15.8)	74.4	87.5	90.8	91.4	89.6	68.9
Second	*	(13.3)	72.2	87.0	94.3	93.1	91.0	64.0
Middle	*	13.0	70.8	89.8	95.0	93.5	91.0	61.5
Fourth	*	13.9	72.1	89.3	93.2	94.7	91.9	59.3
Highest	*	17.7	80.7	90.4	93.6	91.9	80.5	59.4
Total	*	14.8	74.2	88.8	93.3	92.9	89.8	62.5

Note: Women who have been sterilized are considered to want no more children. Figures in parentheses are based on 25-49 unweighted cases; an asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
[1] The number of living children includes current pregnancy.
[2] Primary complete is defined as completing grade 5.
[3] Secondary complete is defined as completing grade 10.

Figure 7.3 Percentage of Married Women with Two Children Who Want No More Children, by Background Characteristics



BDHS 2007

There are differences in the desire to limit childbearing by household wealth. Overall, the desire not to have any more children declines with wealth; women in the lowest wealth quintile are most likely to want no more children (69 percent) while women in the highest wealth quintile are least likely to want no more children (60 percent). The results by specific number of living children are less clear. At lower parities, however, it may be noted that women in the higher wealth quintiles tend to be more likely to want no more children than women in the lower wealth quintiles.

7.3 NEED FOR FAMILY PLANNING SERVICES

Fecund women who are currently married and who say either that they do not want any more children or that they want to wait two or more years before having another child, but are not using any contraception, are considered to have an *unmet need* for family planning. Overall, 17 percent of currently married women in Bangladesh have an unmet need for family planning services, 7 percent for spacing and 11 percent for limiting births (Table 7.4). The total demand for family planning in Bangladesh is 73 percent. Seventy-seven percent of family planning demand is satisfied.

Unmet need for family planning decreases with age, declining from 19 percent among women age 15-19 to 10 percent among women age 45-49. Among administrative divisions, unmet need is highest in Sylhet (26 percent) and lowest in Khulna and Rajshahi (12 percent each). Unmet need is lower among women with the most education and does not vary much among the remaining categories of educational attainment. Differentials by wealth show a similar pattern; unmet need is lowest among the wealthiest women.

Unmet need has increased from 11 percent of currently married women in 2004 to 17 percent in 2007 (Figure 7.4). It is important to note that the definition used for unmet need changed slightly between the 2004 and 2007 BDHS surveys; however, these adjustments do not greatly affect the comparability of the results. The apparent increase in unmet need may reflect problems with the supply of family planning services and/or an increase in demand for family planning. Unmet need has increased across all ages, all educational groups, both urban and rural areas, and all administrative divisions.

As expected, met need for family planning (i.e., the level of contraceptive use) is higher for spacing among young women and for limiting among older women. By region, Sylhet has the lowest met need (32 percent) and Rajshahi has the highest (66 percent).

Total demand for family planning is also associated with some demographic and socioeconomic indicators. Total demand increases with age and peaks at 83 percent to 84 percent among women age 30-39. It is much lower in Sylhet (58 percent) than in other divisions (67 percent and higher). Differentials in total demand by education and wealth are minimal.

Similar patterns are observed in the percentage of demand satisfied. It is notable that the percentage of demand satisfied is much lower for currently married women age 15-19 than for older women. This may suggest that young women are less well served by family planning programs than older women. Among administrative divisions, the percentage of demand that is satisfied is highest in Rajshahi and Khulna (85 percent each) and lowest in Sylhet (55 percent).

Table 7.4 Need and demand for family planning among currently-married women

Percentage of currently married women age 15-49 with unmet need for family planning, percentage with met need for family planning, the total demand for family planning, and the percentage of the total demand for family planning that is satisfied, by background characteristics, Bangladesh 2007

Background characteristic	Unmet need for family planning[1]			Met need for family planning (currently using)[2]			Total demand for family planning			Percentage of demand satisfied	Number of women
	For spacing	For limiting	Total	For spacing	For limiting	Total	For spacing	For limiting	Total		
Age											
15-19	19.0	0.4	19.4	36.2	5.7	41.8	55.1	6.0	61.2	68.3	1,376
20-24	12.2	5.0	17.2	30.7	21.7	52.4	42.9	26.7	69.6	75.3	2,094
25-29	5.9	11.5	17.4	15.3	45.6	60.9	21.2	57.2	78.3	77.8	1,859
30-34	2.1	16.2	18.3	5.1	59.9	65.1	7.2	76.1	83.3	78.1	1,551
35-39	1.1	15.9	17.0	1.6	64.9	66.5	2.6	80.9	83.5	79.7	1,437
40-44	0.4	17.4	17.8	0.2	55.1	55.3	0.6	72.5	73.1	75.6	1,040
45-49	0.0	10.1	10.1	0.2	40.7	40.9	0.2	50.7	50.9	80.3	835
Residence											
Urban	5.9	8.6	14.5	16.4	45.6	62.0	22.3	54.2	76.4	81.1	2,283
Rural	6.8	11.1	17.9	14.6	39.4	54.0	21.5	50.4	71.9	75.1	7,909
Division											
Barisal	7.3	12.5	19.8	17.5	38.8	56.3	24.8	51.3	76.1	73.9	626
Chittagong	9.6	13.7	23.3	12.5	31.4	43.9	22.1	45.1	67.2	65.3	1,877
Dhaka	6.8	10.7	17.5	15.0	41.4	56.4	21.8	52.1	73.9	76.3	3,189
Khulna	3.9	8.0	11.9	17.1	46.0	63.1	21.0	54.0	75.0	84.2	1,281
Rajshahi	4.4	7.6	12.0	17.0	49.0	65.9	21.4	56.5	77.9	84.6	2,584
Sylhet	11.1	14.9	26.0	7.9	23.7	31.5	18.9	38.6	57.5	54.8	635
Educational attainment											
No education	3.1	14.3	17.3	4.6	50.0	54.6	7.7	64.2	72.0	75.9	3,282
Primary incomplete	5.0	10.8	15.8	12.2	45.3	57.5	17.2	56.1	73.3	78.5	2,161
Primary complete[3]	7.6	9.3	16.9	15.9	38.5	54.3	23.5	47.8	71.3	76.3	888
Secondary incomplete	11.5	7.5	18.9	25.9	28.3	54.2	37.3	35.8	73.1	74.1	2,584
Secondary complete or higher[4]	8.1	7.3	15.4	24.0	36.3	60.3	32.1	43.6	75.6	79.6	1,260
Wealth quintile											
Lowest	6.1	11.3	17.4	10.6	44.3	54.8	16.6	55.5	72.2	76.0	1,903
Second	7.3	11.3	18.6	13.6	41.1	54.7	20.9	52.4	73.3	74.6	1,994
Middle	5.5	11.6	17.1	16.2	38.0	54.1	21.7	49.6	71.3	76.0	2,055
Fourth	7.7	9.4	17.0	15.7	39.5	55.2	23.4	48.9	72.2	76.4	2,136
Highest	6.6	9.0	15.6	18.4	41.5	59.9	25.0	50.5	75.5	79.3	2,104
Total	6.6	10.5	17.1	15.0	40.8	55.8	21.6	51.3	72.9	76.5	10,192

Note: Total includes 16 women with information missing on educational attainment

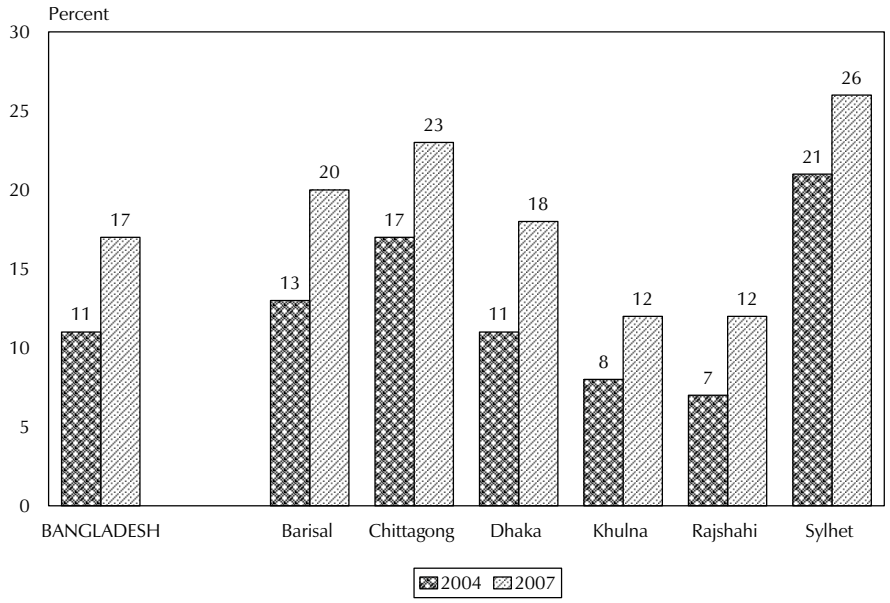
[1] Unmet need for spacing includes pregnant women whose pregnancy was mistimed; amenorrheic women who are not using family planning and whose last birth was mistimed, or whose last birth was unwanted but now say they want more children; and fecund women who are neither pregnant nor amenorrheic, who are not using any method of family planning, and say they want to wait 2 or more years for their next birth. Also included in unmet need for spacing are fecund women who are not using any method of family planning and say they are unsure whether they want another child or who want another child but are unsure when to have the birth. Unmet need for limiting refers to pregnant women whose pregnancy was unwanted; amenorrheic women who are not using family planning, whose last child was unwanted, and who do not want any more children; and fecund women who are neither pregnant nor amenorrheic, who are not using any method of family planning, and who want no more children.

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

[3] Primary complete is defined as completing grade 5.

[4] Secondary complete is defined as completing grade 10.

Figure 7.4 **Trends in Unmet Need for Family Planning among Currently Married Women Age 15-49 by Division 2004 and 2007 BDHS**



7.4 IDEAL FAMILY SIZE

In order to assess ideal family size, the 2007 BDHS asked women and men who did not have any living children, "If you could choose exactly the number of children to have in your whole life, how many would that be?" For respondents who had living children, the question was rephrased as follows, "If you could go back to the time you did not have any children and could choose exactly the number of children to have in your whole life, how many would that be?" Although these questions are based on hypothetical situations, they provide two measures. First, for men and women who have not yet started childbearing, the data provide an idea of future fertility. Second, for older and high parity women, the excess of past fertility over the ideal family size provides a measure of unwanted fertility.

Table 7.5 shows that 70 percent of ever-married women consider a two-child family to be ideal, 16 percent prefer three children, 7 percent prefer four children, and 1 percent prefer five or more children. Among women who have two or fewer children, 75 percent think two children are ideal.

Among both ever-married and currently married women who gave a numeric response, the mean ideal family size is 2.3 children, which is 0.1 child lower than the mean ideal size found by the 2004 BDHS. The ideal number of children increases with the number of living children that a woman has; at higher parities, however, it is consistently lower than the actual number of living children. Women with six or more children have an average ideal family size of 2.9 children, compared with an ideal family size of 2.1 children for women with no children or only one child.

Table 7.5 Ideal number of children

Percent distribution of ever-married women age 15-49 by ideal number of children, and mean ideal number of children for ever-married women and for currently married women, according to number of living children, Bangladesh 2007

Ideal number of children	Number of living children[1]							Total
	0	1	2	3	4	5	6+	
0	0.4	0.3	0.1	0.1	0.3	0.2	0.4	0.2
1	9.4	10.7	3.0	2.1	0.9	0.4	0.7	4.6
2	76.4	75.1	78.5	63.1	64.6	57.7	43.6	69.6
3	7.3	9.8	13.5	25.5	16.9	24.0	25.9	16.3
4	3.5	3.0	3.8	6.8	14.3	10.9	18.4	6.7
5	0.2	0.3	0.2	0.3	1.2	1.9	2.6	0.6
6+	0.2	0.1	0.1	0.1	0.2	0.3	3.0	0.3
Non-numeric responses	2.6	0.7	0.8	1.9	1.6	4.7	5.4	1.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of ever-married women	917	2,485	2,837	2,161	1,260	705	631	10,996
Mean ideal number children for:[2]								
Ever-married women	2.1	2.1	2.2	2.4	2.5	2.5	2.9	2.3
Number	893	2,468	2,814	2,120	1,240	672	596	10,804
Currently married women	2.1	2.1	2.2	2.4	2.5	2.5	2.9	2.3
Number	784	2,271	2,642	2,010	1,162	620	541	10,029

[1] The number of living children includes current pregnancy.
[2] Means are calculated excluding respondents who gave non-numeric responses.

Tables 7.6.1 and 7.6.2 present data on the mean ideal number of children for ever-married women age 15-49 and ever-married men age 15-54, by age, according to background characteristics. The mean ideal number of children for ever-married women and men is identical: ideally, both want 2.3 children. Ideal family size increases with age for both men and women. For women it rises from 2.1 children in the youngest age group (15-19 years) to 2.5 children in the oldest age group (45-49 years). For men, it rises from 2.1 children among men age 20-34 to 2.5 children in the oldest age group (50-54 years). Ideal family size for both men and women is slightly higher in rural areas than urban areas, and it is inversely related to education and household wealth. There are notable variations among administrative divisions for both women and men. Ideal family size for ever-married women is highest in Sylhet and Chittagong (2.7 children and 2.5 children, respectively) and lowest in Khulna and Rajshahi (2.1 children each). These same trends hold true for men. Ideal family size for ever-married men ranges from 2.8 children in Sylhet and 2.5 children in Chittagong to a low of 2.1 children in Khulna and Rajshahi. A similar pattern by division is seen in each age group.

Table 7.6.1 Mean ideal number of children by background characteristics: Women

Mean ideal number of children for ever-married women age 15-49 by background characteristics, Bangladesh 2007

Background characteristic	Age							Ever-married women age 15-49
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Residence								
Urban	2.0	2.1	2.1	2.2	2.3	2.3	2.4	2.2
Rural	2.1	2.2	2.3	2.4	2.4	2.5	2.5	2.3
Division								
Barisal	2.1	2.2	2.3	2.4	2.4	2.4	2.8	2.3
Chittagong	2.4	2.2	2.4	2.6	2.8	2.9	2.6	2.5
Dhaka	2.1	2.1	2.2	2.3	2.3	2.4	2.4	2.2
Khulna	2.0	2.1	2.0	2.1	2.2	2.3	2.3	2.1
Rajshahi	2.0	2.0	2.2	2.2	2.2	2.3	2.3	2.1
Sylhet	2.4	2.5	2.6	2.8	3.0	2.9	3.0	2.7
Educational attainment								
No education	2.4	2.3	2.4	2.4	2.5	2.5	2.5	2.4
Primary incomplete	2.2	2.2	2.3	2.4	2.4	2.5	2.5	2.3
Primary complete[1]	2.2	2.2	2.2	2.4	2.4	2.3	2.5	2.3
Secondary incomplete	2.0	2.1	2.2	2.3	2.2	2.3	2.4	2.2
Secondary complete or higher[2]	2.0	2.0	2.0	2.1	2.1	2.2	2.2	2.0
Wealth quintile								
Lowest	2.1	2.2	2.3	2.4	2.5	2.6	2.5	2.3
Second	2.2	2.2	2.3	2.4	2.5	2.5	2.5	2.4
Middle	2.1	2.2	2.3	2.4	2.4	2.6	2.6	2.3
Fourth	2.0	2.1	2.2	2.3	2.4	2.4	2.4	2.2
Highest	2.1	2.0	2.1	2.2	2.3	2.3	2.4	2.2
Total	2.1	2.1	2.2	2.3	2.4	2.5	2.5	2.3

[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

Table 7.6.2 Mean ideal number of children by background characteristics: Men

Mean ideal number of children for ever-married men age 15-54 by background characteristics, Bangladesh 2007

Background characteristic	Age						Ever-married men age 15-49	Ever-married men age 50-54	Ever-married men age 15-54
	20-24	25-29	30-34	35-39	40-44	45-49			
Residence									
Urban	1.9	2.0	2.0	2.1	2.1	2.2	2.1	2.3	2.1
Rural	2.1	2.1	2.2	2.3	2.3	2.5	2.3	2.6	2.3
Division									
Barisal	(2.0)	2.1	2.1	2.1	2.4	2.5	2.2	2.8	2.3
Chittagong	(2.3)	2.2	2.4	2.5	2.5	2.7	2.5	2.6	2.5
Dhaka	(2.1)	2.1	2.1	2.3	2.4	2.4	2.2	2.5	2.3
Khulna	2.0	2.0	2.0	2.1	2.0	2.4	2.1	2.3	2.1
Rajshahi	2.0	2.0	2.0	2.1	2.1	2.2	2.1	2.4	2.1
Sylhet	*	2.5	2.5	2.9	2.7	3.1	2.8	3.2	2.8
Educational attainment									
No education	2.3	2.2	2.4	2.3	2.4	2.6	2.4	2.7	2.4
Primary incomplete	2.1	2.1	2.1	2.4	2.3	2.5	2.3	2.6	2.3
Primary complete[1]	(1.9)	2.1	*	2.2	2.4	(2.3)	2.2	(2.5)	2.2
Secondary incomplete	2.0	2.0	2.1	2.3	2.1	2.2	2.1	2.3	2.1
Secondary complete or higher[2]	(1.9)	1.9	1.9	2.1	2.3	2.2	2.0	2.3	2.1
Wealth quintile									
Lowest	(2.2)	2.1	2.2	2.4	2.5	2.5	2.3	2.8	2.4
Second	2.1	2.2	2.1	2.4	2.4	2.6	2.3	2.5	2.4
Middle	2.1	2.1	2.4	2.2	2.2	2.4	2.2	2.4	2.2
Fourth	2.0	2.0	2.0	2.3	2.2	2.4	2.2	2.5	2.2
Highest	(1.9)	1.9	2.0	2.1	2.2	2.1	2.1	2.2	2.1
Total	2.1	2.1	2.1	2.3	2.3	2.4	2.2	2.5	2.3

Note: Ever-married men age 15-19 interviewed are too few to report results. Figures in parentheses are based on 25-49 unweighted cases.

[1] Primary complete is defined as completing grade 5.

[2] Secondary complete is defined as completing grade 10.

7.5 WANTED AND UNWANTED FERTILITY

There are two ways of estimating levels of unwanted fertility from the BDHS data. One is based on women's response to a question as to whether each birth in the five years preceding the survey was planned (wanted then), mistimed (wanted but at a later time), or unwanted (wanted no more children). These data are likely to result in underestimates of unplanned childbearing since women may rationalize unplanned births and declare them to be planned once the children are born. Another way of measuring unwanted fertility uses data on ideal family size to calculate what the total fertility rate would be if all unwanted births were avoided. This measure may also suffer from underestimation to the extent that women are unwilling to report an ideal family size lower than their actual family size. Estimates of unwanted fertility using both of these approaches are presented below.

Interviewers asked women a series of questions regarding each child born in the five years preceding the survey and any current pregnancy to determine whether each birth or current pregnancy was wanted then, wanted later, or unwanted. These questions provide a powerful indicator of the degree to which couples successfully control fertility. Also, the data can be used to gauge the effect of preventing unwanted births on fertility rates. Table 7.7 shows the percent distribution of births in the five years preceding the survey by whether the birth was wanted by the mother then, wanted later, or not wanted at all, according to birth order and age of mother at birth.

Table 7.7 Fertility planning status

Percent distribution of births to women 15-49 in the five years preceding the survey (including current pregnancies) by planning status of the birth, according to birth order and mother's age at birth, Bangladesh 2007

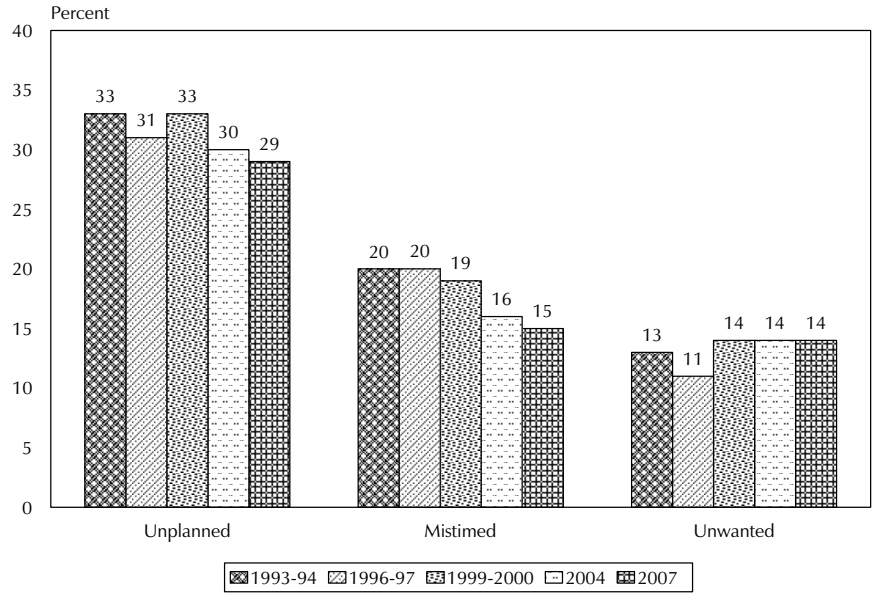
Birth order and mother's age at birth	Planning status of birth: Wanted then	Wanted later	Wanted no more	Missing	Total	Number of births
Birth order						
1	84.6	15.4	0.0	0.0	100.0	2,326
2	73.4	24.0	2.6	0.0	100.0	1,758
3	66.2	11.9	21.8	0.1	100.0	1,114
4+	51.4	5.8	42.4	0.4	100.0	1,564
Mother's age at birth						
<20	78.6	20.4	1.0	0.0	100.0	2,219
20-24	74.3	17.8	7.8	0.1	100.0	2,146
25-29	65.2	9.8	25.0	0.0	100.0	1,331
30-34	61.2	4.2	34.0	0.5	100.0	714
35-39	46.2	1.2	51.9	0.7	100.0	277
40-44	38.2	4.6	55.3	1.8	100.0	69
45-49	*	*	*	*	100.0	7
Total	71.0	14.8	14.1	0.1	100.0	6,762

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

According to these data, over two-thirds of births (71 percent) in the five years preceding the survey were planned, 15 percent were mistimed, and 14 percent were unwanted. In general, the proportion of unwanted births increases with birth order. About one in five (22 percent) third order births were unwanted, compared with 42 percent of fourth or higher order births. In contrast, the percentage of mistimed births declines with birth order, a pattern similar to that found in the 2004 BDHS. A similar pattern is observed for the mother's age at birth: the proportion of births reported to be unwanted increases with age, because older women have larger families and younger women have not yet achieved their desired family size. Only 8 percent of births to mothers age 20-24 are unwanted, compared with more than half of all births to mothers age 35 or older. The percentage of mistimed births declines with age.

Figure 7.5 shows that there has been little change in the planning status of births during the last five years.

Figure 7.5 Trends in Unplanned, Mistimed, and Unwanted Births



The impact of unwanted fertility can be measured by comparing the total wanted fertility rate (TWFR) with the total fertility rate (TFR). The total wanted fertility rate represents the level of fertility that theoretically would result if all unwanted births were prevented. A comparison of the TFR with the total wanted fertility rate indicates the potential demographic impact of the elimination of all unwanted births. The total wanted fertility rates presented in Table 7.8 are calculated in the same manner as the total fertility rate (TFR), but unwanted births are excluded from the numerator. For this purpose, unwanted births are defined as those that exceed the number considered ideal by the respondent. Women who did not report a numeric ideal family size were assumed to want all of their births.

Overall, the total wanted fertility rate for Bangladesh is 1.9 children, which is 30 percent lower than the total fertility rate of 2.7 children. This means that if all unwanted births could be eliminated, the TFR would drop below the replacement level of fertility (2.1 children per woman). Wanted fertility is lower than the replacement level in almost all subgroups by residence, division, education, and household wealth. The exceptions are women in Chittagong and Sylhet divisions and women in the lowest wealth quintile.

The gap between wanted and observed total fertility rates, as measured by the ratio of observed fertility rate to wanted fertility rate, is larger for women in Barisal, Sylhet, and Chittagong divisions, women with no education, women who have completed primary school, and women in the two lowest wealth quintiles. For all of these women, the actual fertility rate is at least 50 percent higher than the wanted fertility rate. The gap between wanted and actual fertility is smallest for women who have completed secondary or higher education.

Table 7.8 Wanted fertility rates

Total wanted fertility rates and total fertility rates for the three years preceding the survey, by background characteristics, Bangladesh 2007

Background characteristic	Total wanted fertility rate	Total fertility rate
Residence		
Urban	1.7	2.4
Rural	1.9	2.8
Division		
Barisal	1.8	2.8
Chittagong	2.1	3.2
Dhaka	1.9	2.8
Khulna	1.5	2.0
Rajshahi	1.7	2.4
Sylhet	2.4	3.7
Educational attainment		
No education	1.9	3.0
Primary incomplete	2.0	2.9
Primary complete[1]	1.9	2.9
Secondary incomplete	1.9	2.5
Secondary complete or higher[2]	1.8	2.3
Lowest	2.1	3.2
Second	2.0	3.1
Middle	1.9	2.7
Fourth	1.8	2.5
Highest	1.6	2.2
Total	1.9	2.7

Note: Rates are calculated based on births to women age 15-49 in the period 1-36 months preceding the survey.
[1] Primary complete is defined as completing grade 5
[2] Secondary complete is defined as completing grade 10

INFANT AND CHILD MORTALITY 8

Infant and child mortality rates reflect a country's level of socioeconomic development and quality of life. They are used for monitoring and evaluating population and health programs and policies. The rates are also important for monitoring progress towards the United Nations Millennium Development Goal to reduce child mortality by two-thirds by the year 2015. This chapter provides information on mortality of children under age five. Specifically, it presents information on levels, trends, and differentials in neonatal, postneonatal, infant, and child mortality. Information on perinatal mortality and patterns of fertility associated with high mortality is also provided. Mortality estimates are disaggregated by socioeconomic characteristics, such as urban-rural residence, division, mother's education, and household wealth, as well as by selected demographic characteristics in order to identify segments of the population requiring special attention.

The data for mortality estimates were collected in the birth history section of the Women's Questionnaire. The 2007 BDHS asked all ever-married women age 15-49 to provide a complete history of their live births, including the sex, month, and year of each birth, survival status, and age at the time of the survey or age at death. Age at death was recorded in days for children dying in the first month of life, in months for children dying before their second birthday, and in years for children dying at later ages. In this chapter, the following direct estimates of infant and child mortality[1] were used:

Neonatal mortality: the probability of dying within the first month of life;

Postneonatal mortality: the difference between infant and neonatal mortality;

Infant mortality: the probability of dying before the first birthday;

Child mortality: the probability of dying between the first and fifth birthday;

Under-five mortality: the probability of dying between birth and the fifth birthday.

All rates are expressed per 1,000 live births except for child mortality, which is expressed per 1,000 children surviving to their first birthday (12 months of age).

8.1 ASSESSMENT OF DATA QUALITY

The reliability of mortality estimates calculated from retrospective birth histories depends upon the completeness with which deaths of children are reported and the extent to which birth dates and ages at death are accurately reported and recorded. Estimated rates of infant and child mortality are subject to both

[1]A detailed description of the method for calculating the probabilities presented here is given in Rutstein (1984). The mortality estimates are not rates but are true probabilities calculated according to the conventional life-table approach. Deaths and exposure in any calendar period are first tabulated for the age intervals 0, 1-2, 3-5, 6-11, 12-23, 24-35, 36-47, and 48-59 months. Then age-interval-specific probabilities of survival are calculated. Finally, probabilities of mortality for larger age segments are produced by multiplying the relevant age-interval survival probabilities together and subtracting the product from one:

$$ {}_nq_x = 1 - \prod_{i=x}^{i=x+n}(1 - q_i) $$

sampling and nonsampling errors. While sampling errors for various mortality estimates are provided in Appendix B, this section describes the results of various checks for nonsampling errors—in particular, underreporting of deaths in early childhood (which would result in an underestimate of mortality) and misreporting of the date of birth or age at death (which could distort the age pattern of under-five mortality). Both problems are likely to be more pronounced for children born further in the past than for children born recently. Underreporting of infant deaths is usually most serious for deaths that occur very early in infancy. If deaths in the early neonatal period are selectively underreported, there will be an abnormally low ratio of deaths under seven days to all neonatal deaths and an abnormally low ratio of neonatal to infant mortality. Changes in these ratios over time can be examined to test the hypothesis that underreporting of early infant deaths is more common for births that occurred further in the past than for births that occurred more recently. Failure to report deaths will result in mortality figures that are low, and if underreporting is more severe for children born longer ago than for children born recently, any decrease in mortality will tend to be understated.

Results from Appendix Table C.5 suggest that early neonatal deaths have not been seriously underreported in the 2007 BDHS because the ratios of deaths under seven days to all neonatal deaths are acceptable. For 0-19 years before the survey, the overall percentage of neonatal deaths occurring during the first week of life is 69 percent. A ratio of about 70 percent is often considered as normal. [2] This percentage decreases somewhat with increasing years before the survey, from around three-quarters of neonatal deaths for the periods 0-4 and 5-9 years preceding the survey to around 65 percent for the periods 10-14 years and 15-19 years preceding the survey. The ratios of neonatal to infant deaths (Appendix Table C.6) are also consistently high (between 65 percent and 73 percent) for the various periods preceding the survey.

Another problem inherent in most retrospective surveys is heaping of age at death on certain digits (e.g., 6, 12, and 18 months). If the net result of misreporting is the transference of deaths between age segments for which the rates are calculated, misreporting of the age at death will bias estimates of the age pattern of mortality. For instance, an overestimate of child mortality relative to infant mortality may result if children dying during the first year of life are reported as having died at age one or older. Thus, heaping at 12 months can bias the mortality estimates because a certain fraction of these deaths, which are reported to have occurred after infancy (i.e., at age 12-23 months), may have actually occurred during infancy (i.e., at age 0-11 months). In such cases, heaping would bias infant mortality ($_1q_0$) downward and child mortality ($_4q_1$) upward.

In the 2007 BDHS, there appears to be a preference for reporting age at death at 3, 7, 12, 15 and 21 days (Appendix Table C.5). An examination of the distribution of deaths under two years of age during the 15 years preceding the survey by month of death (Appendix Table C.6) indicates a slight heaping of deaths at 3, 6, 12, and 18 months of age. Some heaping on 12 months and recording of deaths at "one year" is found despite the strong emphasis on this problem during the training of interviewers for the BDHS fieldwork.[3] However, this brief assessment of the internal consistency of childhood mortality data suggests that the extent of digit preference is such that it will not substantially alter the rates.

Appendix Table C.4 can be used to assess the quality of information recorded on date of birth. The results show that there was shifting in the reporting of births from calendar year 2002 to 2001. This shifting usually results from interviewers transferring births out of the five-year period for which child data are collected on maternal and child health indicators (January 2002 to date of interview for the 2007 BDHS) in an attempt to reduce the length of interview. The data also show that transference is proportionately higher for dead children than living children, and this displacement may underestimate the true level of childhood

[2] There are no models for mortality patterns during the neonatal period. However, one review of data from developing countries concluded that at neonatal mortality of 20 per 1,000 or higher, approximately 70 percent of neonatal deaths occur within the first six days of life (Boerma, 1988).

[3] Interviewers were trained to probe for the exact number of months lived by the child if the age at death was reported as "one year."

mortality rates for the five-year period before the survey. There is also evidence of a possible omission of children who died, as evidenced by the lower numbers of dead children in 2002-2004 compared with 1999-2001.

It is seldom possible to establish mortality levels with confidence for a period of more than 15 years before a survey. Even within the recent 15-year period considered here, apparent trends in mortality rates should be interpreted with caution for several reasons. First, there may be differences in the completeness of death reporting related to the length of time before the survey. Second, the accuracy of reports of age at death and of date of birth may deteriorate with time. Third, sampling variability of mortality rates tends to be high, especially for groups with relatively few births. Fourth, mortality rates are truncated as they go back in time because women currently age 50 or above who were bearing children during earlier periods were not included in the survey. This truncation affects mortality trends in particular. For example, for the period 10-14 years before the survey, the rates do not include any births to women age 40-49 at the time of the birth because these women were over age 50 at the time of the survey and therefore not eligible to be interviewed. Since these excluded births to older women were likely to be at a somewhat greater risk of dying than births to younger women, the mortality rates for the period may be slightly underestimated. Estimates for more recent periods are less affected by truncation bias because fewer older women are excluded. The extent of this bias depends on the proportion of births omitted, however. Table 7.7 (Chapter 7) shows that very few children born in the five years before the survey were born to women age 35 and above. Given the small proportion of births excluded, selection bias for infant and child mortality statistics as far back as 15 years before the survey should be negligible.

8.2 Levels and Trends in Infant and Child Mortality

Mortality rates for children under five years of age are presented in Table 8.1 for the three five-year periods preceding the survey. Data from the 2007 BDHS show that under-five mortality during the five years preceding the survey (which roughly corresponds to the years 2002-2006) is 65 per 1,000 births. This means that one in fifteen children born in Bangladesh dies before reaching the fifth birthday. The infant mortality rate is 52 deaths per 1,000 live births, and the child mortality rate is 14 per 1,000. The risk of dying in the first month of life (37 per 1,000) is nearly two and a half times greater than in the subsequent 11 months (15 per 1,000). Deaths in the neonatal period account for 57 percent of all under-five deaths.

Table 8.1 Early childhood mortality rates

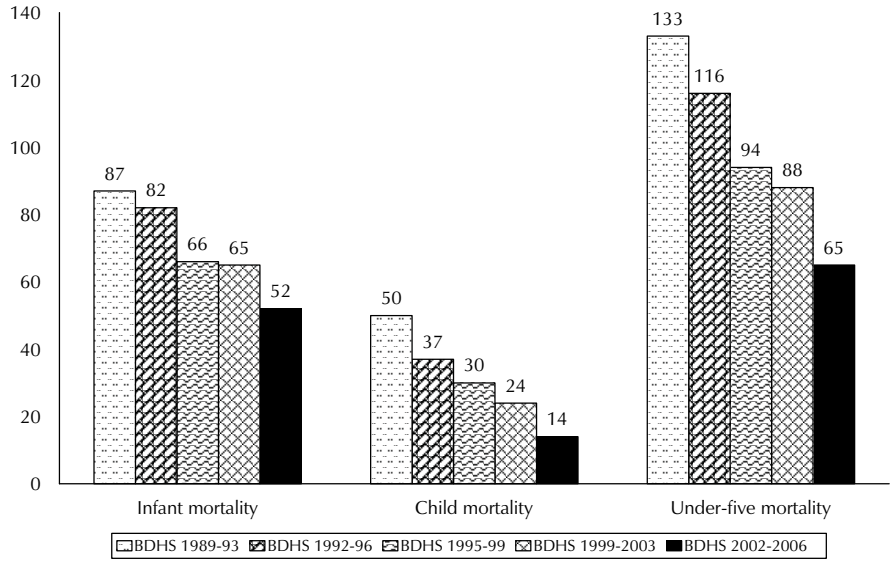
Neonatal, postneonatal, infant, child, and under-five mortality rates for five-year periods preceding the survey, Bangladesh 2007

Years preceding the survey	Neonatal mortality (NN)	Postneonatal mortality[1] (PNN)	Infant mortality ($_1q_0$)	Child mortality ($_4q_1$)	Under-five mortality ($_5q_0$)
0-4	37	15	52	14	65
5-9	42	21	62	21	82
10-14	57	32	89	31	117

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

Childhood mortality rates obtained for the five years preceding successive DHS surveys conducted in Bangladesh since 1993-1994 confirm a declining trend in mortality (Figure 8.1). Between the periods 1989-1993 and 2002-2006, infant mortality declined by 40 percent from 87 deaths per 1,000 live births to 52 per 1,000. Even more impressive are the 72 percent decline in child mortality and the 51 percent decline in under-five mortality over the same period. A comparison of mortality rates over the last three years shows that infant and child mortality declined by 20 percent and 42 percent respectively.

Figure 8.1 **Trends in Infant and Childhood Mortality 1989 to 2006**



8.3 SOCIOECONOMIC DIFFERENTIALS IN INFANT AND CHILD MORTALITY

Differentials in childhood mortality for the ten years preceding the survey by selected background characteristics are presented in Table 8.2 and Figure 8.2. These findings must be interpreted with caution given the low precision of mortality estimates due to sampling error. Neonatal, infant, and under-five mortality rates appear to be lower in urban than rural areas.

The 2007 BDHS data show wide variations in mortality by division. Infant mortality ranges from 50 deaths per 1,000 live births in Barisal to 84 per 1,000 in Sylhet. Under-five mortality is lowest in Khulna (58 per 1,000) and highest in Sylhet (107 per 1,000). Sylhet has the highest mortality rates for all mortality indicators except child mortality; this was also true in previous BDHS surveys. Child mortality is highest in Chittagong. Khulna has the lowest rates for infant, child, and under-five mortality, while Barisal has the lowest rates for neonatal mortality. Postneonatal mortality is lowest in Rajshahi division.

Mother's level of education is inversely related to her child's risk of dying. Higher levels of educational attainment are generally associated with lower mortality risks, since education exposes mothers to information about better nutrition, use of contraception to limit and space births, health care during pregnancy, and childhood illnesses, vaccinations, and treatments. The 2007 BDHS shows that postneonatal mortality declines sharply with increased level of mother's education; the rate is almost 79 percent lower for children whose mothers have at least some secondary education, compared with children whose mothers have no education.

A child's risk of dying is also associated with the economic status of the household. All childhood mortality rates are lowest for those in the highest wealth quintile, and the risk of dying by age five in the top quintile is about half that of the bottom quintile. The relationship between childhood mortality and household wealth is especially notable for infant and child mortality. For these two measures, the risk of death is reduced sharply for children in the fourth and highest wealth quintiles compared with children in the lowest three wealth quintiles.

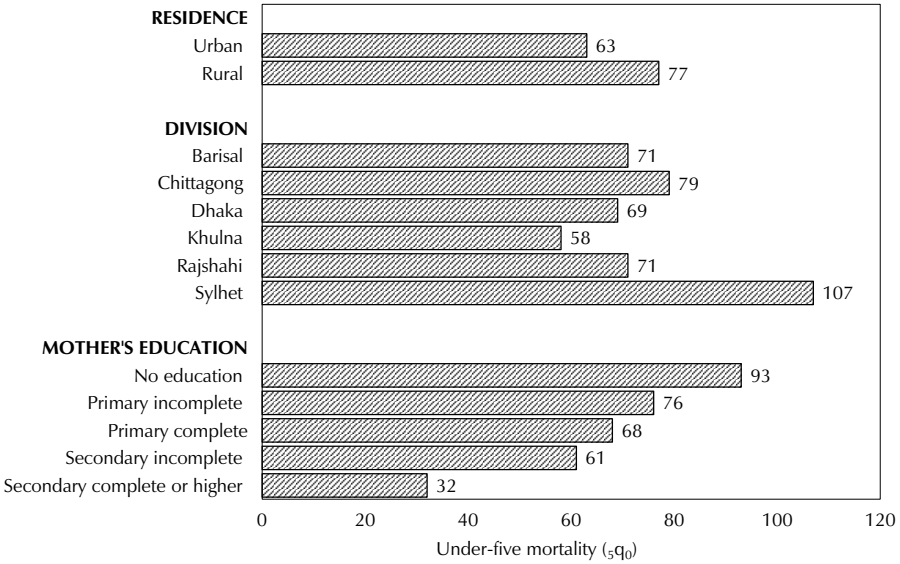
Table 8.2 Early childhood mortality rates by socioeconomic characteristics

Neonatal, postneonatal, infant, child, and under-five mortality rates for the 10-year period preceding the survey, by background characteristics, Bangladesh 2007

Background characteristic	Neonatal mortality (NN)	Postneonatal mortality[1] (PNN)	Infant mortality ($_1q_0$)	Child mortality ($_4q_1$)	Under-five mortality ($_5q_0$)
Residence					
Urban	33	17	50	13	63
Rural	41	18	59	19	77
Division					
Barisal	31	19	50	23	71
Chittagong	34	20	54	27	79
Dhaka	38	18	55	14	69
Khulna	32	16	49	10	58
Rajshahi	46	12	58	14	71
Sylhet	53	31	84	25	107
Mother's education					
No education	47	24	71	23	93
Primary incomplete	35	23	58	19	76
Primary complete[2]	44	14	59	10	68
Secondary incomplete	39	10	48	13	61
Secondary complete or higher[3]	21	5	26	6	32
Wealth quintile					
Lowest	48	18	66	22	86
Second	44	23	67	19	85
Middle	40	23	63	22	83
Fourth	32	14	46	16	62
Highest	27	9	36	8	43

[1] Computed as the difference between the infant and neonatal mortality rates
[2] Primary complete is defined as completing grade 5.
[3] Secondary complete is defined as completing grade 10.

Figure 8.2 Under-Five Mortality Rates by Socioeconomic Characteristics



Note: Rates are for the 10-year period preceding the survey. BDHS 2007

8.4 DEMOGRAPHIC DIFFERENTIALS IN INFANT AND CHILD MORTALITY

This section examines differentials in early childhood mortality by demographic characteristics of the child and the mother. Table 8.3 and Figure 8.3 present mortality rates for the ten-year period preceding the survey by sex of the child, age of the mother at birth, birth order, and previous birth interval.

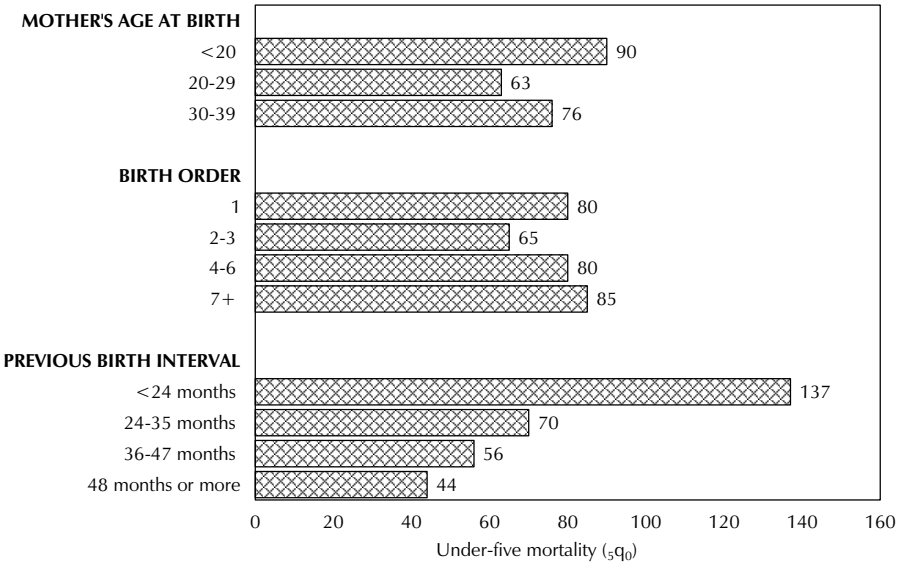
Table 8.3 Early childhood mortality rates by demographic characteristics

Neonatal, postneonatal, infant, child, and under-five mortality rates for the 10-year period preceding the survey, by demographic characteristics, Bangladesh 2007

Demographic characteristic	Neonatal mortality (NN)	Postneonatal mortality[1] (PNN)	Infant mortality ($_1q_0$)	Child mortality ($_4q_1$)	Under-five mortality ($_5q_0$)
Child's sex					
Male	42	19	61	16	76
Female	36	17	54	20	72
Mother's age at birth					
<20	55	20	75	17	90
20-29	30	16	45	18	63
30-39	38	21	59	18	76
40-49	*	*	*	*	*
Birth order					
1	52	15	67	14	80
2-3	31	18	49	16	65
4-6	37	20	58	23	80
7+	37	25	62	25	85
Previous birth interval[2]					
< 24 months	67	38	105	36	137
24-35 months	31	18	49	22	70
36-47 months	29	15	44	12	56
48 months or more	20	13	33	12	44

Note: An asterisk indicates that a rate is based on fewer than 250 pregnancies and has been suppressed.
[1] Computed as the difference between the infant and neonatal mortality rates
[2] Excludes first-order births

Figure 8.3 Under-Five Mortality Rates by Demographic Characteristics



Note: Rates are for the 10-year period preceding the survey.
Previous birth interval excludes first-order births.

BDHS 2007

Male children experience higher neonatal mortality than female children. In contrast, rates that do not include the first month of life, such as postneonatal mortality, are similar for male and female children. The pattern of gender differentials in neonatal mortality is expected because neonatal mortality (which reflects largely congenital conditions) tends to be higher for boys than girls. BDHS surveys conducted before 2004 reported both higher postneonatal and child mortality for females than for males—a pattern that has been observed in other countries of South Asia where strong son preference is thought to result in relative nutritional and medical neglect of female children (Das Gupta, 1987; Basu, 1989). The 2007 BDHS confirms the findings from the 2004 BDHS that there is no longer a notable difference in the postneonatal and under-five mortality rates of male and female children.

Childhood mortality at all ages tends to be highest among children born to women in the youngest age group. Childhood mortality rates also tend to have a U-shaped relationship with birth order, with first births and higher order births having elevated mortality rates. In Table 8.3, birth order shows the expected U-shaped pattern for neonatal, infant, and under-five mortality rates, with rates being higher for first births and births of order four or higher compared with second- and third-order births. In contrast, child mortality and postneonatal mortality tend to increase linearly with birth order. The increase in the child mortality rate with birth order may reflect a more intense competition faced by higher birth order children for the caregiver's time, for utilization of health care, and for nutritious food once children are weaned.

Short birth intervals are associated with an increased risk of dying. Retherford and others (1989) observe an association between short birth intervals (less than 2 years) and increased mortality, even after controlling for other demographic and socioeconomic variables. In Table 8.3, all childhood mortality rates show a sharp decrease as the length of the birth interval increases. Neonatal, infant, child, and under-five mortality rates are more than three times higher for children born after an interval of less than 2 years, compared with children who are born after an interval of 4 years or longer.

8.5 Perinatal Mortality

Perinatal deaths are composed of pregnancy losses occurring after seven completed months of gestation (stillbirths) and deaths within the first seven days of life (early neonatal deaths). The perinatal death rate is calculated by dividing the total number of perinatal deaths by the total number of pregnancies reaching seven months of gestation. The distinction between a stillbirth and an early neonatal death is a delicate one, often depending on the observed presence or absence of some signs of life after delivery. The causes of stillbirths and early neonatal deaths overlap, and examining just one or the other can understate the true level of mortality around delivery. For these reasons, it is suggested that both events be combined and examined together. In the 2007 BDHS, information on stillbirths is available for the five years preceding the survey and is collected using the calendar at the end of the Women's Questionnaire.

Table 8.4 presents the number of stillbirths and early neonatal deaths and the perinatal mortality rate for the five-year period preceding the 2007 BDHS, by selected demographic and socioeconomic characteristics. The data indicate that the perinatal mortality rate in Bangladesh is 55 deaths per 1,000 pregnancies, which is 15 percent less than the level observed in the 2004 BDHS (65 deaths per 1,000 pregnancies). Perinatal mortality is higher among teenage mothers than women age 20 or more. The interval between the previous and current pregnancies is strongly associated with perinatal mortality. Pregnancies that occur less than 15 months after a previous pregnancy are more than three times as likely to end in perinatal death as pregnancies that follow an interval of 15 months or more. Perinatal mortality is higher in rural areas than urban areas. Sylhet has the highest perinatal mortality rate among all administrative divisions.

Perinatal mortality is lower among women who have completed secondary or higher education. The rate is also lower among women in the top wealth quintile.

Table 8.4 Perinatal mortality

Number of stillbirths and early neonatal deaths, and the perinatal mortality rate for the five-year period preceding the survey, by background characteristics, Bangladesh 2007

Background characteristic	Number of stillbirths[1]	Number of early neonatal deaths[2]	Perinatal mortality rate[3]	Number of pregnancies of 7+ months duration
Mother's age at birth				
<20	88	79	79	2,099
20-29	59	70	41	3,147
30-39	25	20	49	919
40-49	3	0	46	67
Previous pregnancy interval in months[4]				
First pregnancy	66	76	73	1,944
<15	23	29	154	333
15-26	27	20	52	902
27-38	28	12	45	896
39+	31	32	29	2,157
Residence				
Urban	23	30	41	1,272
Rural	152	139	59	4,961
Division				
Barisal	8	12	51	391
Chittagong	30	31	45	1,368
Dhaka	64	45	55	1,971
Khulna	17	16	56	595
Rajshahi	38	43	60	1,344
Sylhet	17	22	69	564
Mother's education				
No education	56	51	62	1,714
Primary incomplete	37	35	53	1,368
Primary complete[5]	20	21	70	584
Secondary incomplete	51	48	56	1,781
Secondary complete or higher[6]	11	14	33	769
Wealth quintile				
Lowest	43	34	54	1,410
Second	36	41	57	1,349
Middle	50	37	71	1,223
Fourth	28	32	51	1,177
Highest	17	25	39	1,073
Total	175	169	55	6,232

[1] Stillbirths are fetal deaths in pregnancies lasting seven or more months.
[2] Early neonatal deaths are deaths at age 0-6 days among live-born children.
[3] The sum of the number of stillbirths and early neonatal deaths divided by the number of pregnancies of seven or more months' duration, expressed per 1,000.
[4] Categories correspond to birth intervals of < 24 months, 24-35 months, 36-47 months, and 48+ months.
[5] Primary complete is defined as completing grade 5.
[6] Secondary complete is defined as completing grade 10.

8.6 HIGH-RISK FERTILITY BEHAVIOR

Many studies have found a strong relationship between children's chances of dying and certain fertility behaviors. In general, the probability of dying in early childhood is much greater if children are born to mothers who are too young or too old, if they are born after a short birth interval, or if they are born to mothers with high parity. For this analysis, mothers are classified as too young if they are less than 18 years of age and too old if they are over 34 years of age at the time of delivery. A short birth interval is defined as a birth occurring within 24 months of a previous birth, and a high birth order is defined as occurring after three or more previous births (birth order four or higher). After cross-classification of births by combinations of all three characteristics, a birth may have from zero to three high-risk characteristics. All risk categories are potentially avoidable except for one: first births to mothers age 18-34.

Table 8.5 shows the percent distribution of births in the five-year period preceding the survey and the distribution of all currently married women across various risk categories. It also shows the relative risk of children dying across the different risk categories. The purpose of this table is to identify areas in which changes in reproductive behavior would be likely to reduce infant and child mortality. Mortality risk is represented by the proportion of children born during the five years preceding the survey who had died by the time of the survey. The "risk ratio" is the ratio of the proportion of dead children in a given high-risk category to the proportion of dead children not in any high-risk category.

Among children born in the five years preceding the survey, only one-third were not in any of the high-risk categories. Most births (47 percent) fell into one of the avoidable high-risk categories. The remainder fell into the category of unavoidable risk, that is, first order births to women age 18-34. Thus, 66 percent of births in Bangladesh were in some high-risk category. One in ten births was in multiple, avoidable high-risk categories, while four in ten births were in single, avoidable high-risk categories. The most common risk categories are mother younger than 18 years and birth order three or higher (16 percent each).

About 61 percent of the women who gave birth in the five years preceding the survey were in at least one of the avoidable high-risk categories (Table 8.5). About one-third of the women had a single high-risk factor, while another one-third had multiple high-risk factors.

Table 8.5 High-risk fertility behavior

Percent distribution of children born in the five years preceding the survey by category of elevated risk of mortality and the risk ratio, and percent distribution of currently married women by category of risk if they were to conceive a child at the time of the survey, Bangladesh 2007

Risk category	Births in the 5 years preceding the survey: Percentage of births	Births in the 5 years preceding the survey: Risk ratio	Percentage of currently married women[1]
Not in any high-risk category	34.3	1.00	32.0[a]
Unavoidable risk category			
First-order births between ages 18 and 34 years	19.0	1.85	6.9
Single high-risk category			
Mother's age <18	16.2	2.42	3.1
Mother's age >34	0.8	0.15	5.6
Birth interval <24 months	4.5	2.99	7.6
Birth order >3	15.7	1.47	14.4
Subtotal	37.2	2.04	30.7
Multiple high-risk category			
Age <18 and birth interval <24 months[2]	1.6	5.14	0.8
Age >34 and birth interval <24 months	0.0	*	0.1
Age >34 and birth order >3	4.1	1.75	24.8
Age >34 and birth interval <24 months and birth order >3	0.3	(2.39)	0.7
Birth interval <24 months and birth order >3	3.5	5.07	3.9
Subtotal	9.5	3.54	30.4
In any avoidable high-risk category	46.7	2.35	61.1
Total	100.0	na	100.0
Number of births/women	6,058	na	10,192

Note: Risk ratio is the ratio of the proportion dead among births in a specific high-risk category to the proportion dead among births not in any high-risk category. Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
na = Not applicable
[1] Women are assigned to risk categories according to the status they would have at the birth of a child if they were to conceive at the time of the survey: current age less than 17 years and 3 months or older than 34 years and 2 months, latest birth less than 15 months ago, or latest birth being of order 3 or higher.
[2] Includes the category age <18 and birth order >3
[a] Includes sterilized women

Risk ratios, which describe the relationship between a particular risk category and a reference category, are used to compare mortality by risk category. Children born to mothers age 18 or younger are more than twice as likely to die as those born to mothers who are not in any high-risk category. Children whose preceding birth interval is less than 24 months are three times as likely to die as children not in any high-risk category. The risk of dying is five times greater when mothers have three or more children *and* the preceding birth interval is short. Less than four percent of births occur in this high-risk category. Children are also five times more likely to die when their mothers are under age 18 *and* the preceding birth interval is short. Less than 2 percent of the births fall into this category.

MATERNAL AND NEWBORN HEALTH 9

A health care system aiming to reduce morbidity and mortality related to pregnancy must focus on maternal and newborn health. The health care that a woman receives during pregnancy, at the time of delivery, and soon after delivery is important for the survival and well-being of both the mother and the child. Bangladesh has committed to the Millennium Development Goals (MDGs) and has developed various policies and strategies for improving maternal and newborn health. The MDG aims to reduce maternal mortality by 75 percent by the year 2015. Bangladesh also designed the Support for Safer Motherhood Program (SSMP) to improve the development of human resources and infrastructure (through comprehensive emergency obstetric care, basic emergency obstetric care, and birthing centres) and to upgrade the skills of skilled birth attendants (SBAs).

This chapter provides information from the 2007 BDHS on several aspects of maternal and newborn health, such as antenatal, delivery, and postnatal care, treatment for maternal complications, and newborn care. The 2007 BDHS asked women who had given birth in the five years preceding the survey a number of questions about maternal and child health care. For the last live birth in that period, mothers were asked whether they had received antenatal care (ANC) during the pregnancy, whether they experienced complications related to pregnancy or childbirth, and whether they sought postnatal care for themselves and their children. Information was also collected on the place of delivery and attendance at birth for all births in the five years preceding the survey. In addition, questions on newborn care, such as cord cutting and the practice of wrapping and bathing newborns, were asked about the most recent live birth in the three years preceding the survey. This information will assist policymakers in planning appropriate strategies to improve reproductive and child health.

9.1 ANTENATAL CARE

Antenatal care from a trained provider is important to monitor the status of a pregnancy and to diagnose and treat problems during pregnancy that could harm the health of the mother or child.

9.1.1 Antenatal Care Coverage

Table 9.1 shows that 60 percent of women with a birth in the five years preceding the survey received antenatal care at least once from any provider; 52 percent received care from a medically trained provider, that is, a qualified doctor, nurse, midwife, paramedic, family welfare visitor (FWV), community skilled birth attendant (CSBA), medical assistant (MA), or sub-assistant community medical officer (SACMO). Antenatal care from a medically trained provider has increased from 49 percent in 2004 to 52 percent at present.

The likelihood of receiving antenatal care from a medically trained provider declines rapidly with birth order, from 67 percent for first births to 24 percent for births of order six and higher. The urban-rural differential in antenatal care coverage is also large: 71 percent of urban mothers received antenatal care from medical personnel compared with only 46 percent of rural mothers. Among divisions, mothers in Khulna are most likely to receive antenatal care from a medically trained provider (63 percent), while those in Barisal are least likely to do so (44 percent). Receiving antenatal care from a medically trained provider increases with mother's education and household wealth.

Table 9.1 Antenatal care

Percent distribution of women age 15-49 who had a live birth in the five years preceding the survey by antenatal care (ANC) provider during pregnancy for the most recent birth, percentage receiving any ANC, and percentage receiving ANC from a medically trained provider, according to background characteristics, Bangladesh 2007

Background characteristic	Medically trained provider			Non-medically trained provider[1]	No one	Missing	Total	Percentage receiving:		Number of women
	Qualified doctor	Nurse/ midwife/ paramedic/ FWV	CSBA/ MA/ SACMO					Any ANC	ANC from a medically trained provider	
Mother's age at birth										
<20	36.6	18.5	0.6	9.7	34.6	0.0	100.0	65.4	55.8	1,511
20-34	36.2	14.7	0.5	8.3	40.2	0.1	100.0	59.7	51.4	3,099
35-49	21.9	12.0	0.4	5.7	59.4	0.7	100.0	39.9	34.2	296
Birth order										
1	48.1	18.5	0.6	7.2	25.6	0.0	100.0	74.4	67.2	1,566
2-3	34.7	15.6	0.6	9.7	39.2	0.1	100.0	60.6	50.9	2,141
4-5	23.4	12.8	0.4	8.8	54.6	0.0	100.0	45.4	36.6	843
6+	13.4	10.9	0.1	6.8	68.3	0.6	100.0	31.2	24.4	355
Residence										
Urban	55.8	15.3	0.2	4.4	24.1	0.2	100.0	75.7	71.3	1,039
Rural	30.0	15.8	0.6	9.7	43.8	0.1	100.0	56.1	46.4	3,866
Division										
Barisal	30.8	12.2	0.6	8.7	47.5	0.2	100.0	52.3	43.7	313
Chittagong	40.3	11.7	0.4	7.9	39.7	0.0	100.0	60.3	52.4	1,030
Dhaka	35.1	12.7	0.4	8.5	43.0	0.3	100.0	56.8	48.2	1,556
Khulna	43.9	18.0	0.7	8.3	29.1	0.0	100.0	70.9	62.6	503
Rajshahi	29.2	25.3	0.5	9.6	35.4	0.0	100.0	64.6	55.0	1,118
Sylhet	35.1	10.6	1.2	7.5	45.6	0.0	100.0	54.4	46.9	384
Mother's education										
No education	15.2	13.1	0.5	8.2	62.9	0.2	100.0	37.0	28.7	1,282
Primary incomplete	23.6	17.2	0.6	10.2	48.2	0.3	100.0	51.6	41.4	1,056
Primary complete[1]	32.0	17.0	1.1	11.3	38.5	0.0	100.0	61.5	50.2	451
Secondary incomplete	48.9	17.3	0.4	8.6	24.8	0.0	100.0	75.2	66.6	1,453
Secondary complete or higher[2]	67.4	14.2	0.3	3.9	14.2	0.0	100.0	85.8	82.0	651
Wealth quintile										
Lowest	15.0	15.4	0.4	10.7	58.3	0.2	100.0	41.6	30.8	1,068
Second	19.3	16.7	0.3	11.1	52.4	0.2	100.0	47.4	36.3	1,045
Middle	30.4	17.1	0.4	11.0	41.1	0.0	100.0	58.9	48.0	932
Fourth	46.9	17.6	1.1	6.4	27.9	0.1	100.0	71.9	65.5	958
Highest	71.6	11.6	0.3	2.8	13.6	0.0	100.0	86.4	83.6	902
Total	35.5	15.7	0.5	8.6	39.6	0.1	100.0	60.3	51.7	4,905

Note: If more than one source of ANC was mentioned, only the provider with the highest qualifications is considered in this tabulation. Total includes 12 women with information missing on educational attainment

[1] Includes health assistant (HA), family welfare assistant (FWA), trained and untrained traditional birth attendants (TBAs), unqualified doctor, and other providers

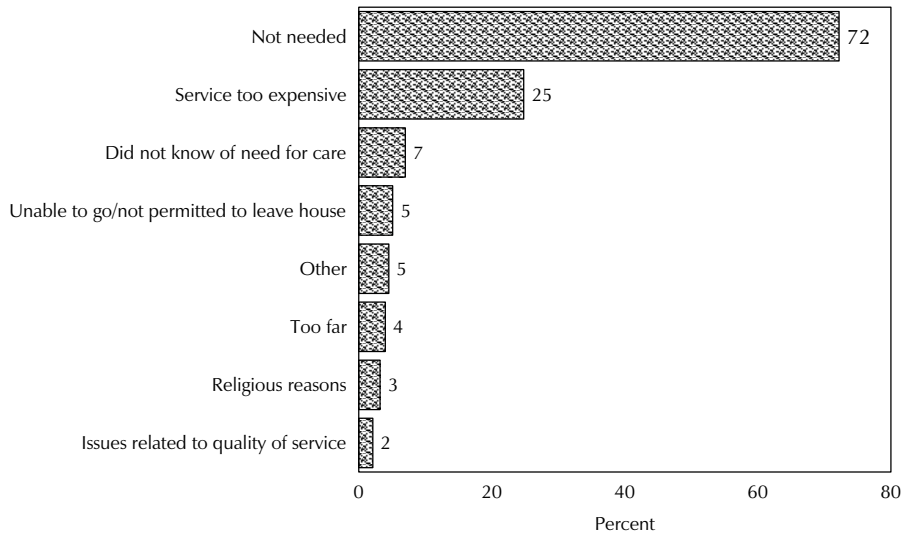
[2] Primary complete is defined as completing grade 5.

[3] Secondary complete is defined as completing grade 10.

FWV = family welfare visitor; CSBA = community skilled birth attendant; MA = medical assistant; SACMO = sub-assistant community medical officer.

Women who had given birth in the last five years but did not receive an antenatal check-up were asked why they did not seek antenatal care. About 72 percent reported that the check-up was not needed (Figure 9.1). Another one in four did not seek antenatal care service because they considered it to be expensive. The other major reasons for not seeking antenatal care were: not knowing that care was needed (7 percent), being unable to go or not being permitted to leave the house (5 percent), distance to the service (4 percent), and religious reasons (3 percent).

Figure 9.1 Reasons for Not Seeing Anyone for Antenatal Care



BDHS 2007

9.1.2 Place of Antenatal Care

The place where a woman receives antenatal care is important because it influences the frequency and quality of antenatal care received. It also helps policymakers decide how to allocate resources. Table 9.2 shows the percentage of women with a birth in the five years preceding the survey who received ANC for the most recent birth, according to the place where they received that care. Because women may visit more than one type of facility for ANC during the same pregnancy, the categories are not mutually exclusive and do not sum to 100 percent. The public sector is the leading source for ANC (44 percent), followed by the private sector (37 percent) and the NGO sector (16 percent). Approximately 12 percent of women received ANC at home.

The place where a woman receives antenatal care varies according to mother's age at birth and the child's birth order. Women under age 20 at the time of birth and those having their first child are more likely to receive ANC from the public sector compared with other women. In contrast, women in urban areas, women who have completed secondary or higher education, and women in the highest wealth quintile are more likely to receive ANC from the private sector. For example, 54 percent of women who completed secondary or higher education received ANC from the private sector compared with just 26 percent of women with no education. Women in the lower four wealth quintiles are more likely to seek ANC from the public sector than the private sector.

Table 9.2 Place of antenatal care

Among women age 15-49 who had a live birth in the five years preceding the survey, the percentage who received antenatal care (ANC) during the pregnancy of the most recent birth by place of ANC care, according to background characteristics, Bangladesh 2007

Background characteristic	Place of antenatal care					Number of women
	Home	Public sector	Private sector	NGO sector	Other	
Mother's age at birth						
<20	12.0	48.2	31.0	17.3	0.9	989
20-34	11.5	41.6	40.7	14.6	1.0	1,850
35-49	12.5	47.1	34.0	14.3	1.0	118
Birth order						
1	9.0	44.5	38.3	17.9	0.9	1,165
2-3	12.9	43.9	37.1	13.8	1.2	1,298
4-5	14.1	43.7	36.3	13.9	0.0	382
6+	17.2	41.9	28.0	14.4	2.7	111
Residence						
Urban	5.6	35.4	45.5	21.6	1.6	787
Rural	13.9	47.1	34.1	13.3	0.7	2,170
Division						
Barisal	12.3	57.1	28.5	11.2	0.8	164
Chittagong	9.0	37.3	49.9	8.7	2.7	621
Dhaka	11.9	37.6	40.0	17.8	0.5	883
Khulna	5.0	58.3	32.9	15.9	0.7	356
Rajshahi	17.1	49.0	25.1	18.9	0.3	723
Sylhet	10.9	39.1	43.1	16.5	0.6	209
Mother's education						
No education	15.6	48.7	26.2	14.7	0.8	474
Primary incomplete	14.7	46.8	28.4	16.2	1.3	545
Primary complete[1]	17.1	42.2	33.3	14.5	0.6	277
Secondary incomplete	10.2	44.4	38.7	16.6	0.7	1,092
Secondary complete or higher[2]	5.3	37.7	54.4	13.4	1.5	559
Wealth quintile						
Lowest	17.1	56.2	18.7	13.6	0.3	444
Second	18.6	51.8	24.5	13.8	1.1	495
Middle	16.7	45.0	32.6	13.4	1.7	549
Fourth	7.9	44.7	41.7	15.6	1.3	689
Highest	4.1	30.8	54.9	19.0	0.5	779
Total	11.7	44.0	37.1	15.5	1.0	2,956

Note: Total includes 9 women with information missing on educational attainment
[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

9.1.3 Number and Timing of Antenatal Visits

The World Health Organization (WHO) recommends that pregnant women make at least four ANC visits, beginning during the first trimester of the pregnancy. A comparison of the 2004 and 2007 BDHS surveys shows that more women are receiving ANC and that they are receiving ANC more often. The proportion of women who made four or more antenatal visits has increased from 16 percent in 2004 to 21 percent in 2007 (Table 9.3). Urban women are two and a half times more likely than rural women to have made four or more antenatal visits. The median number of ANC visits among women who received antenatal care has increased from 2.9 in 2004 to 3.1 in 2007. On average, women residing in urban areas make about one more visit than rural women.

The percentage of women who make their first antenatal care visit during the first trimester has also increased slightly, from 20 percent in 2004 to 24 percent in 2007. The median duration of pregnancy at the first antenatal care visit is 5 months (3.9 months in urban areas and 5.2 months in rural areas).

Table 9.3 Number of antenatal care visits and timing of first visit

Percent distribution of women age 15-49 who had a live birth in the five years preceding the survey by number of antenatal care (ANC) visits for the most recent live birth and by the timing of the first visit, and among women with ANC, median months pregnant at first visit, according to residence, Bangladesh 2007

Number and timing of ANC visits	Residence		Total
	Urban	Rural	
Number of ANC visits			
None	24.1	43.8	39.6
1	12.3	16.7	15.8
2	12.0	13.3	13.0
3	13.3	10.2	10.9
4+	38.3	15.9	20.6
Don't know/missing	0.1	0.2	0.1
Total	100.0	100.0	100.0
Median number of visits (for those with ANC)	4.0	2.9	3.1
Number of months pregnant at time of first ANC visit			
No antenatal care	24.1	43.8	39.6
<4	39.1	20.4	24.4
4-5	20.7	17.9	18.5
6-7	12.3	12.1	12.1
8+	3.9	5.8	5.4
Don't know/missing	0.0	0.1	0.0
Total	100.0	100.0	100.0
Median months pregnant at first visit (for those with ANC)	3.9	5.2	5.0
Number of women with ANC	787	2,170	2,956
Number of women	1,039	3,866	4,905

9.1.4 Components of Antenatal Care

The quality of antenatal care depends on what it includes, and this is crucial for maintaining the health of the mother and the unborn child. Important elements of antenatal care are: providing iron supplements, educating women on the signs of pregnancy complications, performing screening tests including urine and blood tests, and measuring weight gain and blood pressure. Table 9.4 presents information on the percentage of women who received these routine antenatal care services.

Among women with a live birth in the past five years, 55 percent took iron tablets or syrup during the pregnancy preceding the last live birth. There are substantial variations by background characteristics. Women less than 35 years of age at the time of the birth, women pregnant with their first child, urban women, women residing in Rajshahi, Khulna, and Chittagong divisions, women who completed secondary or higher education, and women in the highest wealth quintile are much more likely to have taken iron supplements during their pregnancy than other women.

About 38 percent of women who received antenatal care for their most recent birth reported that they were informed about pregnancy complications during an ANC visit. Four in five women were weighed; almost nine in ten women had their blood pressure measured; about half received a urine test; more than one in three had their blood tested; and almost as many had an ultrasonic test.

Table 9.4 Components of antenatal care

Among women age 15-49 with a live birth in the five years preceding the survey, the percentage who took iron tablets or syrup during the pregnancy of the most recent birth, and among women receiving antenatal care (ANC) for the most recent live birth in the five years preceding the survey, the percentage receiving specific antenatal services, by background characteristics, Bangladesh 2007

Background characteristic	Among women with a live birth in the last five years, the percentage who during the pregnancy of their last birth:		Among women who received ANC for their most recent birth in the last five years, the percentage who received selected services:						
	Took iron tablets or syrup	Number of women with a live birth in the last five years	Informed of signs of pregnancy compli-cations	Weighed	Blood pressure measured	Urine sample taken	Blood sample taken	Ultrasonic test	Number of women
Mother's age at birth									
<20	56.0	1,511	34.5	80.4	84.5	50.8	33.1	29.9	989
20-34	55.6	3,099	39.6	80.7	87.3	55.7	38.9	37.1	1,850
35-49	40.7	296	27.6	72.9	87.9	58.1	36.3	35.0	118
Birth order									
1	63.2	1,566	37.4	84.5	87.0	58.2	44.6	41.9	1,165
2-3	56.8	2,141	39.8	81.3	86.0	52.9	33.4	33.4	1,298
4-5	43.3	843	32.7	69.6	85.5	50.0	29.0	22.1	382
6+	33.3	355	26.3	60.8	87.6	40.6	21.7	15.4	111
Residence									
Urban	65.9	1,039	40.6	88.1	90.9	64.0	52.0	50.8	787
Rural	51.8	3,866	36.3	77.5	84.8	50.6	31.3	28.8	2,170
Division									
Barisal	51.0	313	42.2	75.7	83.5	50.8	30.1	21.5	164
Chittagong	58.4	1,030	37.7	75.9	84.9	56.7	43.6	36.9	621
Dhaka	50.6	1,556	37.0	80.5	88.1	56.8	42.2	45.0	883
Khulna	60.3	503	35.1	82.7	84.7	50.7	29.0	36.0	356
Rajshahi	60.4	1,118	37.5	87.7	86.1	50.5	29.0	23.1	723
Sylhet	41.8	384	38.8	66.4	89.9	57.1	39.7	31.8	209
Mother's education									
No education	34.4	1,282	32.0	69.1	80.9	40.9	19.2	13.1	474
Primary incomplete	51.1	1,056	28.6	76.6	81.9	41.6	22.4	19.4	545
Primary complete[1]	51.1	451	29.8	77.3	84.8	48.2	27.7	22.5	277
Secondary incomplete	65.9	1,453	42.4	83.0	88.0	58.3	41.1	40.2	1,092
Secondary complete or higher[2]	78.9	651	45.2	89.7	93.2	72.8	62.3	63.2	559
Wealth quintile									
Lowest	38.9	1,068	27.4	75.6	84.8	35.9	14.6	10.7	444
Second	45.7	1,045	29.0	72.9	82.6	37.6	18.0	11.5	495
Middle	54.5	932	36.9	77.6	81.9	45.0	24.9	23.1	549
Fourth	62.9	958	43.6	80.3	86.4	62.1	40.7	40.2	689
Highest	75.9	902	43.6	89.6	92.9	74.6	66.4	66.2	779
Total	54.8	4,905	37.5	80.3	86.4	54.2	36.8	34.6	2,956

Note: Total for women with a live birth in the last five years includes 12 women with information missing on educational attainment. Total for women with ANC for their most recent birth includes 9 women with information missing on educational attainment.

[1] Primary complete is defined as completing grade 5

[2] Secondary complete or higher is defined as completing grade 10 or higher

The quality of care received by pregnant women varies by birth order, urban-rural residence, mother's education, and household wealth. For example, women who received ANC during pregnancies resulting in their first live births were more likely to receive most of these services (85 percent were weighed, 58 percent gave a urine sample, 45 percent gave a blood sample, and 42 percent had an ultrasonic test) than women with a higher order pregnancy. Urban women are more likely to receive each of these services than rural women. About 90 percent of women with secondary and higher education were weighed, compared with 69 percent of women with no education. Other services were similarly related to education. The coverage of ANC services also increases with household wealth.

9.1.5 Tetanus Toxoid Injections

Neonatal tetanus is a leading cause of neonatal deaths, especially in developing countries where a high proportion of deliveries are conducted at home or in places where unhygienic conditions prevail. Tetanus toxoid (TT) injections are given to pregnant women to prevent neonatal tetanus. If a woman has received no previous TT injections, she needs two doses of TT during pregnancy for full protection. However, a woman may require only one or no TT injections during pregnancy if she has been vaccinated before, depending on the number and timing of past injections. A total of five doses gives lifetime protection.

The 2007 BDHS collected data on whether or not the women received any TT vaccinations during pregnancy and whether or not the pregnancy was protected against neonatal tetanus. Table 9.5 presents the percentage of women who had a live birth in the five years preceding the survey whose last birth was protected against neonatal tetanus. The last birth for nine out of ten mothers was protected against neonatal tetanus. In addition, nearly three in five mothers received two or more tetanus injections during their last pregnancy.

Younger mothers and those with lower order pregnancies are more likely to have received two or more tetanus injections during their last pregnancy than other women. The relationship between education and receiving two doses of tetanus toxoid during pregnancy is not strong. However, when prior vaccination is taken into account, the proportion of women whose pregnancy was protected against TT increases steadily from 81 percent of women with no education to 97 percent of those who have completed secondary or higher education.

Table 9.5 Tetanus toxoid injections

Among women age 15-49 with a live birth in the five years preceding the survey, the percent distribution by the number of tetanus toxoid (TT) injections during the pregnancy for the last live birth, and the percentage whose last live birth was protected against neonatal tetanus, according to background characteristics, Bangladesh 2007

Background characteristic	Number of TT injections				Total	Percentage whose last birth was protected against neonatal tetanus[1]	Number of women
	None	One injection	Two or more injections	Don't know/ missing			
Mother's age at birth							
<20	12.0	18.4	69.4	0.2	100.0	93.1	1,511
20-34	19.2	25.5	55.4	0.0	100.0	89.8	3,099
35-49	25.6	19.0	54.7	0.7	100.0	79.4	296
Birth order							
1	11.2	17.7	71.0	0.1	100.0	93.7	1,566
2-3	17.1	26.7	56.2	0.1	100.0	91.9	2,141
4-5	23.4	24.0	52.5	0.0	100.0	86.2	843
6+	31.9	20.0	47.6	0.6	100.0	73.8	355
Residence							
Urban	16.5	25.3	58.2	0.0	100.0	92.3	1,039
Rural	17.6	22.2	60.1	0.1	100.0	89.6	3,866
Division							
Barisal	12.2	16.8	70.9	0.0	100.0	89.4	313
Chittagong	18.2	26.5	55.3	0.0	100.0	86.9	1,030
Dhaka	15.8	21.5	62.5	0.2	100.0	91.6	1,556
Khulna	14.1	25.4	60.4	0.0	100.0	92.8	503
Rajshahi	18.0	22.4	59.4	0.2	100.0	93.0	1,118
Sylhet	28.0	21.7	50.3	0.0	100.0	82.4	384
Mother's education							
No education	26.4	17.8	55.7	0.2	100.0	80.8	1,282
Primary incomplete	16.4	22.8	60.5	0.2	100.0	89.8	1,056
Primary complete[2]	16.5	24.1	59.4	0.0	100.0	91.7	451
Secondary incomplete	12.0	24.8	63.1	0.1	100.0	95.5	1,453
Secondary complete or higher[3]	13.5	27.8	58.7	0.0	100.0	96.6	651
Wealth quintile							
Lowest	21.1	20.6	58.3	0.0	100.0	87.0	1,068
Second	18.2	22.9	58.5	0.4	100.0	88.1	1,045
Middle	18.0	21.9	59.8	0.2	100.0	88.5	932
Fourth	15.9	24.3	59.8	0.0	100.0	93.0	958
Highest	12.7	25.0	62.3	0.0	100.0	95.3	902
Total	17.3	22.9	59.7	0.1	100.0	90.2	4,905

Note: Total includes 12 women with information missing on educational attainment
[1] Includes mothers with two injections during the pregnancy of her last birth, or two or more injections (the last within 3 years of the last live birth), or three or more injections (the last within 5 years of the last birth), or four or more injections (the last within ten years of the last live birth), or five or more injections prior to the last birth
[2] Primary complete is defined as completing grade 5.
[3] Secondary complete is defined as completing grade 10.

9.2 DELIVERY CARE

Proper medical attention and hygienic conditions during delivery can reduce the risk of complications and infections that may cause the death or serious illness of the mother and the baby. Hence, it is important to increase the proportion of births delivered in a safe and clean environment and under the supervision of health professionals. The Bangladesh Maternal Health Strategy encourages women to deliver under the care of medically trained birth attendants and is promoting safe motherhood through various activities, especially delivery by skilled birth attendants (SBAs). This section discusses place of delivery and type of assistance during delivery. Data on delivery care were obtained for all births that occurred in the five years preceding the 2007 BDHS.

9.2.1 Place of Delivery

The 2007 BDHS asked women the place of birth of all children born in the five years before the survey. Table 9.6 shows that 15 percent of births in Bangladesh take place at a health facility, about half in the public sector and half in the private/NGO sector. Although the proportion of children delivered at a health facility continues to be low, there has been a considerable increase in institutional deliveries in Bangladesh. They have increased from 4 percent in the 1993-94 BDHS to 9 percent in the 2004 BDHS and to the current level of 15 percent. The increase in institutional births since 2004 is due mostly to the growth in births at private facilities, which has increased from 3 percent to 8 percent since 2004. Births occurring in public health facilities increased only slightly, from 6 percent to 7 percent, over the same period.

Table 9.6 Place of childbirth

Percent distribution of live births in the five years preceding the survey by place of delivery, and percentage delivered in a health facility, according to background characteristics, Bangladesh 2007

Background characteristic	Health facility		Home	Other/ missing	Total	Percentage delivered in a health facility	Number of births
	Public	Private/ NGO					
Mother's age at birth							
<20	7.6	6.6	85.5	0.2	100.0	14.3	2,011
20-34	7.0	8.1	84.4	0.4	100.0	15.2	3,728
35-49	4.0	6.9	88.4	0.7	100.0	10.9	318
Birth order							
1	11.3	12.6	75.8	0.3	100.0	23.9	2,050
2-3	6.4	6.6	86.7	0.3	100.0	13.0	2,577
4-5	2.5	2.7	94.3	0.5	100.0	5.2	1,010
6+	1.6	0.9	96.6	0.9	100.0	2.5	420
Antenatal care (ANC) visits[1]							
None	2.2	1.0	96.7	0.2	100.0	3.1	1,944
1-3	7.3	6.1	86.5	0.0	100.0	13.5	1,944
4+	18.2	27.9	52.9	1.0	100.0	46.1	1,011
Residence							
Urban	13.3	17.4	68.8	0.6	100.0	30.6	1,249
Rural	5.5	5.0	89.2	0.3	100.0	10.5	4,809
Division							
Barisal	4.6	4.9	90.5	0.0	100.0	9.5	383
Chittagong	7.6	6.0	85.7	0.7	100.0	13.6	1,337
Dhaka	7.1	9.8	82.8	0.3	100.0	16.9	1,908
Khulna	11.4	11.1	77.3	0.2	100.0	22.4	578
Rajshahi	6.6	6.6	86.5	0.3	100.0	13.2	1,306
Sylhet	4.0	4.2	91.4	0.4	100.0	8.2	547
Mother's education							
No education	1.2	1.4	97.0	0.4	100.0	2.7	1,658
Primary incomplete	4.5	2.1	93.1	0.2	100.0	6.6	1,331
Primary complete[2]	6.4	3.0	90.4	0.3	100.0	9.4	565
Secondary incomplete	10.7	11.0	77.7	0.5	100.0	21.8	1,730
Secondary complete or higher[3]	16.6	26.3	56.8	0.4	100.0	42.8	757
Wealth quintile							
Lowest	2.5	1.9	95.3	0.2	100.0	4.4	1,367
Second	3.7	1.6	94.4	0.4	100.0	5.2	1,312
Middle	5.5	3.4	91.0	0.1	100.0	8.9	1,173
Fourth	8.9	8.2	82.2	0.7	100.0	17.0	1,149
Highest	17.1	26.3	56.2	0.4	100.0	43.4	1,056
Total	7.1	7.6	85.0	0.4	100.0	14.6	6,058

Note: Total includes 7 births with information missing on number of ANC visits and 17 births with information missing on mother's educational attainment
[1] Includes only the most recent birth in the five years preceding the survey
[2] Primary complete is defined as completing grade 5.
[3] Secondary complete is defined as completing grade 10.

Women are more likely to deliver in a health facility if they are age 20-34 at the time of the birth (15 percent), if they are having their first child (24 percent), or if they have made at least four ANC visits (46 percent). Women in urban areas are three times as likely as women in rural areas to give birth in a health facility. The likelihood of giving birth at a health facility also varies a,mong divisions; women in Sylhet (8 percent) are least likely and women in Khulna (22 percent) are most likely to give birth in a health facility. There is a strong association between giving birth in a health facility and both mother's education and household wealth. Only 3 percent of children of uneducated mothers are born at a health facility, compared with 43 percent of children of mothers who have completed secondary or higher education. Women from the top wealth quintile are almost ten times more likely to deliver at a health facility than women in the bottom quintile.

9.2.2 Assistance during Delivery

Obstetric care from a trained provider during delivery is critical for the reduction of maternal and neonatal mortality. Women who had a live birth in the five years preceding the survey were asked who assisted with the delivery. Table 9.7 shows that only 18 percent of births in Bangladesh are attended by a medically trained provider (MTP), that is, a qualified doctor, nurse, midwife, paramedic, family welfare visitor (FWV), or community skilled birth attendant (CSBA).[1] Additionally, trained traditional birth attendants (TBAs) assist in 11 percent of deliveries. However, more than 60 percent of births in Bangladesh are assisted by *dais* or untrained traditional birth attendants, and 6 percent of deliveries are assisted by relatives, friends, or neighbors.

The type of assistance during childbirth varies with certain background characteristics. Medically assisted births are more common in urban areas (37 percent), among women having their first birth (28 percent), among women who have completed secondary or higher education (47 percent), and among women from the highest wealth quintile (51 percent). Births in Khulna (27 percent) are more likely to be assisted by medically trained personnel than births occurring in the other divisions. Since 2004, births attended by medically trained providers have increased from 13 percent to 18 percent.

9.2.3 Caesarean Section

Table 9.7 also shows the percentage of live births during the five years preceding the survey delivered by caesarean section. The percentage of births by caesarean section is sometimes considered to be a proxy indicator of women's access to skilled care for complicated deliveries. According to the 2007 BDHS, 8 percent of babies born in the five years preceding the survey were delivered by caesarean section. This is an increase of approximately four percentage points from the 2004 BDHS.

Caesarean sections are more common among first births (13 percent), births in urban areas (16 percent), and especially among births in the private sector (67 percent). Education and wealth are associated with caesarean section deliveries; more than one-quarter of women who have completed secondary or higher education and women in the highest wealth quintile delivered by caesarean section, compared with less than 2 percent of women with no education and women in the lowest wealth quintile.

[1] In Bangladesh, although medical assistants (MAs) and sub-assistant community medical officers (SACMOs) are considered medically trained providers for antenatal care and postnatal care, they are not considered medically trained providers for childbirth.

Table 9.7 Assistance during childbirth

Percent distribution of live births in the five years preceding the survey by person providing assistance during childbirth, percentage attended by a medically trained provider, and percentage delivered by caesarean section, according to background characteristics, Bangladesh 2007

Background characteristic	Medically trained providers			Non-medically trained providers						Total	Percentage delivered by a medically trained provider	Percentage delivered by C-section	Number of births
	Qualified doctor	Nurse/ midwife/ paramedic/ FWV	CSBA	Trained TBA	Untrained TBA	Relatives/ friends/ neighbors	Other	No one	Missing				
Mother's age at birth													
<20	12.1	5.7	0.0	11.7	63.3	6.0	0.1	1.2	0.0	100.0	17.8	6.1	2,011
20-34	13.2	5.3	0.1	10.4	62.1	6.4	0.2	2.2	0.1	100.0	18.6	8.4	3,728
35-49	10.1	2.1	0.2	10.2	64.0	7.7	0.1	5.2	0.6	100.0	12.4	6.0	318
Birth order													
1	20.8	7.4	0.0	10.9	55.8	4.1	0.1	0.9	0.0	100.0	28.3	12.7	2,050
2-3	11.1	5.1	0.2	11.2	63.9	7.0	0.2	1.3	0.0	100.0	16.3	6.4	2,577
4-5	4.6	2.8	0.1	10.7	70.2	6.6	0.0	4.7	0.3	100.0	7.5	2.6	1,010
6+	1.9	1.4	0.1	8.9	70.0	11.9	0.0	4.9	0.9	100.0	3.4	1.1	420
Place of delivery													
Public sector	70.7	27.7	0.0	0.3	0.5	0.4	0.0	0.4	0.0	100.0	98.4	34.6	428
Private/NGO sector	88.9	10.5	0.0	0.1	0.0	0.1	0.0	0.4	0.0	100.0	99.3	67.3	459
Respondent's/other home	1.0	2.8	0.1	12.7	73.6	7.4	0.2	2.2	0.0	100.0	3.9	0.0	5,148
Residence													
Urban	26.1	10.4	0.1	11.5	46.2	3.9	0.0	1.7	0.0	100.0	36.7	15.9	1,249
Rural	9.2	3.9	0.1	10.7	66.9	6.9	0.2	2.1	0.1	100.0	13.2	5.4	4,809
Division													
Barisal	7.8	5.4	0.2	9.6	67.8	7.5	0.3	1.4	0.0	100.0	13.4	3.8	383
Chittagong	12.5	5.9	0.1	11.5	64.4	4.4	0.1	1.1	0.0	100.0	18.5	6.5	1,337
Dhaka	14.5	5.1	0.2	15.0	57.8	4.5	0.3	2.5	0.2	100.0	19.8	10.1	1,908
Khulna	16.8	9.8	0.0	5.8	62.5	4.5	0.0	0.6	0.0	100.0	26.5	9.7	578
Rajshahi	11.7	3.7	0.0	8.5	62.6	9.7	0.0	3.7	0.1	100.0	15.4	6.4	1,306
Sylhet	8.1	2.8	0.0	6.3	71.6	10.3	0.1	0.5	0.3	100.0	10.9	4.3	547
Mother's education													
No education	2.6	1.9	0.1	10.4	71.6	8.9	0.1	4.0	0.3	100.0	4.6	1.1	1,658
Primary incomplete	5.0	3.1	0.2	12.4	70.4	6.5	0.3	2.0	0.2	100.0	8.3	2.2	1,331
Primary complete[1]	7.3	5.3	0.0	7.9	70.1	7.6	0.0	1.8	0.0	100.0	12.6	3.7	565
Secondary incomplete	18.9	8.3	0.2	10.9	56.2	4.7	0.0	0.7	0.0	100.0	27.4	11.2	1,730
Secondary complete or higher[2]	38.1	9.2	0.0	11.0	37.8	3.1	0.2	0.5	0.0	100.0	47.3	25.7	757
Wealth quintile													
Lowest	3.5	1.3	0.0	9.0	70.8	12.0	0.0	3.2	0.2	100.0	4.8	1.8	1,367
Second	3.5	2.9	0.2	12.4	71.9	6.1	0.1	2.5	0.3	100.0	6.7	1.9	1,312
Middle	7.0	5.0	0.1	8.5	71.3	6.3	0.2	1.6	0.0	100.0	12.1	3.3	1,173
Fourth	15.2	7.2	0.0	14.6	57.8	3.2	0.2	1.7	0.0	100.0	22.5	8.5	1,149
Highest	39.4	11.3	0.3	9.7	36.0	2.6	0.2	0.5	0.0	100.0	50.9	25.7	1,056
Total	12.7	5.2	0.1	10.8	62.6	6.3	0.1	2.0	0.1	100.0	18.0	7.5	6,058

Note: If the respondent mentioned more than one person attending during delivery, only the most qualified person is considered in this tabulation. Total includes 16 births with "other" for place of delivery, 7 births with information missing on place at delivery and 17 births with information missing on mothers' educational attainment

[1] Primary complete is defined as completing grade 5.

[2] Secondary complete is defined as completing grade 10.

FWV = family welfare visitor; CSBA = community skilled birth attendant ; TBA = traditional birth attendant

9.3 POSTNATAL CARE

Postnatal care is a crucial component of safe motherhood. Postnatal checkups provide an opportunity to assess and treat delivery complications and to counsel mothers on how to care for themselves and their children. A large proportion of maternal and neonatal deaths occur during the 24 hours following delivery. In addition, the first two days following delivery are critical for monitoring complications arising from the delivery. The 2007 BDHS assessed the utilization of postnatal care for the most recent live birth among women who had delivered a child in the five years preceding the survey. Interviewers asked each mother if she and her child had received a health check after the delivery, when this check occurred, and what type of health provider was used.

9.3.1 Postnatal Care Providers for Mothers and Children

Table 9.8.1 shows that in the five years preceding the survey about 30 percent of women received postnatal care following their last birth. The table also presents information on the type of postnatal care provider by mother's background characteristics. Overall, one in five women (21 percent) age 15-49 who had a birth in five years preceding the survey received postnatal care from a medically trained provider following their most recent live birth. Approximately 17 percent of mothers received postnatal care from a qualified doctor; 4 percent of mothers received care from a nurse, midwife, paramedic, or FWV; and 9 percent received care from non-medically trained providers like TBAs, HAs, and FWAs.

Women giving birth for the first time, women who reside in urban areas, women who have completed secondary or higher education, and women from the top wealth quintile are more likely to receive postnatal care from a medically trained provider than other women (Table 9.8.1). Women are also more likely to receive postnatal care from a medically trained provider if they live in Khulna (28 percent) than in other divisions. Findings are similar for the type of provider offering postnatal care to children (Table 9.8.2).

Table 9.8.1 Postnatal checkup: Women

Among women age 15-49 giving birth in the five years preceding the survey, the percent distribution by type of provider of the mother's first postnatal check-up for the last live birth, and the percentage receiving postnatal care from a medically trained provider, according to background characteristics, Bangladesh 2007

Background characteristic	Medically trained provider			Non-medically trained provider[1]	No postnatal checkup[2]	Total	Percentage receiving postnatal care from a medically trained provider	Number of women
	Qualified doctor	Nurse/ midwife/ paramedic/ FWV	CSBA/ MA/ SACMO					
Mother's age at birth								
<20	15.7	4.6	0.1	9.1	70.5	100.0	20.4	1,511
20-34	18.3	3.7	0.4	8.8	68.9	100.0	22.4	3,099
35-49	13.5	1.1	0.2	7.0	78.1	100.0	14.8	296
Birth order								
1	26.3	5.7	0.3	9.0	58.7	100.0	32.3	1,566
2-3	16.0	3.6	0.4	9.1	70.9	100.0	20.0	2,141
4-5	8.1	1.7	0.0	7.9	82.2	100.0	9.9	843
6+	6.2	1.5	0.2	7.5	84.6	100.0	7.9	355
Residence								
Urban	32.0	6.8	0.1	5.6	55.5	100.0	39.0	1,039
Rural	13.2	3.0	0.3	9.6	73.8	100.0	16.5	3,866
Division								
Barisal	14.0	2.8	0.8	8.2	74.2	100.0	17.6	313
Chittagong	18.5	4.4	0.6	9.8	66.7	100.0	23.5	1,030
Dhaka	18.2	4.1	0.1	6.1	71.5	100.0	22.4	1,556
Khulna	22.1	6.0	0.3	13.3	58.3	100.0	28.4	503
Rajshahi	14.5	2.9	0.0	9.3	73.3	100.0	17.3	1,118
Sylhet	13.9	1.9	0.3	9.5	74.3	100.0	16.2	384
Education								
No education	5.3	1.3	0.2	7.1	86.1	100.0	6.8	1,282
Primary incomplete	7.8	1.7	0.1	10.1	80.2	100.0	9.7	1,056
Primary complete[3]	11.3	3.5	0.3	10.7	74.2	100.0	15.1	451
Secondary incomplete	24.0	5.9	0.4	9.2	60.6	100.0	30.3	1,453
Secondary complete or higher[4]	45.2	7.6	0.4	7.7	39.1	100.0	53.2	651
Wealth quintile								
Lowest	6.0	1.4	0.3	7.1	85.3	100.0	7.6	1,068
Second	7.5	2.1	0.4	10.2	79.9	100.0	9.9	1,045
Middle	9.6	3.7	0.2	11.7	74.8	100.0	13.6	932
Fourth	22.0	5.4	0.2	10.8	61.6	100.0	27.6	958
Highest	44.6	7.1	0.3	3.9	44.1	100.0	52.0	902
Total	17.2	3.8	0.3	8.8	69.9	100.0	21.3	4,905

Note: Total includes 12 women with information missing on educational attainment
[1] Includes health assistant (HA), family welfare assistant (FWA), trained and untrained traditional birth attendants (TBAs), unqualified doctor, and other
[2] Includes women who received a checkup after 41 days
[3] Primary complete is defined as completing grade 5.
[4] Secondary complete is defined as completing grade 10.
FWV = family welfare visitor; CSBA = community-skilled birth attendant; MA = medical assistant; SACMO = sub-assistant community medical officer

Table 9.8.2 Type of provider of first postnatal checkup: Children

Among women's most recent live births in the five years preceding the survey, the percent distribution by type of provider of the children's first postnatal checkup, and the percentage of children receiving postnatal care from a medically trained provider, according to background characteristics, Bangladesh 2007

Background characteristic	Medically trained provider			Non-medically trained provider[1]	No postnatal checkup[2]	Total	Percentage receiving postnatal care from a medically trained provider	Number of children
	Qualified doctor	Nurse/ midwife/ paramedic/ FWV	CSBA/ MA/ SACMO					
Mother's age at birth								
<20	16.7	4.2	0.2	10.7	68.3	100.0	21.0	1,511
20-34	19.1	3.6	0.3	9.3	67.6	100.0	23.1	3,099
35-49	12.9	1.4	0.2	5.9	79.6	100.0	14.5	296
Birth order								
1	27.1	5.4	0.3	10.9	56.3	100.0	32.8	1,566
2-3	17.2	3.4	0.4	9.7	69.3	100.0	21.0	2,141
4-5	8.3	1.8	0.1	7.9	81.9	100.0	10.2	843
6+	5.0	1.6	0.2	6.8	86.4	100.0	6.8	355
Residence								
Urban	32.6	7.3	0.0	5.3	54.7	100.0	40.0	1,039
Rural	14.0	2.7	0.3	10.7	72.3	100.0	17.0	3,866
Division								
Barisal	15.1	3.6	1.2	8.7	71.3	100.0	20.0	313
Chittagong	19.3	4.5	0.6	11.0	64.6	100.0	24.4	1,030
Dhaka	18.6	3.8	0.1	5.9	71.6	100.0	22.5	1,556
Khulna	25.0	5.5	0.3	16.5	52.8	100.0	30.7	503
Rajshahi	14.8	2.4	0.0	10.5	72.3	100.0	17.2	1,118
Sylhet	14.0	2.3	0.1	9.4	74.3	100.0	16.4	384
Mother's education								
No education	5.3	1.5	0.1	7.1	86.1	100.0	6.8	1,282
Primary incomplete	7.8	1.8	0.4	9.4	80.6	100.0	10.0	1,056
Primary complete[3]	12.2	3.7	0.3	11.3	72.4	100.0	16.3	451
Secondary incomplete	25.7	5.1	0.5	11.6	57.2	100.0	31.2	1,453
Secondary complete or higher[4]	46.3	7.8	0.1	9.0	36.8	100.0	54.2	651
Wealth quintile								
Lowest	6.2	1.6	0.2	7.6	84.4	100.0	8.0	1,068
Second	7.8	2.1	0.2	11.8	78.1	100.0	10.0	1,045
Middle	11.0	2.6	0.5	11.2	74.7	100.0	14.1	932
Fourth	23.8	5.3	0.3	12.7	57.9	100.0	29.4	958
Highest	44.7	7.3	0.3	4.1	43.6	100.0	52.3	902
Total	18.0	3.7	0.3	9.5	68.6	100.0	21.9	4,905

Note: Total includes 12 children with information missing on mothers' educational attainment
[1] Includes health assistant (HA), family welfare assistant (FWA), trained and untrained traditional birth attendants (TBAs), unqualified doctor, and other
[2] Includes women who received a checkup after 41 days
[3] Primary complete is defined as completing grade 5.
[4] Secondary complete is defined as completing grade 10.
FWV = family welfare visitor; CSBA = community-skilled birth attendant; MA = medical assistant; SACMO = sub-assistant community medical officer

9.3.2 Timing of first Postnatal Checkup of Mothers and Children

Table 9.9.1 shows the timing of the first checkup on the mother's health after the birth of her most recent child. About one in four women received postnatal care within 24 hours of delivery, and 19 percent received care from a medically trained provider within the first two days of delivery.

The proportion of women receiving a postnatal checkup from a medically trained provider within two days of giving birth varies notably by woman's age, birth order, urban-rural residence, division, education, and wealth quintile are pronounced. Women who are under the age 35 at the time of birth, women having their first child, urban women, women who reside in Khulna, highly educated women, and women in the highest wealth quintile are much more likely to receive postnatal care from a medically trained provider within the first two days after delivery than other women.

Table 9.9.1 Timing of first postnatal checkup: Women

Among women age 15-49 giving birth in the five years preceding the survey, the percent distribution of the mother's first postnatal checkup for the last live birth by time after delivery, and the percentage who had a postnatal checkup within two days of delivery, according to background characteristics, Bangladesh 2007

Background characteristic	Timing after delivery of mother's first postnatal checkup				No postnatal checkup[1]	Total	Percentage receiving checkup within 2 days of delivery from any provider	Percentage receiving checkup within 2 days of delivery from a medically trained provider[2]	Number of women
	<4 hours	4-23 hours	Within 1-2 days	Within 3-41 days					
Mother's age at birth									
<20	20.2	3.2	3.0	3.1	70.5	100.0	26.4	17.4	1,511
20-34	21.9	3.9	2.4	3.0	68.9	100.0	28.2	19.5	3,099
35-49	13.7	2.9	0.9	4.3	78.1	100.0	17.6	14.2	296
Birth order									
1	30.2	4.6	3.4	3.1	58.7	100.0	38.2	28.7	1,566
2-3	20.2	3.8	2.2	3.0	70.9	100.0	26.1	17.5	2,141
4-5	11.4	2.1	2.0	2.3	82.2	100.0	15.5	8.1	843
6+	6.7	2.1	1.6	5.0	84.6	100.0	10.4	5.1	355
Residence									
Urban	34.2	5.4	2.7	2.3	55.5	100.0	42.2	35.8	1,039
Rural	17.3	3.2	2.4	3.3	73.8	100.0	22.9	13.9	3,866
Division									
Barisal	14.9	2.2	2.9	5.8	74.2	100.0	20.0	12.9	313
Chittagong	22.1	4.3	4.0	2.8	66.7	100.0	30.5	20.1	1,030
Dhaka	20.5	3.2	1.8	3.1	71.5	100.0	25.4	19.8	1,556
Khulna	33.3	4.9	1.6	1.9	58.3	100.0	39.8	26.7	503
Rajshahi	17.8	4.1	2.4	2.3	73.3	100.0	24.4	15.1	1,118
Sylhet	16.5	1.6	2.3	5.3	74.3	100.0	20.4	13.1	384
Education									
No education	8.5	1.5	1.4	2.5	86.1	100.0	11.4	5.4	1,282
Primary incomplete	11.6	2.9	1.6	3.7	80.2	100.0	16.1	7.8	1,056
Primary complete[3]	14.8	3.9	4.1	3.1	74.2	100.0	22.7	12.5	451
Secondary incomplete	29.5	3.9	3.2	2.9	60.6	100.0	36.5	26.7	1,453
Secondary complete or higher[4]	45.7	8.2	3.4	3.6	39.1	100.0	57.3	47.9	651
Wealth quintile									
Lowest	7.9	1.7	1.9	3.3	85.3	100.0	11.4	5.3	1,068
Second	13.8	1.7	1.6	3.0	79.9	100.0	17.1	7.8	1,045
Middle	15.3	3.6	3.6	2.8	74.8	100.0	22.5	12.2	932
Fourth	26.5	5.2	3.4	3.4	61.6	100.0	35.0	23.5	958
Highest	44.2	6.6	2.1	2.9	44.1	100.0	53.0	47.9	902
Total	20.9	3.6	2.5	3.1	69.9	100.0	27.0	18.5	4,905

Note: Total includes 12 women with information missing on educational attainment
[1] Includes women who received a checkup after 41 days
[2] Includes qualified doctor, nurse, midwife, paramedic, female welfare visitor (FWV), community-skilled birth attendant (CSBA), medical assistant (MA), and sub-assistant community medical officer (SACMO)
[3] Primary complete is defined as completing grade 5
[4] Secondary complete is defined as completing grade 10

Postnatal checkups for infants are slightly more common than postnatal care for women. About 31 percent of most recent live births in the five years preceding the survey received postnatal care. Nineteen percent of children received a checkup from a medical provider within two days of birth. Differentials in the timing of postnatal care for children are comparable to those for mothers (Table 9.9.2).

Table 9.9.2 Timing of first postnatal checkup: Children

Among women's most recent live births in the five years preceding the survey, the percent distribution of the children's first postnatal checkup by timing after delivery, and the percentage of children who had a postnatal checkup within two days of delivery, according to background characteristics, Bangladesh 2007

Background characteristic	Timing after delivery of mother's first postnatal checkup				No postnatal checkup[1]	Total	Percentage receiving checkup within 2 days of delivery from any provider	Percentage receiving checkup within 2 days of delivery from a medically trained provider[2]	Number of children
	<4 hours	4-23 hours	Within 1-2 days	Within 3-41 days					
Mother's age at birth									
<20	20.5	2.6	3.9	4.7	68.3	100.0	26.9	17.4	1,511
20-34	22.1	3.1	2.8	4.5	67.6	100.0	27.9	19.5	3,099
35-49	13.1	2.2	2.5	2.5	79.6	100.0	17.9	14.2	296
Birth order									
1	31.6	3.2	3.9	5.1	56.3	100.0	38.7	28.7	1,566
2-3	19.9	3.4	2.9	4.5	69.3	100.0	26.2	17.5	2,141
4-5	10.5	1.3	2.9	3.3	81.9	100.0	14.8	8.1	843
6+	6.0	1.9	1.9	3.8	86.4	100.0	9.8	5.1	355
Residence									
Urban	34.5	4.0	3.5	3.3	54.7	100.0	42.0	35.8	1,039
Rural	17.4	2.6	3.0	4.7	72.3	100.0	23.0	13.9	3,866
Division									
Barisal	14.6	1.4	3.3	9.4	71.3	100.0	19.3	12.9	313
Chittagong	21.5	4.4	5.3	4.2	64.6	100.0	31.2	20.1	1,030
Dhaka	20.4	1.9	2.4	3.7	71.6	100.0	24.7	19.8	1,556
Khulna	35.2	4.5	2.7	4.9	52.8	100.0	42.3	26.7	503
Rajshahi	18.8	2.9	2.5	3.5	72.3	100.0	24.2	15.1	1,118
Sylhet	15.5	1.7	2.5	6.0	74.3	100.0	19.7	13.1	384
Mother's education									
No education	7.9	1.0	2.3	2.7	86.1	100.0	11.2	5.4	1,282
Primary incomplete	10.9	2.1	1.9	4.5	80.6	100.0	14.8	7.8	1,056
Primary complete[3]	14.0	2.8	3.7	7.1	72.4	100.0	20.5	12.5	451
Secondary incomplete	30.3	3.7	3.8	5.1	57.2	100.0	37.7	26.7	1,453
Secondary complete or higher[4]	47.8	6.0	5.0	4.4	36.8	100.0	58.8	47.9	651
Wealth quintile									
Lowest	7.9	1.3	1.9	4.5	84.4	100.0	11.1	5.3	1,068
Second	13.9	1.3	2.0	4.7	78.1	100.0	17.2	7.8	1,045
Middle	14.6	2.4	3.8	4.4	74.7	100.0	20.8	12.2	932
Fourth	28.5	4.5	3.9	5.2	57.9	100.0	36.8	23.5	958
Highest	43.6	5.3	4.4	3.1	43.6	100.0	53.3	47.9	902
Total	21.0	2.9	3.1	4.4	68.6	100.0	27.0	18.5	4,905

Note: Total includes 12 children with information missing on mothers' educational attainment
[1] Includes children who received a checkup after 41 days
[2] Includes qualified doctor, nurse, midwife, paramedic, female welfare visitor (FWV), community-skilled birth attendant (CSBA), medical assistant (MA), and sub-assistant community medical officer (SACMO)
[3] Primary complete is defined as completing grade 5.
[4] Secondary complete is defined as completing grade 10.

9.3.3 Experience of Complications around Delivery

Women who had a live birth in the five years preceding the survey were asked about health problems they may have experienced around the time of their most recent live birth. Specifically, the 2007 BDHS asked whether women had prolonged labor of over 12 hours, excessive bleeding that was so much they thought they might die, high fever with bad smelling discharge, convulsions, or retained placenta; the survey also asked whether the baby's hands or feet came first during delivery.

Table 9.10 presents information on the percentage of most recent live births in the five years preceding the survey for which mothers reported experiencing maternal complications around the time of delivery. About 15 percent of births had symptoms of at least one of the six specified complications. The most common complication was prolonged labor of over 12 hours, which occurred during 7 percent of births. Excessive bleeding occurred during about 5 percent of births.

Table 9.10 Experience of signs of complications during labor and childbirth

Percentage of women's most recent live births in the five years preceding the survey for which women perceived signs of complications during labor and childbirth, by type of complication, Bangladesh 2007

Complication	Percentage of births
Prolonged labor	6.6
Excessive bleeding	4.7
Foul-smelling discharge with fever	2.6
Convulsion	1.9
Baby's hands/feet came first	1.1
Retained placenta	3.2
At least one of the above six complications	14.5
Two or more of the above six complications	4.1
None of the above six complications	85.5
Number of births	4,905

Compared with the 2004 BDHS, a lower proportion of women reported they experienced any maternity complication (26 percent in 2004 compared with 15 percent in 2007). However, reported complications should not be equated with obstetric complications diagnosed by a medically trained provider.

9.3.4 Treatment Seeking for Signs of Maternal Complications

Table 9.11 provides information on the type of assistance sought for signs of potential maternal complications during labor and childbirth. Treatment was sought from a medically trained provider (qualified doctor, nurse, midwife, paramedic, FWV, CSBA, MA, or SACMO) for two in five births that had signs of maternal complications around delivery. Assistance from a non-medically trained provider, such as a trained HA or FWA, TBA, or unqualified doctor, was sought for 26 percent of births. Untrained providers (untrained TBAs, relatives, and friends) were consulted in 13 percent of births. One in five women with signs of maternal complications did not seek help from anyone.

The likelihood of seeking treatment from a medically trained provider varies by type of complication: one in two women with prolonged labor, one in three women with excessive bleeding, and one in seven women with retained placenta were treated by a doctor or other medically trained provider. Younger women, women giving birth for the first time, women in urban areas, women who have completed secondary or higher education, and women in the highest wealth quintile are more likely than other women to seek treatment from medically trained providers for maternal complications.

The results in Table 11.9 show that the percentage of women reporting maternal complications who sought treatment from medically trained providers increased between the 2004 and 2007 BDHS from 29 to 42 percent. It is not apparent whether women's care seeking has changed notably as the numbers suggest here, or whether the change is due to the decrease in the percentage of women who reported that they experienced maternity complications, as discussed in section 9.3.3.

Table 9.11 Treatment seeking for signs of maternal complications

Percent distribution of women's most recent live births in the five years preceding the survey for which mother experienced signs of at least one complication around the delivery, by the type of assistance sought for the complication, according to specific complication and background characteristics, Bangladesh 2007

Background characteristic	Qualified doctor	Nurse/ midwife/ paramedic/ FWV	CSBA	MA/ SACMO	HA/ FWA	Trained birth attendant	Unqualified doctor	Untrained birth attendant	Relatives and friends	Other	No one	Total	Number of births
Complication													
Prolonged labor only	43.2	5.9	0.0	0.0	0.7	1.6	20.8	6.6	0.3	3.7	17.1	100.0	207
Excessive bleeding only	33.6	2.8	0.0	2.2	0.0	0.0	38.8	0.6	0.4	1.8	19.8	100.0	109
Foul-smelling discharge with fever only	(24.6)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(28.7)	(0.0)	(0.0)	(9.0)	(37.8)	100.0	33
Convulsion only	(43.8)	(20.9)	(0.0)	(0.0)	(2.6)	(0.0)	(12.8)	(0.0)	(0.0)	(5.5)	(14.4)	100.0	25
Baby's hands/ feet came first only	(19.3)	(11.2)	(0.0)	(0.0)	(0.0)	(11.6)	(0.0)	(43.5)	(0.0)	(0.0)	(14.5)	100.0	37
Retained placenta only	11.4	4.9	0.0	0.0	0.0	6.6	18.6	23.2	3.1	5.3	27.0	100.0	95
Two or more of the above six complications	41.5	7.5	0.1	0.8	0.6	1.7	23.8	4.2	0.8	3.4	15.5	100.0	203
Mother's age at birth													
<20	41.0	6.0	0.0	0.0	0.7	0.3	23.8	9.6	0.2	3.1	15.3	100.0	186
20-34	33.7	6.3	0.1	0.8	0.2	3.3	22.9	8.7	0.8	3.8	19.4	100.0	478
35-49	25.4	6.7	0.0	0.0	2.7	2.4	22.3	3.2	3.4	3.8	30.1	100.0	47
Birth order													
1	49.7	5.7	0.0	0.0	0.5	1.8	21.7	9.0	0.2	2.0	9.4	100.0	234
2-3	31.6	5.9	0.0	1.0	0.1	2.7	24.6	10.2	0.8	3.4	19.8	100.0	277
4-5	24.3	7.7	0.2	0.5	0.5	4.5	22.1	6.7	1.1	6.4	26.1	100.0	132
6+	19.9	6.8	0.0	0.9	1.9	0.0	23.6	4.1	2.3	4.6	35.8	100.0	68
Residence													
Urban	51.5	11.5	0.0	0.0	0.2	1.2	11.8	6.0	0.7	1.9	15.2	100.0	141
Rural	31.0	4.9	0.0	0.7	0.6	2.8	25.9	9.2	0.8	4.1	20.0	100.0	570
Division													
Barisal	22.3	7.5	0.0	1.7	0.3	2.7	14.7	9.4	0.7	7.6	33.1	100.0	69
Chittagong	34.7	6.4	0.0	0.9	1.3	0.9	22.0	10.2	1.2	1.9	20.5	100.0	198
Dhaka	38.2	7.9	0.0	0.0	0.0	4.4	23.2	4.6	0.0	2.7	18.9	100.0	189
Khulna	47.8	5.6	0.0	1.4	0.0	0.0	24.5	5.5	0.0	7.0	8.2	100.0	70
Rajshahi	27.4	3.4	0.0	0.0	0.0	4.6	31.7	16.7	2.3	1.5	12.3	100.0	116
Sylhet	40.2	5.5	0.4	0.0	0.9	0.0	18.4	3.5	0.3	7.3	23.5	100.0	69
Mother's education													
No education	19.4	6.9	0.1	0.3	0.7	3.1	25.7	7.5	0.6	3.9	31.8	100.0	193
Primary incomplete	19.0	8.0	0.0	1.0	0.8	0.8	28.0	10.8	1.9	7.2	22.5	100.0	155
Primary complete[1]	37.3	3.4	0.0	0.0	0.3	1.5	18.4	9.6	0.0	2.8	26.8	100.0	77
Secondary incomplete	52.5	6.3	0.0	0.9	0.3	2.6	20.0	7.4	0.8	1.6	7.6	100.0	194
Secondary complete or higher[2]	56.2	4.2	0.0	0.0	0.0	4.5	19.7	8.8	0.0	2.0	4.5	100.0	93
Wealth quintile													
Lowest	18.6	3.1	0.2	0.6	0.0	2.4	27.6	10.2	0.3	6.5	30.5	100.0	152
Second	24.5	4.4	0.0	0.4	1.1	0.9	24.2	9.3	2.0	2.6	30.7	100.0	139
Middle	32.6	6.9	0.0	0.4	0.9	3.4	26.1	8.9	1.0	3.0	16.7	100.0	147
Fourth	43.0	6.8	0.0	0.0	0.4	4.1	25.4	8.2	0.1	4.8	7.1	100.0	158
Highest	61.8	11.1	0.0	1.5	0.0	1.0	8.8	5.7	0.6	0.2	9.2	100.0	115
Total	35.1	6.3	0.0	0.6	0.5	2.5	23.1	8.6	0.8	3.6	19.1	100.0	711

Note: Figures in parentheses are based on 25-49 unweighted cases.
[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.
FWV = family welfare visitor; CSBA = community skilled birth attendant; MA = medical assistant; SACMO = sub-assistant community medical officer; HA = health assistant; FWA = family welfare assistant

9.4 NEWBORN CARE

The primary care of newborns includes cutting the umbilical cord with a clean instrument and keeping the newborn warm. The 2007 BDHS is the first DHS survey in Bangladesh to collect information on newborn care. Women who gave birth in the past three years but did not deliver their last-born child in

a health institution were asked about newborn care practices, including cord cutting and wiping, wrapping, and bathing of the newborn following birth.

9.4.1 Care of the Umbilical Cord

According to the 2007 BDHS, a blade is the most common instrument used to cut the umbilical cord. Relatively few of these blades come from a delivery bag (6 percent); most come from other sources (89 percent). Bamboo strips were used to cut the cord in about 3 percent of births. In more than four in five noninstitutional births, the instrument used to cut the cord was boiled before use (Table 9.12). The use of boiled instruments to cut the umbilical cord was highest among women in urban areas, women who have completed secondary or higher education, and women in the highest wealth quintile. For example, instruments were boiled before the cord was cut in 86 percent of births to mothers who have completed secondary or higher education, compared with 78 percent of births to women with no education.

Table 9.12 Type of instrument used to cut the umbilical cord

Percent distribution of noninstitutional births which were women's most recent live birth in the three years preceding the survey by type of instrument used to cut the umbilical cord, and the percentage of instruments boiled before the cord was cut, according to background characteristics, Bangladesh 2007

Background characteristic	Instrument used to cut the umbilical cord							Total	Percentage of instruments boiled before the cord was cut	Number of births
	Blade from delivery bag	Blade from other source	Bamboo strips	Scissors	Other	Cord was not cut	Don't know			
Mother's age at birth										
<20	7.2	89.0	2.0	0.7	0.2	0.1	0.9	100.0	77.3	988
20-34	6.1	89.5	2.9	0.3	0.1	0.0	1.2	100.0	83.7	1,967
35-49	3.9	88.8	5.1	0.1	1.0	0.0	1.1	100.0	82.9	168
Birth order										
1	7.9	88.1	1.8	0.7	0.0	0.1	1.3	100.0	78.7	912
2-3	6.2	88.9	3.3	0.3	0.4	0.0	1.0	100.0	81.7	1,401
4-5	5.5	91.8	1.8	0.0	0.0	0.0	0.9	100.0	85.6	578
6+	3.2	90.5	4.8	0.0	0.0	0.0	1.5	100.0	82.7	232
Residence										
Urban	7.9	88.6	1.3	0.6	0.1	0.0	1.4	100.0	88.2	547
Rural	6.0	89.4	3.0	0.3	0.2	0.0	1.0	100.0	80.2	2,577
Division										
Barisal	4.1	92.4	1.5	1.3	0.0	0.0	0.6	100.0	78.6	194
Chittagong	5.0	86.9	6.9	0.0	0.1	0.0	1.2	100.0	78.8	669
Dhaka	5.6	92.2	0.3	0.3	0.0	0.0	1.6	100.0	81.1	988
Khulna	9.5	87.7	0.2	1.2	0.0	0.4	1.0	100.0	84.5	266
Rajshahi	7.7	88.4	2.2	0.2	0.7	0.0	0.7	100.0	83.7	741
Sylhet	6.6	86.1	5.8	0.5	0.0	0.0	1.0	100.0	84.1	265
Mother's education										
No education	3.8	89.5	5.1	0.2	0.6	0.0	0.8	100.0	77.8	911
Primary incomplete	6.2	89.3	2.8	0.5	0.0	0.0	1.2	100.0	80.7	737
Primary complete[1]	4.3	92.7	1.3	0.0	0.0	0.0	1.7	100.0	83.2	319
Secondary incomplete	8.8	88.3	1.2	0.3	0.0	0.1	1.2	100.0	84.2	867
Secondary complete or higher[2]	9.3	87.8	1.0	1.2	0.0	0.0	0.7	100.0	86.0	280
Wealth quintile										
Lowest	3.8	93.4	1.8	0.1	0.2	0.0	0.6	100.0	80.9	765
Second	5.5	89.7	3.2	0.3	0.2	0.0	1.0	100.0	80.5	758
Middle	5.5	89.2	4.7	0.0	0.3	0.0	0.3	100.0	79.9	659
Fourth	8.5	86.1	2.1	0.9	0.0	0.2	2.2	100.0	81.3	574
Highest	11.2	85.0	0.8	0.8	0.1	0.0	2.1	100.0	89.0	366
Total	6.3	89.3	2.7	0.4	0.2	0.0	1.1	100.0	81.6	3,123

Note: Total includes 9 births with information missing on mothers' educational attainment
[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

Table 9.13 shows what material was applied to the cord immediately after cutting it, according to the mother's background characteristics. In most cases (56 percent), nothing was applied to the cord after it was cut. When something was applied to the cord, mustard oil with garlic (12 percent) was the most common material, followed by antibiotics, antiseptics, and boric powder (about 8 percent each).

Table 9.13 Application of material after the umbilical cord was cut

Percentage of noninstitutional births which were women's most recent live birth in the three years preceding the survey by material applied to the cord immediately after cutting and tying it, according to background characteristics, Bangladesh 2007

Background characteristic	Material applied to the cord							Number of births
	Antibiotic	Antiseptic	Mustard oil with garlic	Boric powder	Other[1]	Don't know	Nothing applied to cord	
Mother's age at birth								
<20	8.3	7.6	12.3	7.0	11.7	0.9	56.5	978
20-34	8.3	8.2	11.0	8.3	12.3	0.5	55.0	1,943
35-49	3.5	5.9	12.8	5.2	16.1	0.0	60.1	166
Birth order								
1	9.1	6.9	11.8	6.3	12.0	1.2	56.9	898
2-3	8.4	8.1	11.2	8.5	12.1	0.5	55.7	1,388
4-5	6.9	9.1	12.4	8.4	13.2	0.3	53.1	573
6+	4.7	7.6	10.6	7.3	13.0	0.0	58.9	229
Residence								
Urban	8.9	6.4	10.1	9.1	9.8	0.3	58.7	539
Rural	7.9	8.2	11.8	7.4	12.9	0.7	55.2	2,549
Division								
Barisal	8.0	7.6	16.4	1.6	27.0	0.5	45.0	192
Chittagong	4.5	4.1	19.9	3.9	10.4	0.9	58.4	661
Dhaka	7.5	7.6	7.9	11.1	11.9	0.4	57.9	972
Khulna	14.5	11.6	10.9	15.5	10.9	0.1	42.0	263
Rajshahi	10.5	9.7	9.2	6.2	6.1	0.9	60.7	736
Sylhet	5.7	9.8	7.8	5.9	26.8	0.9	49.1	263
Mother's education								
No education	4.5	8.8	10.4	6.8	12.2	0.6	59.4	903
Primary incomplete	8.3	7.0	11.8	7.7	13.6	0.2	55.6	728
Primary complete[2]	6.0	6.8	14.0	10.9	11.7	0.7	54.8	314
Secondary incomplete	12.0	7.8	11.8	7.3	12.1	0.7	54.0	855
Secondary complete or higher[3]	9.3	8.8	11.1	8.7	11.8	1.7	50.1	278
Wealth quintile								
Lowest	6.1	9.6	11.4	5.3	14.3	0.2	56.8	760
Second	8.2	7.7	13.0	8.3	12.6	1.0	54.2	751
Middle	8.7	7.8	11.2	8.2	10.2	0.6	57.3	657
Fourth	9.3	6.3	12.3	8.9	14.2	0.8	52.2	561
Highest	8.9	7.4	8.2	8.8	8.8	0.6	59.6	359
Total	8.1	7.9	11.5	7.7	12.4	0.6	55.8	3,088

Note: Total includes 10 births with information missing on mothers' educational attainment
[1] Includes spirits/alcohol, chewed rice, tumeric juice/powder, ginger juice, shidur, gentian violet (blue ink), and talcum powder, each of which were under 2 percent
[2] Primary complete is defined as completing grade 5.
[3] Secondary complete is defined as completing grade 10.

9.4.2 Wiping, Wrapping and Bathing the Newborn

Newborns should be wiped dry and wrapped within minutes after birth and should not be washed in the first 24 hours in order to reduce the risk of hypothermia. The 2007 BDHS asked when a newborn was first wiped and wrapped, and when it was first washed. Results show that about 41 percent of newborns are not wiped dry, but are washed instead (Table 9.14). Only 6 percent are wiped within the recommended five minutes after birth. There is little variation in early wiping of newborns by background characteristics. Newborns in Chittagong are more likely to be wiped within five minutes of birth (13 percent) than newborns in other divisions (7 percent and lower). Early wiping peaks at 9 percent of children whose mothers have not completed secondary education; it is lower both among less educated

and more educated women. Early wiping of newborns is also higher among children in the top three wealth quintiles compared with those in the lowest two quintiles.

The practice of keeping the newborn warm is not common in Bangladesh. The general practice is to look for clothes after the baby is born, and in most cases families do not have warm clothes ready at the time of delivery. The newborn is kept naked or covered by a thin piece of cloth until the placenta is delivered or the umbilical cord is cut. Table 9.14 shows that 38 percent of newborns are washed first, rather than being wrapped immediately after birth. Only 2 percent are wrapped immediately[2] as recommended, while 40 percent are wrapped ten minutes or more after birth.

Table 9.14 Newborn care practices: Timing of wiping and wrapping

Percent distribution of noninstitutional births which were women's most recent live birth in the three years preceding the survey by timing of wiping and wrapping the newborn, according to background characteristics, Bangladesh 2007

	Timing of wiping after delivery						Timing of wrapping after delivery						
Background characteristic	0-4 minutes	5-9 minutes	10+ minutes	Newborn not wiped before washing	Don't know/ missing	Total	0-4 minutes	5-9 minutes	10+ minutes	Newborn not wrapped before washing	Don't know/ missing	Total	Number of births
Mother's age at birth													
<20	6.0	21.3	30.9	38.5	3.3	100.0	1.7	18.5	41.5	35.6	2.8	100.0	988
20-34	6.3	17.1	31.0	41.9	3.7	100.0	1.9	16.3	39.2	39.5	3.1	100.0	1,967
35-49	6.3	17.6	28.1	42.9	5.0	100.0	1.1	10.3	40.9	41.9	5.8	100.0	168
Birth order													
1	6.8	22.5	32.2	34.4	4.0	100.0	1.5	20.2	41.7	33.0	3.5	100.0	912
2-3	7.0	15.8	32.4	41.0	3.8	100.0	1.9	16.8	40.6	37.6	3.2	100.0	1,401
4-5	3.2	18.3	27.2	48.9	2.5	100.0	1.4	13.0	36.5	46.7	2.4	100.0	578
6+	6.4	19.3	25.0	45.8	3.5	100.0	3.1	11.3	38.3	43.8	3.5	100.0	232
Residence													
Urban	7.3	16.9	30.6	40.7	4.6	100.0	2.4	17.6	38.2	37.3	4.5	100.0	547
Rural	6.0	18.8	30.9	40.9	3.4	100.0	1.6	16.5	40.4	38.6	2.9	100.0	2,577
Division													
Barisal	4.8	13.9	34.1	41.3	5.8	100.0	3.3	12.6	47.0	31.6	5.4	100.0	194
Chittagong	12.9	20.5	31.8	31.7	3.1	100.0	3.5	22.1	42.0	29.3	3.0	100.0	669
Dhaka	3.8	16.2	26.8	49.5	3.6	100.0	1.0	13.7	33.4	49.4	2.6	100.0	988
Khulna	6.5	23.6	27.8	38.2	3.8	100.0	0.7	23.3	41.5	31.6	2.8	100.0	266
Rajshahi	3.5	20.8	39.9	32.1	3.7	100.0	0.7	15.4	49.4	30.8	3.7	100.0	741
Sylhet	6.5	13.0	18.8	58.8	2.8	100.0	3.2	14.0	26.5	53.5	2.8	100.0	265
Mother's education													
No education	3.9	16.8	25.0	50.4	3.9	100.0	1.3	13.1	34.0	47.9	3.7	100.0	911
Primary incomplete	6.4	18.4	30.8	41.9	2.4	100.0	2.0	16.8	41.8	37.1	2.4	100.0	737
Primary complete[1]	5.3	20.2	31.7	41.5	1.3	100.0	1.7	18.0	39.3	39.9	1.2	100.0	319
Secondary incomplete	9.4	19.3	34.3	32.4	4.6	100.0	2.4	19.4	42.9	31.6	3.7	100.0	867
Secondary complete or higher[2]	4.5	19.8	36.7	33.6	5.4	100.0	1.0	18.4	45.4	31.2	4.0	100.0	280
Wealth quintile													
Lowest	4.1	16.0	29.1	47.4	3.3	100.0	1.0	12.8	37.8	45.2	3.2	100.0	765
Second	4.3	19.9	28.9	42.9	3.9	100.0	1.8	15.4	39.0	40.7	3.0	100.0	758
Middle	7.4	19.5	31.3	37.8	4.0	100.0	1.5	19.6	39.8	35.8	3.2	100.0	659
Fourth	8.7	20.0	33.2	35.4	2.7	100.0	2.2	18.5	44.1	33.1	2.2	100.0	574
Highest	8.4	16.2	33.7	37.3	4.5	100.0	3.2	19.5	40.3	32.4	4.6	100.0	366
Total	6.2	18.5	30.8	40.9	3.6	100.0	1.8	16.7	40.0	38.4	3.2	100.0	3,123

Note: Total includes 9 births with information missing on mothers' educational attainment
[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

[2] Immediate wrapping is defined as wrapping within five minutes after birth.

The 2007 BDHS also assessed the timing of a newborn's first bath. Table 9.15 shows that half of newborns are bathed within the first 6 hours of birth, while 62 percent are bathed in the first 24 hours. Only 17 percent of births are first bathed 72 or more hours following birth, which is the recommended practice in Bangladesh. Bathing 72 hours or more after birth is most common among children born to women under age 20, first order births, and births in urban areas. Bathing the newborn at least 72 hours after birth occurs most often in Rajshahi (28 percent) and least often in Dhaka (9 percent). Waiting to give a newborn their first bath is also associated with mother's education. Among women with no education, only 14 percent of births are bathed at least 72 hours after birth, compared with 27 percent of births to women who have completed secondary or higher education (see Table 9.15).

Table 9.15 Newborn care practices: Timing of first bath

Percent distribution of noninstitutional births which were women's most recent live birth in the three years preceding the survey by timing of first bath, according to background characteristics, Bangladesh 2007

Background characteristic	Timing of first bath after delivery							Total	Number of births
	0-5 hours	6-11 hours	12-23 hours	24-71 hours	72+ hours	Baby not bathed[1]	Don't know/ missing		
Mother's age at birth									
<20	48.3	7.6	5.5	19.2	17.9	1.1	0.5	100.0	988
20-34	50.6	6.4	4.8	19.7	16.7	0.8	1.0	100.0	1,967
35-49	62.2	4.7	4.3	13.8	14.9	0.0	0.0	100.0	168
Birth order									
1	45.8	7.8	5.2	19.3	20.4	0.7	0.8	100.0	912
2-3	48.7	6.9	5.3	20.4	17.0	0.7	1.0	100.0	1,401
4-5	58.0	5.2	3.9	18.8	12.4	1.2	0.4	100.0	578
6+	61.5	4.3	5.3	12.5	14.6	1.1	0.7	100.0	232
Residence									
Urban	51.6	5.8	5.0	18.4	18.2	0.3	0.7	100.0	547
Rural	50.3	6.8	5.0	19.4	16.7	0.9	0.8	100.0	2,577
Division									
Barisal	42.0	8.5	6.9	23.9	15.6	1.6	1.6	100.0	194
Chittagong	50.7	8.4	7.9	17.0	15.2	0.5	0.2	100.0	669
Dhaka	65.0	5.6	3.7	14.9	9.4	0.7	0.8	100.0	988
Khulna	34.8	8.2	6.6	31.2	18.1	0.7	0.4	100.0	266
Rajshahi	33.9	6.9	3.9	25.1	28.3	1.0	0.9	100.0	741
Sylhet	64.5	2.6	3.0	8.9	18.0	1.4	1.5	100.0	265
Mother's education									
No education	61.0	5.4	4.1	13.8	13.7	0.9	1.1	100.0	911
Primary incomplete	50.1	6.4	5.7	20.9	16.1	0.5	0.3	100.0	737
Primary complete[2]	49.6	6.1	4.9	18.3	18.3	0.4	2.3	100.0	319
Secondary incomplete	44.7	8.4	5.4	22.4	17.3	1.3	0.5	100.0	867
Secondary complete or higher[3]	37.7	7.0	4.6	23.4	26.5	0.5	0.2	100.0	280
Wealth quintile									
Lowest	55.8	5.2	3.9	18.1	15.4	0.5	1.2	100.0	765
Second	54.3	6.8	4.2	17.4	15.6	1.3	0.5	100.0	758
Middle	48.9	7.2	6.9	21.1	14.2	0.8	0.9	100.0	659
Fourth	43.9	8.3	5.5	19.8	21.6	0.7	0.1	100.0	574
Highest	45.2	5.7	4.8	21.1	20.9	1.1	1.2	100.0	366
Total	50.5	6.7	5.0	19.2	17.0	0.8	0.8	100.0	3,123

Note: Total includes 9 births with information missing on mothers' educational attainment
[1] Majority of cases accounted for by early neonatal deaths
[2] Primary complete is defined as completing grade 5.
[3] Secondary complete is defined as completing grade 10.

CHILD HEALTH 10

This chapter presents findings on several areas of importance to child health, including the vaccination status of children and the prevalence and treatment of important childhood illnesses. Information on vaccination coverage focuses on children age 12-23 months. Overall coverage levels at the time of the survey and by 12 months of age are shown for this age group. In addition, the source of the information—a written vaccination card or the mother's recall—is shown. Knowing how vaccination coverage varies between different subgroups of the population can aid in program planning. Information on vaccination coverage is also important for the monitoring and evaluation of the Expanded Program on Immunization (EPI).

Examining treatment practices and contact with health services for children with the three most important childhood illnesses—diarrhea, acute respiratory infection (ARI), and fever–can help assess national programs aimed at reducing mortality from these illnesses. Information is provided on the prevalence of ARI and fever and the extent to which treatment is sought from medically trained providers, pharmacies, and traditional (unqualified) doctors. Measuring the coverage of oral rehydration therapy (ORT) and increased fluids to treat diarrheal disease can help assess programs that recommend these treatments. Because the appropriate use of zinc can help reduce the severity and duration of diarrheal disease, information is also provided on this treatment.

10.1 VACCINATION OF CHILDREN

Universal immunization of children under one year of age against the six major vaccine-preventable diseases (tuberculosis, diphtheria, pertussis, tetanus, poliomyelitis, and measles) is one of the most cost-effective programs to reduce infant and child morbidity and mortality. The EPI is a priority program for the government of Bangladesh. It follows the international guidelines recommended by the World Health Organization (WHO). According to the guidelines, children are considered fully immunized when they have received one dose of the vaccine against tuberculosis (BCG), three doses each of the vaccine against diphtheria, pertussis and tetanus (DPT), three doses of polio vaccine (excluding polio vaccine given at birth), and one dose of measles vaccine. One dose of BCG is given at birth or at the first contact with health workers; the DPT and polio vaccines require three doses at approximately 6, 10, and 14 weeks of age; and measles vaccine is given soon after 9 months of age. WHO recommends giving children all of these vaccines before their first birthday and recording the vaccinations on a vaccination card given to the parents.

The Government of Bangladesh established the routine EPI program against six vaccine-preventable diseases in 1979. Efforts intensified after 1985 when Bangladesh committed itself to reach universal immunization by 1990 (Jamil et al., 1999). In 2003 the national EPI program incorporated the hepatitis B vaccine with support from the Global Alliance for Vaccination and Immunization (GAVI). The hepatitis B vaccine was initially distributed in seven districts and one city corporation and then gradually expanded to all districts of Bangladesh by October 2005. The hepatitis B vaccine, which is not included in the calculation of full vaccination coverage, is given in three doses along with the doses of the DPT and polio vaccines (EPI, 2004; MOHFW, 2004).

The 2007 BDHS collected data on childhood vaccinations for all surviving children born during the five-year period before the survey. In Bangladesh, immunizations are routinely recorded on a vaccination card. For each child, mothers were asked whether they had the vaccination card and, if so, to

show the card to the interviewer. When the mother was able to show the vaccination card, the dates of vaccinations were transferred from the card to the questionnaire. If the vaccination card was not available (or a vaccination was not recorded), mothers were asked to recall whether the child had received each vaccine.

10.1.1 Vaccination Coverage

Table 10.1 presents information on vaccination coverage according to the source of information. Data are presented for children age 12-23 months, thereby including only those children who have reached the age by which they should be fully vaccinated. The first three rows show the proportion of these children who had been vaccinated at any age up to the time of the survey. These results are presented according to the source of the information used to determine coverage, that is, a vaccination card or mother's report. The last row shows the proportion of children who had been vaccinated by the age of 12 months, the age by which WHO recommends vaccination coverage should be complete.

According to information from both vaccination cards and mothers' reports, 82 percent of Bangladeshi children age 12-23 months are fully vaccinated. This is similar to the level of 81 percent found by the 2006 Bangladesh Multiple Indicator Cluster Survey (MICS) (BBS and UNICEF, 2007). The level of coverage for BCG, three doses of DPT, and three doses of polio vaccine is above 90 percent. Coverage is slightly lower (83 percent) for the measles vaccine. Hepatitis B vaccine coverage ranges from 89 percent for the first dose to 83 percent for the third dose. Only 2 percent of children age 12-23 months have not received any childhood vaccinations.

Vaccinations are most effective when given at the proper age. Therefore, it is recommended that children complete the schedule of immunizations during their first year of life (i.e., by 12 months of age). Overall, 76 percent of children age 12-23 months had received all the recommended vaccinations before their first birthday.

Table 10.1 Vaccinations by source of information

Percentage of children age 12-23 months who received specific vaccines at any time before the survey, by source of information (vaccination card or mother's report), and percentage vaccinated by 12 months of age, Bangladesh 2007

Source of information	BCG	DPT 1	DPT 2	DPT 3	Polio[1] 1	Polio[1] 2	Polio[1] 3	Hepatitis 1	Hepatitis 2	Hepatitis 3	Measles	All basic vaccinations[1]	No vaccinations	Number of children
Vaccinated at any time before survey														
Health card	58.1	58.2	57.7	56.1	58.2	57.7	56.1	56.0	55.5	53.9	52.0	51.8	0.0	667
Mother's report	38.7	38.6	36.7	35.0	39.5	36.6	34.7	32.9	31.2	28.9	31.1	30.0	2.2	479
Either source	96.8	96.8	94.4	91.1	97.7	94.3	90.8	88.9	86.7	82.7	83.1	81.9	2.2	1,146
Vaccinated by 12 months of age[2]	96.8	96.8	93.9	90.0	97.7	93.8	89.7	88.9	86.2	81.4	77.2	76.0	2.2	1,146

[1] BCG, measles, and three doses each of DPT and polio vaccine (excluding polio vaccine given at birth)
[2] For children whose information was based on the mother's report, the proportion of vaccinations given during the first year of life was assumed to be the same as for children with a written record of vaccination.

10.1.2 Differentials in Vaccination Coverage

Table 10.2 shows vaccination coverage rates among children age 12-23 months by selected background characteristics. Vaccination cards were seen for 58 percent of children age 12-23 months. Results indicate that girls and boys are almost equally likely to receive the basic immunizations. Children in urban areas are more likely than other children to be fully vaccinated. Among divisions, the highest

level of coverage is seen in Barisal (90 percent) and the lowest in Sylhet (71 percent). Mother's education is positively associated with children's likelihood of being fully vaccinated: 93 percent of children whose mothers completed secondary or higher education are fully vaccinated, compared with 72 percent of children whose mothers have no education. Children from households in the highest wealth quintile are more likely to be fully vaccinated than children in the lowest quintile (88 versus 80 percent).

Table 10.2 Vaccinations by background characteristics

Percentage of children age 12-23 months who received specific vaccines at any time before the survey (according to a vaccination card or the mother's report), and percentage with a vaccination card, by background characteristics, Bangladesh 2007

Background characteristic	BCG	DPT 1	DPT 2	DPT 3	Polio 1	Polio 2	Polio 3	Hepatitis 1	Hepatitis 2	Hepatitis 3	Measles	All basic vaccinations[1]	No vaccinations	Percentage with vaccination card seen	Number of children
Sex															
Male	96.8	97.1	94.7	91.1	97.8	94.7	90.6	90.1	87.5	83.7	82.1	81.2	2.1	58.3	575
Female	96.7	96.5	94.0	91.2	97.6	93.9	91.0	87.6	85.8	81.8	84.0	82.5	2.3	58.1	572
Birth order															
1	98.5	98.5	96.9	92.1	98.6	96.8	92.0	91.1	89.3	84.3	84.7	83.3	1.2	60.2	425
2-3	96.7	97.0	94.6	92.3	97.9	94.7	92.0	89.3	86.8	83.9	85.4	84.6	2.1	57.9	493
4-5	94.3	94.1	91.0	88.4	96.1	91.0	87.7	86.4	84.2	79.0	77.0	74.7	3.9	56.1	165
6+	91.4	91.4	84.2	82.7	93.3	82.9	81.3	76.6	74.7	73.2	69.4	69.4	5.3	52.9	63
Residence															
Urban	97.3	97.7	95.6	92.3	98.5	95.4	92.0	92.5	89.9	86.8	87.6	86.3	1.2	59.6	274
Rural	96.6	96.5	94.0	90.8	97.4	94.0	90.5	87.7	85.7	81.5	81.6	80.5	2.5	57.8	872
Division															
Barisal	97.7	97.7	95.8	95.5	97.7	95.8	95.5	85.1	82.6	81.5	90.2	90.2	2.3	56.0	69
Chittagong	95.0	95.7	92.6	90.0	95.9	92.4	88.6	86.8	84.3	79.5	79.6	77.2	3.5	54.2	278
Dhaka	97.8	97.5	94.5	91.1	99.2	94.5	91.7	91.6	89.3	85.2	83.3	82.4	0.8	50.7	361
Khulna	99.0	99.0	98.5	94.6	99.7	98.5	94.6	92.5	91.9	88.4	89.6	88.9	0.3	66.5	90
Rajshahi	97.7	97.7	96.0	93.2	97.7	96.0	93.2	90.9	89.2	86.1	86.1	85.6	2.3	69.7	253
Sylhet	92.6	92.6	90.0	82.1	95.2	89.4	80.9	78.1	74.9	69.7	73.1	70.8	4.8	61.6	95
Mother's education															
No education	93.4	94.0	89.0	84.7	95.1	88.7	84.1	84.1	81.0	76.6	73.7	71.7	4.2	56.8	247
Primary incomplete	96.4	96.6	93.1	87.9	97.8	93.0	87.0	85.8	83.6	78.4	79.5	78.2	2.2	55.0	252
Primary complete[2]	97.9	95.6	95.0	92.7	97.9	95.0	92.7	81.2	80.6	78.9	78.8	77.6	2.1	51.5	97
Secondary incomplete	97.5	97.8	96.6	93.6	98.1	96.6	94.1	93.1	90.8	86.6	88.0	87.2	1.9	61.4	384
Secondary complete or higher[3]	100.0	100.0	98.9	98.9	100.0	98.9	98.2	95.2	93.7	91.7	93.7	93.0	0.0	61.2	163
Wealth quintile															
Lowest	97.1	97.1	92.9	92.4	97.9	92.3	91.8	87.1	85.0	82.3	80.2	79.9	1.8	61.5	244
Second	95.4	94.6	90.8	86.5	96.3	90.8	86.1	85.4	82.8	78.7	77.0	75.4	3.3	53.9	226
Middle	96.2	96.2	94.5	89.9	97.1	94.5	89.1	85.5	83.1	78.7	80.1	79.0	2.9	56.3	234
Fourth	97.0	97.7	97.2	92.2	97.9	97.2	93.0	92.6	91.6	85.6	89.5	87.1	2.1	62.8	221
Highest	98.1	98.6	96.8	94.7	99.0	97.0	94.2	94.1	91.4	88.9	89.2	88.4	1.0	56.4	221
Total	96.8	96.8	94.4	91.1	97.7	94.3	90.8	88.9	86.7	82.7	83.1	81.9	2.2	58.2	1,146

Note: Total includes 3 children with information missing on mother's educational attainment

[1] BCG, measles, and three doses each of DPT and polio vaccine (excluding polio vaccine given at birth)

[2] Primary complete is defined as completing grade 5.

[3] Secondary complete is defined as completing grade 10.

10.1.3 Vaccinations in First Year of Life

One way of measuring trends in vaccination coverage is to compare the coverage rates among children of different ages surveyed in the 2007 BDHS. Table 10.3 shows the percentage of children who received vaccinations during the first year of life, by their current age. This type of data can provide information on trends in vaccination coverage over the past four years. Vaccination coverage has remained stable over the past four years. The percentage fully immunized by age 12 months is about the same (76 percent) for children age 48-59 months and those age 12-23 months. Not surprisingly, mothers are more likely to show vaccination cards for children age 12-23 months (58 percent) than for children age 48-59 months (30 percent). Vaccination cards for older children may have been discarded or lost.

Table 10.3 Vaccinations in first year of life

Percentage of children age 12-59 months at the time of the survey who received specific vaccines by 12 months of age, and percentage with a vaccination card, by current age of child, Bangladesh 2007

Age in months	BCG	DPT 1	DPT 2	DPT 3	Polio 1	Polio 2	Polio 3	Hepatitis 1	Hepatitis 2	Hepatitis 3	Measles	All basic vaccinations[1]	No vaccinations	Percentage with a vaccination card seen	Number of children
12-23	96.8	96.8	93.9	90.0	97.7	93.8	89.7	88.9	86.2	81.4	77.2	76.0	2.2	58.2	1,146
24-35	97.2	96.3	94.3	90.7	97.4	94.9	91.3	62.5	61.2	57.7	81.0	79.4	2.0	48.6	1,176
36-47	95.3	94.8	92.2	85.8	96.7	93.5	87.6	23.4	21.9	20.3	74.0	72.0	3.1	36.1	1,129
48-59	94.4	93.3	91.0	86.9	96.0	92.1	88.3	10.3	9.3	8.6	77.1	75.7	3.7	29.9	1,163
Total	95.9	95.3	92.9	88.4	97.0	93.6	89.2	46.6	45.0	42.3	77.6	76.0	2.7	43.2	4,614

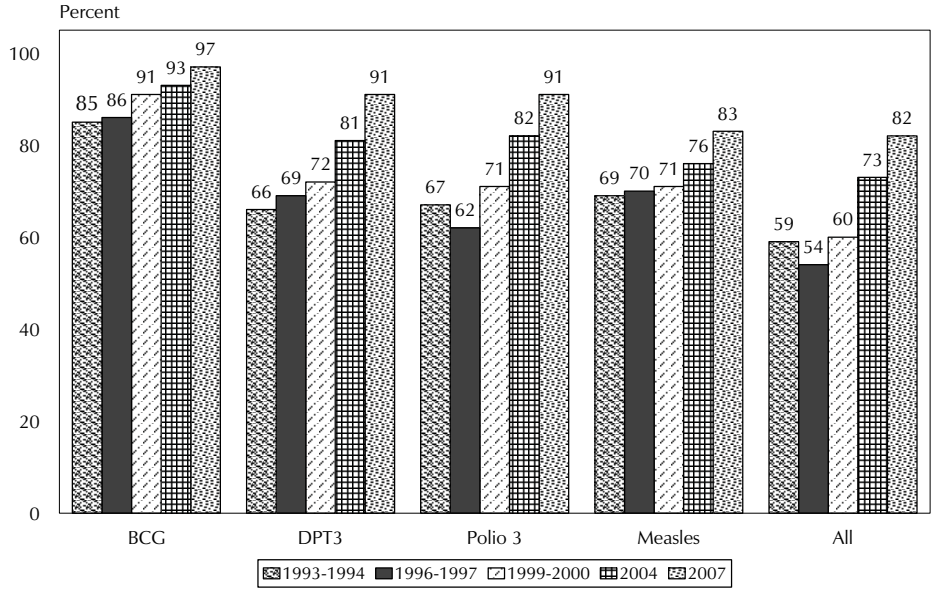
Note: Information was obtained from the vaccination card or if there was no written record, from the mother. For children whose information was based on the mother's report, the proportion of vaccinations given during the first year of life was assumed to be the same as for children with a written record of vaccinations.

[1] BCG, measles, and three doses each of DPT and polio vaccine (excluding polio vaccine given at birth)

10.1.4 Trends in Vaccination Coverage

As noted above, cohort data from the 2007 BDHS shows relatively stable vaccination coverage at 12 months of age over the past four years. In contrast, comparing the 2007 BDHS with previous BDHS surveys shows continued improvement in vaccination coverage (Figure 10.1). The proportion fully vaccinated among children age 12-23 months has increased by nine percentage points since 2004 (from 73 percent to 82 percent). This trend is the result of increases in all of the basic vaccinations, in addition to a continued decline in dropout rates from the first to the third doses for polio and DPT vaccines. Improvements in vaccination coverage have occurred in all divisions, but the greatest increase has taken place in Barisal (18 percentage points).

Figure 10.1 **Trends in Vaccination Coverage Among Children Age 12-23 Months**



10.2 CHILDHOOD ILLNESS AND TREATMENT

This section discusses three illnesses that are major contributors to childhood morbidity and mortality in Bangladesh: childhood diarrhea, acute respiratory infection (ARI), and fever. Estimates of the prevalence of these illnesses as well as data concerning types of treatment and feeding practices during diarrhea are presented.

10.2.1 Childhood Diarrhea

Diarrhea remains a leading cause of childhood morbidity and mortality in developing countries. Dehydration caused by severe diarrhea is a major cause of illness among young children, although the condition can be easily treated with oral rehydration therapy (ORT). During diarrhea, the child is given a solution that can be prepared by mixing water with a commercially prepared packet of oral rehydration salts (ORS)—called *khabar,* or packet saline, in Bangladesh—or by making a homemade mixture of sugar, salt, and water—called *labon gur*. Oral rehydration packets are available through health facilities and at shops and pharmacies, many of which are supplied by the Social Marketing Company (SMC).

Research has shown that zinc provides a very effective treatment for diarrhea among children under five years of age. Zinc treatment reduces the severity and duration of diarrhea as well as the likelihood of future episodes of diarrhea and the need for hospitalization. Studies conducted at the ICDDR,B: International Center for Diarrhoeal Disease Research, Bangladesh, have helped to build an evidence base for integrating zinc treatment into current child health practice and policies (ICDDR,B, 2008). WHO and UNICEF now recommend including zinc in the management of all acute or persistent cases of diarrhea in children under five years of age. ICDDR,B and its partners have been working to build awareness of zinc through the mass media and also have been distributing zinc tablets and syrups through private outlets.

The 2007 BDHS asked mothers if each child under age five had experienced an episode of diarrhea in the two weeks before the survey. If the child had had diarrhea during this period, the mother was asked what she did to treat the diarrhea. Because the prevalence of diarrhea varies seasonally, the survey results pertain only to the period from March through August when the fieldwork took place.

Table 10.4 presents information on recent episodes of diarrhea among young children. Overall, 10 percent of children under five were reported to have had diarrhea in the two-week period before the survey. The prevalence of diarrhea is highest at age 6-23 months, a period during which solid foods are first introduced into the child's diet. This pattern is believed to be associated with increased exposure to illness as a result of both weaning and the greater mobility of the child, as well as with the immature immune system of children in this age group. The prevalence of diarrhea is slightly higher among boys, children living in Chittagong, Sylhet, and Dhaka divisions, children whose source of drinking water is not improved, and children living in households with non-improved or shared toilet facilities than among other children. The relationship with education and wealth is not linear, but prevalence was lowest among children of mothers who had completed secondary or higher education and children living in the wealthiest households.

10.2.2 Treatment of Diarrhea

Table 10.5 shows data on the treatment of recent episodes of diarrhea among children under age five, as reported by their mothers. Overall, one in five children with diarrhea was taken to a medically trained health provider for advice or treatment. Children under two years of age, girls, children who live in urban areas, children living in Khulna, children whose mothers have at least some secondary education, and children from households in higher wealth quintiles were more likely than other children to visit a health professional or a health facility for treatment of diarrhea.

Table 10.4 Prevalence of diarrhea

Percentage of children under age five who had diarrhea in the two weeks preceding the survey, by background characteristics, Bangladesh 2007

Background characteristic	Percentage with diarrhea in the two weeks preceding the survey	Number of children
Age in months		
<6	4.6	485
6-11	13.9	620
12-23	14.2	1,146
24-35	10.2	1,176
36-47	7.6	1,129
48-59	7.0	1,163
Sex		
Male	11.0	2,844
Female	8.5	2,875
Source of drinking water[1]		
Improved	9.7	5,546
Not improved	12.3	173
Toilet facility[2]		
Improved, not shared	8.7	1,387
Non-improved or shared	10.1	4,331
Residence		
Urban	10.2	1,196
Rural	9.7	4,523
Division		
Barisal	9.2	362
Chittagong	10.9	1,254
Dhaka	10.6	1,816
Khulna	8.7	552
Rajshahi	7.6	1,237
Sylhet	10.7	498
Mother's education		
No education	10.0	1,538
Primary incomplete	10.7	1,255
Primary complete[3]	10.4	534
Secondary incomplete	9.3	1,641
Secondary complete or higher[4]	8.5	735
Wealth quintile		
Lowest	10.2	1,281
Second	9.6	1,240
Middle	11.2	1,099
Fourth	9.6	1,083
Highest	8.1	1,015
Total	9.8	5,719

Note: Total includes 16 children with information missing on mother's educational attainment.
[1] See Table 2.4 for definition of categories.
[2] See Table 2.5 for definition of categories.
[3] Primary complete is defined as completing grade 5.
[4] Secondary complete is defined as completing grade 10.

Eighty-five percent of children with diarrhea were given ORT or increased fluids. More than three-fourths of children with diarrhea received ORS, while one-fifth received homemade sugar, salt, and water solutions. Overall, 81 percent were given either form of ORT. About one in two children were given increased liquids. Use of ORT or increased fluids is lower in Sylhet and Chittagong than in the other divisions. Nearly one in ten children took antibiotics, and a similar proportion of children were given nothing to treat the diarrhea. Since 2004 the use of commercially available ORS packets has increased by ten percentage points, from 67 percent to 77 percent, but the percentage of children receiving homemade solution has changed little. The percentage of children receiving increased fluids has decreased slightly since 2004.

Table 10.5 Diarrhea treatment

Among children under age five who had diarrhea in the two weeks preceding the survey, the percentage for whom advice or treatment was sought from a health facility or provider, the percentage given oral rehydration therapy (ORT), the percentage given increased fluids, the percentage given ORT or increased fluids, and the percentage who were given other treatments, by background characteristics, Bangladesh 2007

Background characteristic	Percentage of children with diarrhea for whom advice or treatment was sought from a health facility or provider[1]	Oral rehydration therapy (ORT)			Increased fluids	Received ORS, RHF, or increased fluids	Other treatments			No treat-ment	Number of children
		ORS packets	Recom-mended home fluids (RHF)	Either ORS or RHF			Antibiotic pill or syrup	Unknown pill or syrup	Home remedy		
Age in months											
<6	*	*	*	*	*	*	*	*	*	*	22
6-11	24.1	79.9	21.2	87.9	47.3	89.1	14.5	17.8	1.4	6.8	86
12-23	27.4	75.5	14.2	79.7	52.3	87.4	9.5	15.9	1.1	7.2	163
24-35	16.4	81.5	28.1	85.3	57.6	88.5	10.3	15.0	3.3	9.5	120
36-47	15.1	82.3	23.2	86.1	37.2	86.7	7.6	12.8	0.0	8.4	86
48-59	7.6	68.8	18.4	73.6	42.9	78.3	6.8	13.8	1.6	11.1	81
Sex											
Male	16.5	77.7	20.2	80.9	49.1	85.2	8.7	16.8	1.4	8.6	314
Female	24.1	75.3	19.1	81.6	46.9	85.2	11.1	12.4	1.6	10.0	245
Residence											
Urban	27.4	80.6	8.8	81.2	46.8	85.5	15.3	13.5	1.1	9.0	122
Rural	17.7	75.5	22.8	81.2	48.5	85.1	8.2	15.3	1.6	9.3	437
Division											
Barisal	23.6	69.7	16.5	76.4	65.5	87.2	15.4	14.9	4.3	8.2	33
Chittagong	18.9	65.8	22.8	72.3	44.1	77.9	11.8	15.8	4.0	15.3	137
Dhaka	17.3	83.6	19.2	86.5	54.8	90.0	12.0	14.1	0.3	5.1	193
Khulna	30.4	83.9	13.0	87.9	47.9	87.9	9.7	9.0	1.7	8.0	48
Rajshahi	17.3	83.5	25.7	88.8	45.1	90.8	3.1	19.5	0.0	3.8	94
Sylhet	23.8	65.1	11.3	68.6	28.9	73.2	4.8	12.7	0.0	19.6	53
Mother's education											
No education	14.3	72.4	22.4	78.9	45.2	85.0	6.4	18.1	2.3	12.0	153
Primary incomplete	18.7	75.6	23.8	82.0	49.8	85.5	11.9	12.9	0.4	5.9	134
Primary complete[2]	18.8	66.1	16.0	71.6	45.0	76.1	11.0	10.4	1.5	18.8	55
Secondary incomplete	24.4	82.5	12.1	83.7	48.1	86.5	11.0	14.9	2.2	6.9	153
Secondary complete or higher[3]	25.8	84.2	26.5	87.3	54.9	90.1	9.1	15.3	0.0	6.6	63
Wealth quintile											
Lowest	10.8	68.7	22.0	75.0	42.7	78.7	4.6	18.0	2.8	12.6	130
Second	15.6	82.2	24.2	85.8	47.3	90.2	9.2	14.9	1.0	9.2	119
Middle	20.6	73.0	19.5	79.3	52.1	85.5	11.2	17.2	2.1	6.1	123
Fourth	26.4	79.8	17.4	82.3	53.1	84.9	13.7	7.6	0.8	9.8	104
Highest	30.8	82.4	12.8	85.9	45.6	88.2	11.6	15.7	0.0	7.8	83
Total	19.8	76.6	19.7	81.2	48.1	85.2	9.7	14.9	1.5	9.2	559

Note: ORT includes solution prepared from oral rehydration salt (ORS) and recommended home fluids (RHF). An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed. Total includes 1 child with information missing on mother's educational attainment

[1] Excludes pharmacy, shop and traditional practitioner

[2] Primary complete is defined as completing grade 5.

[3] Secondary complete is defined as completing grade 10.

Among other diarrheal treatments, zinc is available in the market in the form of tablets and syrup. Zinc is not a substitute for ORT but when taken in addition to ORT, it reduces the severity and duration of diarrhea. Table 10.6 shows diarrhea treatment by ORT, zinc, and both ORT and zinc. Three-fifths of children under five with diarrhea received ORT only, 3 percent received zinc only, and 20 percent received both ORT and zinc. Overall, 81 percent of children received ORT, while 23 percent received zinc. The results show that children who receive zinc also tend to receive ORT. However, only about one in four children who received ORT also received zinc. Children living in urban areas and in Dhaka and Khulna divisions are more likely to have received both ORT and zinc. Children whose mothers completed secondary or higher education and those in the highest wealth quintile were more likely to receive both ORT and zinc than children of mothers with no education and children in the lowest wealth quintile.

10.2.3 Feeding Practices during Diarrhea

Mothers are encouraged to continue feeding children with diarrhea normally and to increase the amount of fluids they offer. The 2007 BDHS asked mothers who had a child under age five with a recent episode of diarrhea how much they gave the child to drink and eat during the diarrheal episode compared with usual practice. Table 10.7 shows that 48 percent of children with diarrhea received more fluids than usual, while 27 percent were given the same amount of fluids as usual. About one in four mothers still engages in the dangerous practice of curtailing fluid intake when their children have diarrhea. The percentage of children with diarrhea receiving more liquids than usual has decreased slightly over the last three years, from 52 percent in 2004 to 48 percent in 2007.

Table 10.6 Diarrhea treatment with ORT and zinc

Among children under age five who had diarrhea in the two weeks preceding the survey, percentage who received oral rehydration therapy (ORT) but not zinc syrup or tablets, percentage who received zinc but not ORT, and percentage who received both ORT and zinc, Bangladesh 2007

Background characteristic	ORT[1] but not zinc	Zinc syrup/ tablets but not ORT	ORT and zinc	Number of children
Age in months				
<6	*	*	*	22
6-11	69.8	2.9	18.1	86
12-23	52.8	4.3	26.9	163
24-35	65.2	1.5	20.1	120
36-47	65.6	0.5	20.4	86
48-59	66.5	2.5	7.1	81
Sex				
Male	61.2	1.8	19.6	314
Female	60.2	3.3	21.4	245
Residence				
Urban	49.8	1.7	31.4	122
Rural	63.9	2.7	17.3	437
Division				
Barisal	66.4	2.5	10.0	33
Chittagong	55.2	5.2	17.2	137
Dhaka	59.5	1.9	26.9	193
Khulna	62.6	0.0	25.3	48
Rajshahi	71.5	1.9	17.3	94
Sylhet	55.9	0.8	12.6	53
Mother's education				
No education	63.0	1.6	16.0	153
Primary incomplete	61.1	0.5	20.9	134
Primary complete[2]	55.1	4.3	16.5	55
Secondary incomplete	62.1	4.5	21.5	153
Secondary complete or higher[3]	57.4	2.4	30.0	63
Wealth quintile				
Lowest	64.0	1.4	11.0	130
Second	68.4	0.0	17.4	119
Middle	53.6	4.3	25.7	123
Fourth	60.9	5.0	21.4	104
Highest	55.5	1.8	30.4	83
Total	60.8	2.5	20.4	559

Note: An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed. Total includes 1 child with information missing on mother's educational attainment

[1] ORT includes solution prepared from oral rehydration salt (ORS) and recommended home fluids (RHF).

[2] Primary complete is defined as completing grade 5.

[3] Secondary complete is defined as completing grade 10.

Table 10.7 Feeding practices during diarrhea

Percent distribution of children under age five who had diarrhea in the two weeks preceding the survey by amount of liquids and food offered compared with normal practice, the percentage of children given increased fluids and continued feeding during the diarrhea episode, and the percentage of children who continued feeding and were given ORT and/or increased fluids during the episode of diarrhea, by background characteristics, Bangladesh 2007

Background characteristic	Amount of liquids offered							Amount of food offered							Percentage given increased fluids and continued feeding[1, 2]	Percentage who continued feeding and were given ORT and/or increased fluids[3]	Number of children with diarrhea
	More	Same as usual	Some-what less	Much less	None	Don't know/ missing	Total	More	Same as usual	Some-what less	Much less	None	Never gave food	Total			
Age in months																	
<6	*	*	*	*	*	*	100.0	*	*	*	*	*	*	100.0	*	*	22
6-11	47.3	35.0	11.6	5.1	1.1	0.0	100.0	13.4	31.7	35.9	10.7	2.6	5.8	100.0	35.9	74.2	86
12-23	52.3	23.1	16.2	8.4	0.0	0.0	100.0	16.4	29.6	29.1	24.0	0.5	0.5	100.0	37.9	64.8	163
24-35	57.6	17.4	16.1	8.1	0.8	0.0	100.0	20.9	30.8	33.8	13.5	0.0	1.1	100.0	48.8	76.0	120
36-47	37.2	23.5	21.0	18.3	0.0	0.0	100.0	7.0	25.3	43.9	23.8	0.0	0.0	100.0	29.7	63.6	86
48-59	42.9	39.9	14.0	3.2	0.0	0.0	100.0	12.9	42.6	32.6	11.9	0.0	0.0	100.0	34.6	66.4	81
Sex																	
Male	49.1	27.9	15.9	6.8	0.3	0.0	100.0	15.9	33.9	33.0	14.3	0.9	2.1	100.0	39.7	70.7	314
Female	46.9	24.8	15.7	10.8	1.0	0.7	100.0	14.3	29.5	32.7	21.1	1.4	1.0	100.0	35.6	64.6	245
Residence																	
Urban	46.8	27.8	17.0	7.3	1.2	0.0	100.0	15.3	28.4	37.7	15.4	2.2	1.1	100.0	36.1	69.5	122
Rural	48.5	26.2	15.5	8.9	0.4	0.4	100.0	15.2	32.9	31.6	17.8	0.8	1.8	100.0	38.4	67.6	437
Division																	
Barisal	65.5	15.2	10.3	9.0	0.0	0.0	100.0	31.0	16.6	34.5	15.9	2.0	0.0	100.0	56.3	75.7	33
Chittagong	44.1	30.0	14.1	9.4	1.0	1.3	100.0	11.6	30.8	37.6	16.6	1.9	1.5	100.0	35.9	61.3	137
Dhaka	54.8	21.3	11.8	11.6	0.5	0.0	100.0	15.7	31.1	34.0	15.8	1.1	2.4	100.0	43.3	71.8	193
Khulna	47.9	26.6	21.9	1.6	2.0	0.0	100.0	13.3	35.6	29.7	15.8	1.7	3.9	100.0	31.3	69.7	48
Rajshahi	45.1	32.3	20.2	2.4	0.0	0.0	100.0	18.5	38.2	21.5	21.8	0.0	0.0	100.0	35.3	72.8	94
Sylhet	28.9	33.5	25.0	12.6	0.0	0.0	100.0	8.7	33.2	38.6	18.5	0.0	1.0	100.0	22.6	57.0	53
Mother's education																	
No education	45.2	28.6	13.7	11.3	0.0	1.2	100.0	16.7	30.5	30.8	18.2	1.3	2.5	100.0	36.3	66.6	153
Primary incomplete	49.8	27.2	17.9	4.4	0.7	0.0	100.0	10.3	38.8	28.0	20.7	0.7	1.5	100.0	35.8	65.3	134
Primary complete[4]	45.0	29.7	16.1	9.2	0.0	0.0	100.0	16.6	31.8	34.5	14.9	0.0	2.2	100.0	40.9	62.4	55
Secondary incomplete	48.1	25.8	16.4	8.6	1.2	0.0	100.0	17.7	27.4	38.3	14.2	1.0	1.3	100.0	37.0	71.8	153
Secondary complete or higher[5]	54.9	19.5	14.1	10.7	0.8	0.0	100.0	14.6	32.2	33.2	17.3	2.6	0.0	100.0	46.4	72.7	63
Wealth quintile																	
Lowest	42.7	25.1	15.8	14.3	0.7	1.4	100.0	15.1	30.2	26.1	24.9	0.9	2.8	100.0	32.0	57.0	130
Second	47.3	31.1	11.6	10.0	0.0	0.0	100.0	8.4	35.4	38.4	16.7	0.7	0.4	100.0	39.9	72.8	119
Middle	52.1	30.3	10.9	6.7	0.0	0.0	100.0	16.1	36.8	29.6	14.4	0.5	2.7	100.0	40.7	69.6	123
Fourth	53.1	19.4	23.5	3.1	0.9	0.0	100.0	22.9	28.8	34.7	11.9	0.9	0.8	100.0	43.7	73.0	104
Highest	45.6	25.6	19.7	7.4	1.7	0.0	100.0	13.9	26.4	38.4	17.2	3.2	0.9	100.0	32.9	69.8	83
Total	48.1	26.6	15.8	8.6	0.6	0.3	100.0	15.2	31.9	32.9	17.3	1.1	1.6	100.0	37.9	68.0	559

Note: An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed. Total includes 1 child with information missing on mother's educational attainment.
[1] Equivalent to the UNICEF/WHO indicator "Home management of diarrhea" and MICS Indicator 34
[2] Continued feeding includes children who were given more, same as usual, or somewhat less food during the diarrhea episode.
[3] Equivalent to UNICEF MICS Indicator 35
[4] Primary complete is defined as completing grade 5.
[5] Secondary complete is defined as completing grade 10.

10.2.4 Acute Respiratory Infections (ARI)

Acute respiratory infections (ARI), primarily pneumonia, are a leading cause of childhood morbidity and mortality throughout the world. Early diagnosis and treatment with antibiotics can reduce the number of deaths caused by ARI, particularly deaths resulting from pneumonia. The 2007 BDHS estimated the prevalence of ARI according to a new, more restricted definition: interviewers asked mothers whether their children under age five had been ill in the two weeks preceding the survey with a cough accompanied by short, rapid breathing or difficulty breathing which the mother considered to be chest-related. These symptoms are considered to be a proxy for pneumonia.

Table 10.8 shows that 5 percent of children under age five had symptoms of ARI, that is, cough as a result of a problem in the chest, at some time in the two weeks preceding the survey. The prevalence of ARI decreases slightly with the increasing age of the child. Children living in rural areas are more likely to suffer from ARI than children living in urban areas. Children living in households that burn wood, agricultural crops, straw, shrubs, or grass as cooking fuel are more likely to suffer from the

Table 10.8 Prevalence and treatment of symptoms of ARI

Among children under age five, the percentage who had symptoms of acute respiratory infection (ARI) in the two weeks preceding the survey, and among children with symptoms of ARI, the percentage for whom advice or treatment was sought from a health facility or provider, according to background characteristics, Bangladesh 2007

Background characteristic	Children under age five		Children under age five with symptoms of ARI					
	Percentage with symptoms of ARI[1]	Number of children	Percentage for whom advice or treatment was sought from a health facility or provider[2]	Pharmacy	Traditional doctor	Other	No one	Number of children
Age in months								
<6	6.6	485	(46.5)	(22.8)	(10.6)	(10.1)	(15.3)	32
6-11	5.8	620	(26.2)	(31.9)	(22.9)	(4.0)	(20.3)	36
12-23	6.0	1,146	36.6	32.1	22.1	0.9	11.1	69
24-35	5.0	1,176	51.5	21.0	18.4	2.9	8.9	59
36-47	4.1	1,129	(32.3)	(32.9)	(16.9)	(8.1)	(13.5)	46
48-59	3.0	1,163	(22.8)	(36.1)	(32.4)	(0.0)	(10.6)	35
Sex								
Male	5.2	2,844	40.8	26.1	20.1	3.4	11.6	149
Female	4.4	2,875	32.8	33.0	20.9	4.4	13.9	128
Cooking fuel								
LPG/ natural gas/ biogas	2.2	451	*	*	*	*	*	10
Wood	5.0	2,677	39.8	32.9	20.5	1.4	9.0	133
Agricultural crop, straw/ shrubs/grass	5.3	2,169	31.9	25.6	22.7	5.8	17.6	115
Animal dung	3.8	407	*	*	*	*	*	15
Other	(20.5)	14	*	*	*	*	*	3
Residence								
Urban	3.3	1,196	56.6	20.6	7.1	3.2	14.1	40
Rural	5.2	4,523	33.8	30.7	22.8	4.0	12.4	237
Division								
Barisal	4.8	362	(45.1)	(10.6)	(12.4)	(8.7)	(26.8)	17
Chittagong	5.4	1,254	34.4	32.1	22.3	1.8	13.5	68
Dhaka	3.7	1,816	(37.1)	(41.1)	(16.3)	(1.5)	(8.9)	68
Khulna	3.8	552	*	*	*	*	*	21
Rajshahi	5.7	1,237	35.9	24.8	24.2	4.9	11.1	71
Sylhet	6.3	498	33.0	27.1	25.6	3.6	17.0	31
Mother's education								
No education	5.2	1,538	26.9	43.4	19.4	2.9	11.9	81
Primary incomplete	5.6	1,255	36.3	19.6	20.7	8.9	17.2	70
Primary complete[3]	4.2	534	*	*	*	*	*	23
Secondary incomplete	5.1	1,641	45.4	26.1	15.6	1.8	13.0	84
Secondary complete or higher[4]	2.5	735	(45.4)	(8.2)	(39.0)	(0.0)	(7.4)	18
Wealth quintile								
Lowest	6.4	1,281	23.6	29.5	22.3	8.5	17.5	83
Second	5.7	1,240	28.4	37.8	27.9	3.4	10.3	71
Middle	4.0	1,099	(43.1)	(19.7)	(29.7)	(2.7)	(9.1)	44
Fourth	4.8	1,083	47.0	31.7	8.7	0.0	12.5	52
Highest	2.6	1,015	(73.3)	(16.4)	(2.5)	(0.0)	(10.3)	26
Total	4.8	5,719	37.1	29.3	20.5	3.9	12.7	277

Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed. Total for children under age five includes 16 children with information missing on mother's educational attainment; total for children with symptoms of ARI includes 1 child with information missing on mother's educational attainment

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

[2] Excludes pharmacy, shop, and traditional practitioner

[3] Primary complete is defined as completing grade 5.

[4] Secondary complete is defined as completing grade 10.

symptoms of ARI than children living in households cooking with natural gas, LPG, or biogas. A higher proportion of children living in Sylhet, Rajshahi, and Chittagong divisions have symptoms of ARI than those in other divisions. The proportion of children with ARI symptoms generally decreases with wealth, falling from a high of 6 percent in the lowest wealth quintile to a low of 3 percent in the highest wealth quintile.

Thirty-seven percent of children with symptoms of ARI were taken to a health facility or a medically trained provider for treatment. Substantial proportions also were taken to a pharmacy (29 percent) or to a traditional, unqualified doctor (21 percent). Boys are more likely than girls to be taken to a health facility or trained provider when ill with ARI. Urban children are more likely than rural children to receive treatment at a health facility or from a medically trained provider (57 versus 34 percent).

Using the 2007 BDHS data, it is possible to calculate the percentage of children with symptoms of ARI using a less restricted definition that is similar to the one used in the 2004 BDHS.[1] Even with this less restricted definition, however, the prevalence of ARI from the 2007 BDHS cannot be directly compared with the prevalence of ARI from the 2004 BDHS. First, this is because the questions asked to estimate ARI changed between the two surveys, and second, because the prevalence of ARI varies seasonally, and the surveys took place at different times of the year.

Information on the prevalence of symptoms and treatment of ARI using the less restricted definition is presented in Table 10.9. This table shows that 13 percent of children under five years were reported to have symptoms of ARI when mothers were not asked whether the symptoms were chest-related. It is interesting to note that only 30 percent of children with symptoms of ARI using the less restricted definition were taken to a health facility or provider, compared with 37 percent of children with symptoms of ARI using the more restricted definition. This finding suggests that the new definition of ARI used in the 2007 BDHS corresponds to a degree of illness that mothers consider to be more severe and for which they are more likely to seek treatment.

[1] According to the 2004 BDHS, ARI symptoms were defined as cough with rapid or difficult breathing or chest indrawing, without asking the mother to distinguish whether the fast or difficult breathing was due to a problem in the chest or to a blocked or runny nose (NIPORT et al., 2005).

Table 10.9 Prevalence and treatment of symptoms of ARI (less restricted definition)

Among children under age five, the percentage who had symptoms of acute respiratory infection (ARI) according to the less restricted definition in the two weeks preceding the survey, and among children with symptoms of ARI, the percentage for whom advice or treatment was sought from a health facility or provider, according to background characteristics, Bangladesh 2007

Background characteristic	Children under age five		Children under age five with symptoms of ARI					
	Percentage with symptoms of ARI[1]	Number of children	Percentage for whom advice or treatment was sought from a health facility or provider[2]	Pharmacy	Traditional doctor	Other	No one	Number of children
Age in months								
<6	16.2	485	34.9	20.9	15.9	11.4	20.4	79
6-11	19.6	620	24.9	27.1	26.8	5.5	19.5	122
12-23	15.3	1,146	34.3	30.0	23.0	1.0	14.4	175
24-35	13.4	1,176	32.2	21.3	23.1	3.1	22.0	157
36-47	10.0	1,129	33.3	25.2	15.0	7.9	21.3	112
48-59	8.7	1,163	19.5	34.0	22.4	0.6	25.4	101
Sex								
Male	13.3	2,844	31.8	23.9	20.9	5.2	20.6	378
Female	12.8	2,875	28.6	29.3	22.3	3.3	19.4	368
Cooking fuel								
LPG/ natural gas/ biogas	8.6	451	(56.2)	(23.8)	(8.5)	(0.0)	(11.5)	39
Wood	12.6	2,677	34.4	27.1	20.9	3.2	17.6	337
Agricultural crop, straw/ shrubs/ grass	14.7	2,169	23.6	27.6	23.0	4.8	23.7	319
Animal dung	11.4	407	23.0	16.4	28.8	12.3	20.9	46
Other	(28.9)	14	*	*	*	*	*	4
Residence								
Urban	9.9	1,196	49.2	21.0	8.2	4.0	18.6	118
Rural	13.9	4,523	26.7	27.6	24.1	4.3	20.3	628
Division								
Barisal	14.9	362	32.1	10.2	12.3	9.3	37.3	54
Chittagong	15.5	1,254	30.6	26.7	26.0	2.8	18.3	194
Dhaka	11.6	1,816	31.7	36.9	13.0	2.4	17.9	211
Khulna	8.5	552	43.6	13.7	25.4	4.9	12.4	47
Rajshahi	12.5	1,237	22.7	22.6	31.0	5.6	19.5	154
Sylhet	17.4	498	30.8	25.4	20.1	6.2	23.1	87
Mother's education								
No education	14.4	1,538	20.7	36.2	17.1	3.1	26.1	221
Primary incomplete	13.8	1,255	23.1	20.8	24.3	7.6	27.0	174
Primary complete[3]	14.8	534	34.6	16.5	31.0	3.5	17.3	79
Secondary incomplete	12.9	1,641	41.6	27.5	20.1	2.8	10.8	211
Secondary complete or higher[4]	8.2	735	41.2	16.1	23.7	5.0	14.0	60
Wealth quintile								
Lowest	16.5	1,281	17.0	31.6	22.3	6.5	24.2	212
Second	15.3	1,240	23.8	21.4	25.8	3.4	29.3	190
Middle	12.5	1,099	29.0	24.8	31.2	3.7	14.3	137
Fourth	11.6	1,083	44.2	28.7	12.6	4.5	13.5	125
Highest	8.1	1,015	59.9	25.2	7.9	0.9	7.0	82
Total	13.0	5,719	30.2	26.6	21.6	4.3	20.0	746

Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed. Total for children under age five includes 16 children with information missing on mother's educational attainment; total for children with symptoms of ARI includes 1 child with information missing on mother's educational attainment

[1] Symptoms of ARI are defined as cough accompanied by short, rapid breathing.

[2] Excludes pharmacy, shop, and traditional practitioner

[3] Primary complete is defined as completing grade 5.

[4] Secondary complete is defined as completing grade 10.

10.3 FEVER

Fever is a major manifestation of malaria and other acute infections in children. Malaria and fever contribute to high levels of malnutrition and mortality. While fever can occur year-round, malaria is more prevalent after the end of the rainy season.

Table 10.10 shows the percentage of children under age five who had a fever during the two weeks preceding the survey and the percentage of these children who received various treatments, by selected background characteristics. Nearly two in five children under age five had a fever in the two weeks before the survey. The prevalence of fever varies by age. Children age 6-23 months are more likely to have a fever than either younger or older children. The prevalence of fever is highest among children residing in Barisal division (42 percent).

Table 10.10 Prevalence and treatment of fever

Among children under age five, the percentage who had a fever in the two weeks preceding the survey. and among children with fever, the percentage of children for whom treatment was sought from a health facility or provider, by background characteristics, Bangladesh 2007

Background characteristic	Among children under age five:		Among children udner age five with fever, percentage for whom advice or treatment was sought from:					
	Percentage with fever	Number of children	Health facility and/ or medically trained provider[1]	Pharmacy	Traditional doctor	Other	No one	Number of children
Age in months								
<6	38.3	485	20.7	18.7	17.6	14.6	31.1	186
6-11	48.7	620	22.9	18.7	26.3	9.4	24.5	302
12-23	43.8	1,146	28.1	27.8	21.6	3.7	21.1	502
24-35	39.6	1,176	24.6	22.6	21.3	5.6	28.2	465
36-47	31.4	1,129	25.2	21.2	16.5	4.4	33.2	354
48-59	32.3	1,163	18.5	26.9	20.9	2.8	30.3	376
Sex								
Male	38.6	2,844	25.7	23.0	21.0	6.1	25.8	1,097
Female	37.9	2,875	22.1	23.9	20.8	5.5	29.2	1,088
Residence								
Urban	36.3	1,196	37.0	24.9	9.9	5.5	24.2	434
Rural	38.7	4,523	20.6	23.1	23.6	5.9	28.3	1,751
Division								
Barisal	41.6	362	22.1	19.3	10.0	10.7	40.2	150
Chittagong	36.5	1,254	24.3	23.8	25.7	4.1	23.7	457
Dhaka	39.2	1,816	22.7	30.8	13.7	4.4	30.3	712
Khulna	32.7	552	33.7	10.7	26.3	2.9	25.9	180
Rajshahi	40.4	1,237	20.4	18.5	29.5	8.9	23.9	500
Sylhet	37.3	498	28.7	23.2	17.3	5.8	26.8	186
Mother's education								
No education	36.7	1,538	17.0	28.0	17.7	5.1	33.5	565
Primary incomplete	39.7	1,255	19.0	22.0	20.0	5.7	34.7	499
Primary complete[2]	37.6	534	24.4	18.1	23.9	5.6	29.3	201
Secondary incomplete	39.5	1,641	29.3	24.1	24.6	5.8	18.0	648
Secondary complete or higher[3]	36.5	735	34.4	18.6	17.7	7.5	23.1	268
Wealth quintile								
Lowest	38.9	1,281	13.3	23.3	20.8	7.4	35.8	498
Second	39.9	1,240	18.9	21.1	23.9	4.9	33.5	495
Middle	38.2	1,099	22.7	21.5	27.5	6.1	23.5	420
Fourth	38.6	1,083	31.1	26.2	18.2	5.7	21.2	419
Highest	34.8	1,015	38.7	26.0	12.1	4.5	19.5	353
Total	38.2	5,719	23.9	23.4	20.9	5.8	27.5	2,185

Note: Total for children under age five includes 16 children with information missing on mother's educational attainment; total for children with fever includes 4 children with information missing on mother's educational attainment

[1] Excludes pharmacy, shop, and traditional practitioner

[2] Primary complete is defined as completing grade 5.

[3] Secondary complete is defined as completing grade 10.

Nearly one in four children with fever was taken to a health facility or medically trained provider for treatment. Urban children and children of mothers who have completed primary or higher education were more likely than other children to receive this kind of treatment. Children living in Khulna were also more likely than children in other divisions to receive this kind of treatment. The likelihood of being taken to a health facility or provider for treatment increases steadily with wealth, from 13 percent in the lowest wealth quintile to 39 percent in the highest quintile.

Pharmacies are as common a source of treatment for children with fever as health facilities and medically trained providers (about 23 percent each). Traditional doctors are also a common source of treatment (20 percent). The use of traditional doctors is substantially higher in rural areas than in urban areas. For 28 percent of children with fever, no treatment is sought.

NUTRITION OF CHILDREN AND WOMEN 11

Nutritional status is the result of complex interactions between food consumption, overall health status, and care practices. Poor nutritional status is one of the most important health and welfare problems facing Bangladesh. Young children and women of reproductive age are especially vulnerable to nutritional deficits and micronutrient deficiencies. At the individual level, inadequate or inappropriate feeding patterns lead to malnutrition. Numerous socioeconomic and cultural factors influence patterns of feeding and nutritional status. The 2007 BDHS collected data on feeding practices for infants and young children, including breastfeeding, the feeding of solid and semisolid foods, diversity of foods, and frequency of feeding. Information was also collected on important issues that pertain to micronutrients—vitamin A and iron in food and also vitamin A supplementation among children and women. All children under five years of age and ever-married women age 15-49 were weighed and measured to determine their nutritional status.

11.1 NUTRITIONAL STATUS OF CHILDREN

The growth patterns of healthy and well-fed children are reflected in positive changes in their height and weight. Inadequate food supply, among other factors, often leads to malnutrition, resulting in serious consequences for the physical growth and mental development of children. In addition to questions about the feeding practices of infants and young children, the 2007 BDHS included an anthropometric component in which all children under age five and all ever-married women age 15-49 in the household were weighed and measured. Each interviewing team carried a scale and measuring board. The scale was a lightweight SECA scale with a digital screen designed and manufactured under the authority of UNICEF. The measuring boards were specially produced by Shorr Productions for use in survey settings. Children younger than 24 months were measured lying down on the board (recumbent length), and standing height was measured for older children.

The nutritional status of children in the survey population is compared with the World Health Organization (WHO) Child Growth Standards, which are based on an international sample (from Brazil, Ghana, India, Norway, Oman, and the United States) of ethnically, culturally, and genetically diverse healthy children living under optimum conditions conducive to achieving a child's full genetic growth potential (WHO, 2006). The WHO Child Growth Standards identify the breastfed child as the normative model for growth and development and document how children should grow under optimum conditions and with optimum infant feeding and child health practices.

Use of the WHO Child Growth Standards is based on the finding that well-nourished children of all population groups for which data exist follow very similar growth patterns before puberty. The internationally based standard population serves as a point of comparison, facilitating the examination of differences in the anthropometric status of subgroups in a population and of changes in nutritional status over time. Three standard indices of physical growth that describe the nutritional status of children are:

- height-for-age (stunting)
- weight-for-height (wasting)
- weight-for-age (underweight)

Each of these indices gives different information about growth and body composition that can be used to assess nutritional status.

Height-for-age measures linear growth. A child who is below two standard deviations (-2 SD) from the median of the WHO reference population in terms of height-for-age is considered short for his/her age, or stunted. This condition reflects the cumulative effect of chronic malnutrition. If a child is below minus three standard deviations (-3 SD) from the reference median, then he/she is considered to be severely stunted. Stunting reflects a failure to receive adequate nutrition over a long period of time and is worsened by recurrent and chronic illness. Height-for-age, therefore, reflects the long-term effects of malnutrition in a population and does not vary appreciably according to recent dietary intake.

Weight-for-height describes current nutritional status. A child who is below two standard deviations (-2 SD) from the reference median for weight-for-height is considered to be too thin for his/her height, or wasted. This condition reflects acute or recent nutritional deficit. As with stunting, wasting is considered severe if the child is more than three standard deviations below the reference median. Severe wasting is closely linked to mortality risk.

Weight-for-age is a composite index of weight-for-height and height-for-age. Thus, it does not distinguish between acute malnutrition (wasting) and chronic malnutrition (stunting). A child can be underweight for his age because he/she is stunted, because he/she is wasted, or both. Children whose weight-for-age is below two standard deviations (-2 SD) from the median of the reference population are classified as underweight. Children whose weight-for-age is below three standard deviations (-3 SD) from the median of the reference population are considered severely underweight. Weight-for-age is a good overall indicator of a population's nutritional health.

All children born in January 2002 or later who were listed in the household questionnaire were eligible for height and weight measurements. Table 11.1 and Figure 11.1 show the percentage of children who are classified as malnourished according to height-for-age, weight-for-height, and weight-for-age indices, by the child's age and selected background characteristics. At the national level, 43 percent of children under age five are considered to be short for their age or stunted, while 16 percent are severely stunted (below -3SD). The data show that the prevalence of stunting increases with age from 19 percent of children under six months to 54 percent of children age 36-47 months and then decreases thereafter (Table 11.1). There is little difference in stunting between male and female children. Stunting increases steadily with birth order. First births and births occurring 48 or more months after a prior birth are less likely to be stunted than other children.

Rural children are more likely to be stunted than urban children (45 percent compared with 36 percent). Stunting is lower in Khulna (35 percent) than in the other divisions, where it ranges from 42 percent in Rajshahi to 47 percent in Barisal. Children of older mothers (over age 30) are more likely to be stunted than children of younger mothers. Children of mothers with no education are more likely to be stunted than other children. Stunting is also related to the mother's nutritional status. Children whose mothers are malnourished are more likely to be malnourished themselves. In addition, the proportion of children stunted decreases with increasing wealth quintile.

In Bangladesh, 17 percent of children are considered to be underweight for their height, or wasted, and 3 percent are severely wasted (Table 11.1). Wasting varies greatly by age and peaks at 26 percent among children age 10-11 months. Dhaka has a lower proportion of wasted children than all other administrative divisions. Other background differentials for wasting are similar to the differentials in stunting, but smaller.

As shown in Table 11.1, 41 percent of children are underweight (low weight-for-age), and 12 percent are severely underweight. The percentage of children who are underweight increases sharply with age and peaks at 47 percent among children age 36-47. The pattern of differentials by other background characteristics is similar to those seen for stunting.

Table 11.1 Nutritional status of children

Percentage of children under five years classified as malnourished according to three anthropometric indices of nutritional status: height-for-age, weight-for-height, and weight-for-age, by background characteristics, Bangladesh 2007

Background characteristics	Height-for-age			Weight-for-height				Weight-for-age				Number of children
	Percentage below -3 SD	Percentage below -2 SD[1]	Mean Z-score (SD)	Percentage below -3 SD	Percentage below -2 SD[1]	Percentage above +2 SD	Mean Z-score (SD)	Percentage below -3 SD	Percentage below -2 SD[1]	Percentage above +2 SD	Mean Z-score (SD)	
Age in months												
<6	5.7	19.0	-0.9	4.6	17.9	1.8	-0.9	9.0	29.1	0.5	-1.3	455
6-9	9.3	24.8	-1.1	4.6	13.3	1.4	-0.8	5.9	25.2	0.1	-1.3	419
10-11	2.8	25.0	-1.0	4.0	25.9	1.3	-1.1	7.3	33.0	0.7	-1.4	173
12-17	10.4	32.5	-1.4	3.5	22.8	0.8	-1.2	9.1	36.2	0.6	-1.6	495
18-23	16.4	47.3	-1.8	4.4	23.5	0.3	-1.2	13.8	41.5	0.0	-1.8	584
24-35	21.3	53.2	-2.1	1.9	16.1	1.0	-1.0	14.0	44.5	0.2	-1.8	1,083
36-47	23.1	54.0	-2.1	2.4	15.1	0.7	-1.0	14.9	46.8	0.2	-1.9	1,046
48-59	15.9	45.6	-1.9	1.4	15.3	0.9	-1.1	10.9	46.3	0.4	-1.9	1,058
Sex												
Male	16.5	43.7	-1.7	3.3	18.4	1.0	-1.0	11.4	39.9	0.4	-1.7	2,627
Female	15.8	42.7	-1.8	2.5	16.5	0.8	-1.0	12.1	42.1	0.2	-1.8	2,685
Birth order[2]												
1	13.2	38.7	-1.6	3.1	15.8	1.2	-1.0	11.3	37.7	0.5	-1.7	1,714
2-3	14.6	41.6	-1.7	2.5	18.0	0.9	-1.1	10.7	40.4	0.2	-1.7	2,267
4-5	19.1	50.0	-1.9	3.8	20.2	0.8	-1.1	14.1	45.4	0.2	-1.8	859
6+	29.8	55.9	-2.3	2.4	13.5	0.4	-0.9	15.7	48.5	0.1	-2.0	353
Birth interval in months[2]												
First birth[3]	13.1	38.7	-1.6	3.1	15.9	1.2	-1.0	11.2	37.7	0.5	-1.7	1,724
<24	21.0	52.8	-2.0	2.5	17.8	0.8	-1.1	13.4	48.6	0.0	-1.9	467
24-47	20.1	49.7	-1.9	3.5	18.7	0.7	-1.1	13.7	45.3	0.2	-1.9	1,452
48+	13.6	38.6	-1.6	2.3	17.5	1.0	-1.0	10.1	38.1	0.2	-1.6	1,549
Residence												
Urban	12.5	36.4	-1.5	2.7	14.4	1.5	-0.9	8.5	33.4	0.9	-1.5	1,109
Rural	17.1	45.0	-1.8	2.9	18.2	0.8	-1.1	12.7	43.0	0.1	-1.8	4,203
Division												
Barisal	20.1	46.9	-1.9	3.4	18.0	0.5	-1.1	13.4	45.6	0.1	-1.9	340
Chittagong	19.7	45.5	-1.8	3.6	17.6	0.9	-1.1	15.7	41.6	0.4	-1.8	1,153
Dhaka	15.1	44.0	-1.7	2.8	15.4	1.2	-0.9	10.3	39.9	0.4	-1.6	1,671
Khulna	10.1	34.6	-1.5	3.1	18.8	0.7	-1.1	8.9	34.1	0.0	-1.6	516
Rajshahi	14.0	41.8	-1.7	1.7	19.1	0.9	-1.2	9.9	43.3	0.2	-1.8	1,183
Sylhet	20.2	44.7	-1.9	3.4	18.3	0.7	-1.1	14.0	42.1	0.2	-1.8	448
Mother's age[2]												
15-19	12.8	39.8	-1.7	3.1	16.3	1.4	-1.1	10.5	39.5	0.4	-1.7	789
20-24	15.0	42.2	-1.7	3.4	18.4	0.6	-1.1	12.6	41.4	0.1	-1.8	1,784
25-29	14.8	41.8	-1.7	2.8	18.2	0.9	-1.0	10.2	38.7	0.2	-1.7	1,367
30-34	18.0	45.3	-1.9	2.1	15.3	0.7	-1.0	12.0	41.6	0.6	-1.8	739
35-49	23.6	50.9	-2.0	2.2	16.1	1.9	-1.0	14.9	46.1	0.6	-1.9	513
Mother's height[4]												
<145 cm	29.4	65.2	-2.4	4.0	21.6	0.9	-1.1	20.8	57.5	0.0	-2.2	768
145 cm or above	13.8	39.4	-1.7	2.6	16.7	0.9	-1.0	10.2	38.2	0.3	-1.7	4,536
Mother's interview status												
Interviewed	15.9	43.0	-1.8	2.9	17.4	1.0	-1.0	11.8	40.9	0.3	-1.7	5,192
Not interviewed[5]	25.6	49.8	-2.0	1.2	20.6	0.0	-1.0	12.5	45.8	0.0	-1.8	120
Mother's nutritional status[6]												
Thin (BMI<18.5)	19.6	48.9	-1.9	4.3	23.5	0.5	-1.3	17.8	51.4	0.0	-2.0	1,654
Normal (BMI 18.5-24.9)	15.3	42.4	-1.7	2.4	15.3	0.9	-1.0	9.5	38.4	0.3	-1.7	3,127
Overweight/ obese (BMI ≥25)	4.8	21.7	-1.1	1.2	7.4	3.0	-0.5	3.6	16.4	1.6	-1.0	395

Continued…

Table 11.1—*Continued*

Background characteristic	Height-for-age: Percentage below -3 SD	Height-for-age: Percentage below -2 SD[1]	Height-for-age: Mean Z-score (SD)	Weight-for-height: Percentage below -3 SD	Weight-for-height: Percentage below -2 SD[1]	Weight-for-height: Percentage above +2 SD	Weight-for-height: Mean Z-score (SD)	Weight-for-age: Percentage below -3 SD	Weight-for-age: Percentage below -2 SD[1]	Weight-for-age: Percentage above +2 SD	Weight-for-age: Mean Z-score (SD)	Number of children
Mother's education[2]												
No education	22.5	51.3	-2.0	2.9	19.3	0.8	-1.1	15.6	46.9	0.0	-1.9	1,394
Primary incomplete	19.5	50.2	-2.0	3.1	18.3	0.6	-1.1	13.3	47.8	0.0	-1.9	1,128
Primary complete[7]	16.7	44.6	-1.8	4.1	18.9	0.9	-1.1	12.9	43.2	0.2	-1.9	697
Secondary incomplete	9.3	35.7	-1.5	2.3	15.2	0.9	-1.0	7.7	34.7	0.5	-1.6	1,480
Secondary complete or higher[8]	7.4	22.2	-1.1	2.5	13.9	2.6	-0.7	7.9	22.8	1.3	-1.1	478
Wealth quintile												
Lowest	23.2	54.0	-2.1	3.8	20.8	0.3	-1.2	15.1	50.5	0.0	-2.0	1,200
Second	20.4	50.7	-2.0	2.8	17.8	1.1	-1.1	15.8	45.9	0.0	-1.9	1,145
Middle	15.2	42.0	-1.7	2.6	16.9	0.5	-1.1	11.2	41.0	0.0	-1.8	1,036
Fourth	11.8	38.7	-1.6	2.8	17.6	1.0	-1.1	8.9	38.1	0.1	-1.7	989
Highest	7.6	26.3	-1.2	2.0	13.2	1.9	-0.8	6.5	26.0	1.3	-1.2	943
Total	16.1	43.2	-1.8	2.9	17.4	0.9	-1.0	11.8	41.0	0.3	-1.7	5,312

Note: Table is based on children who slept in the household the night before the interview. Each of the indices is expressed in standard deviation units (SD) from the median of the WHO Child Growth Standards adopted in 2006. The indices in this table are NOT comparable to those based on the previously used NCHS/CDC/WHO standards. Table is based on children with valid dates of birth (month and year) and valid measurement of both height and weight. Total includes 12 children with information missing on mother's height and weight and 15 children with information missing on mother's educational attainment

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

[2] Excludes children whose mothers were not interviewed

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

[4] Excludes children whose mothers were not measured

[5] Includes children whose mothers are deceased

[6] Excludes children whose mothers were not weighed and measured. Mother's nutritional status in terms of BMI (Body Mass Index) is presented in Table 11.8

[7] Primary complete is defined as completing grade 5.

[8] Secondary complete is defined as completing grade 10.

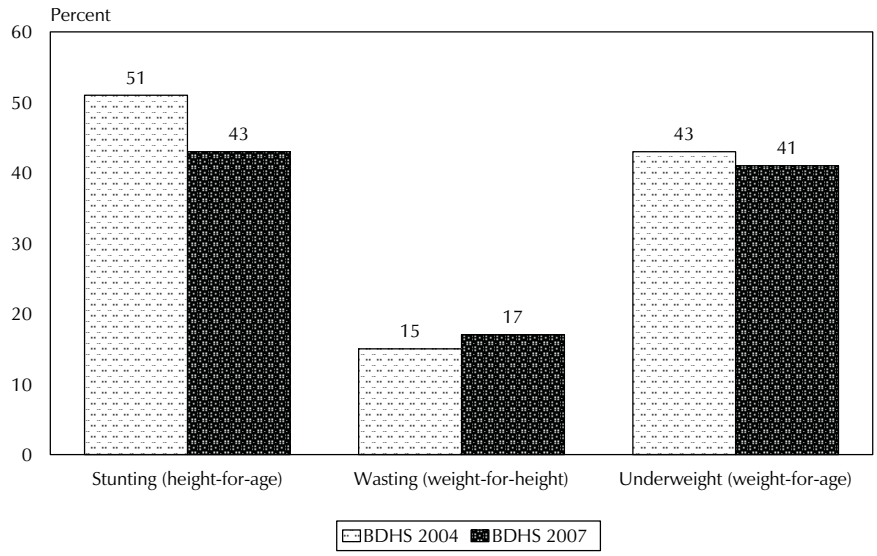
Figure 11.1 Nutritional Status of Children by Age

Note: *Stunting* reflects chronic malnutrition; *wasting* reflects acute malnutrition; *underweight* reflects chronic or acute malnutrition or a combination of both. Plotted values are smoothed by a five-month moving average.

BDHS 2007

Figure 11.2 compares the nutritional status of young children reported in the 2004 and 2007 BDHS surveys. The 2004 data have been recalculated using the new WHO Child Growth Standards to show comparable results. The recalculated 2004 data are also shown in Appendix Table D.2. Since 2004, stunting among children has declined by eight percentage points, but there is some indication of an increase in wasting, from 15 percent to 17 percent. The percentage of children underweight, which combines both of these measures, has decreased slightly from 43 to 41 percent.

Figure 11.2 Trends in Nutritional Status of Children Under Five, 2004 and 2007



Note: The data for both surveys are based on the WHO Child Growth standards adopted in 2006.

11.2 Breastfeeding and Supplementation

Feeding practices play a pivotal role in determining the optimal development of infants. Poor breastfeeding and infant feeding practices have adverse consequences for the health and nutritional status of children. This, in turn, has consequences for their mental and physical development. Breastfeeding also affects mothers by physiologically suppressing the return to fertility, thereby affecting the length of interval between pregnancies.

UNICEF and WHO recommend that children be exclusively breastfed (that is, given no other liquid or solid food or plain water) for the first six months of life and that children be given solid or semisolid complementary foods beginning with the seventh month of life. The standard indicator of exclusive breastfeeding is the percentage of children less than six months of age who are exclusively breastfeeding. The standard indicator of timely complementary feeding is the percentage of children age 6-9 months who are breastfeeding and receiving complementary foods. The WHO recommends that breastfeeding be continued through the second year of life. Use of bottles with nipples is not recommended at any age.

11.2.1 Initiation of Breastfeeding

UNICEF and WHO recommend that children be fed colostrum (the first breast milk) immediately after birth and continue to be exclusively breastfed even if regular breast milk has not begun flowing.

Early initiation of breastfeeding is encouraged for a number of reasons. Mothers benefit from early suckling because it stimulates breast milk production and facilitates the release of oxytocin, which helps the contraction of the uterus and reduces postpartum blood loss. The first breast milk contains colostrum, which is highly nutritious and has antibodies that protect the newborn from diseases. Early initiation of breastfeeding also encourages bonding between the mother and her newborn.

Table 11.2 shows the percentage of all children born in the five years before the survey who were ever breastfed, by background characteristics. It also shows the percentage of last-born children ever breastfed who started breastfeeding within one hour or one day of birth and the percentage who were given a prelacteal feed. Breastfeeding is almost universal in Bangladesh: 98 percent of children are breastfed at some point, almost the same proportion as in the 2004 BDHS. There are no marked differences in the proportion of children ever breastfed by background characteristics.

Overall, 43 percent of children are breastfed within one hour of birth, and 89 percent are breastfed within one day after delivery.[1] There are no marked differences in the timing of initial breastfeeding by the sex of the child, between rural and urban areas, or by the mother's education. The proportion of children breastfed within one hour of birth is highest in Sylhet division (50 percent) and lowest in Chittagong (36 percent). However, initiation of breastfeeding within one day after birth is highest in Barisal (92 percent) and lowest in Dhaka (88 percent). The time when breastfeeding begins also varies with household wealth, place of delivery, and birth attendant. It is surprising to find that children born in a health facility, those whose births were attended by a health professional, and children in households in the highest wealth quintile have a somewhat lower likelihood of breastfeeding within one hour of birth or within one day after birth. This contradicts Bangladeshi policy to promote early breastfeeding and merits further investigation.

Prelacteal feeding is the practice of giving other liquids to a child during the first three days of life. Prelacteal feeding is widely practiced in Bangladesh. More than six in ten newborns (62 percent) receive a prelacteal feed. Prelacteal feeds are more common in Dhaka, Khulna, and Rajshahi, compared with the other divisions. Children of uneducated or less educated mothers and less wealthy mothers are more likely to receive prelacteal feeds. Children are more likely to receive prelacteal feeds when they are born at home and when the birth is not assisted by a health professional.

Table 11.2 also shows that 92 percent of last-born children in the five years preceding the survey received first milk or colostrum. The likelihood of a child receiving colostrum increases with mother's education and, to a lesser degree, household wealth. Children who are born in urban areas, who are born at health facilities, and whose birth is attended by a health professional are more likely to receive colostrum than other children. The children in Sylhet are least likely to receive colostrum, compared with children in other divisions.

[1] The results for the 2007 BDHS are only for last-born children among those born in the five years preceding the survey. In the 2004 BDHS, the results were calculated based on all children born in the five years preceding the survey (NIPORT et al., 2005).

Table 11.2 Initial breastfeeding

Percentage of children born in the five years preceding the survey who were ever breastfed, and among the last children born in the five years preceding the survey ever breastfed, the percentage who started breastfeeding within one hour and within one day of birth, the percentage who received a prelacteal feed, and the percentage who received colostrum, by background characteristics, Bangladesh 2007

Background characteristic	Breastfeeding among children born in past five years		Among last-born children ever breastfed:				
	Percentage ever breastfed	Number of children	Percentage who started breastfeeding within 1 hour of birth	Percentage who started breastfeeding within 1 day of birth[1]	Percentage who received a prelacteal feed[2]	Percentage who received colostrum	Number of children
Sex							
Male	97.6	3,021	43.6	89.2	63.2	92.1	2,437
Female	97.9	3,036	41.7	89.1	61.1	92.3	2,404
Assistance at delivery							
Medically trained provider[3]	97.1	1,090	39.1	85.9	52.5	96.1	939
Traditional birth attendant[4]	98.3	4,449	44.0	90.5	64.0	91.6	3,500
Other	94.3	391	37.1	83.6	67.0	88.0	297
No one	94.2	120	45.5	87.9	73.2	93.5	102
Place of delivery							
Health facility	96.9	887	37.1	84.6	53.3	95.8	771
At home	97.9	5,148	43.8	90.1	63.9	91.6	4,056
Residence							
Urban	98.1	1,249	41.1	89.8	62.2	94.0	1,028
Rural	97.7	4,809	43.1	88.9	62.2	91.7	3,813
Division							
Barisal	96.9	383	45.8	92.1	50.8	90.9	308
Chittagong	97.1	1,337	35.5	89.1	51.6	88.6	1,013
Dhaka	98.1	1,908	43.3	88.3	71.6	94.1	1,533
Khulna	98.3	578	45.6	90.0	68.2	95.9	501
Rajshahi	98.2	1,306	43.5	88.5	62.7	94.4	1,107
Sylhet	97.1	547	50.4	91.0	51.6	83.8	379
Mother's education							
No education	97.4	1,658	42.1	88.7	65.2	87.3	1,261
Primary incomplete	98.0	1,331	44.2	88.9	65.4	92.8	1,042
Primary complete[5]	96.6	565	42.4	90.2	63.4	92.1	443
Secondary incomplete	98.1	1,730	43.1	89.3	59.3	94.1	1,438
Secondary complete or higher[6]	98.1	757	40.0	89.2	56.4	96.6	646
Wealth quintile							
Lowest	97.8	1,367	43.3	88.8	66.9	91.6	1,056
Second	97.8	1,312	42.6	90.1	65.9	90.5	1,030
Middle	97.9	1,173	43.0	89.2	60.8	91.5	919
Fourth	97.4	1,149	43.7	89.7	57.9	92.2	945
Highest	97.9	1,056	40.4	87.8	58.2	95.7	890
Total	97.8	6,058	42.6	89.1	62.2	92.2	4,841

Note: Table is based on births in the past five years whether the children are living or dead at the time of interview. Total number of children born in the past five years includes 7 children with information missing on assistance at delivery and place of delivery, 16 children with "other" for place of delivery, and 17 children with information missing on mother's educational attainment. Total number of last-born children ever breastfed includes 3 children with information missing on assistance at delivery, 2 children with information missing and 16 children with "other" for place of delivery, and 11 children with information missing on mother's educational attainment.

[1] Includes children who started breastfeeding within one hour of birth

[2] Children given something other than breast milk during the first three days of life

[3] Doctor, nurse/midwife/paramedic, family welfare visitor (FWV), or community-skilled birth attendant (CSBA)

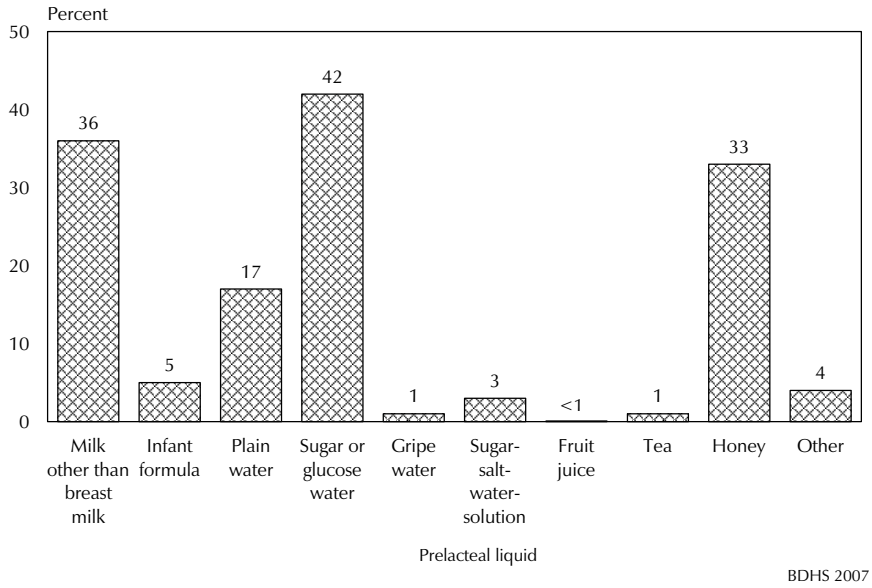
[4] Includes both trained and untrained traditional birth attendants (TBAs)

[5] Primary complete is defined as completing grade 5.

[6] Secondary complete is defined as completing grade 10.

Figure 11.3 presents the various kinds of prelacteal liquids given to Bangladeshi children according to the 2007 BDHS. The most common are sugar or glucose water (42 percent), milk other than breast milk (36 percent), and honey (33 percent).

Figure 11.3 **Among Last Children Born in the Five Years Preceding the Survey Who Ever Received a Prelacteal Liquid, the Percentage Who Received Various Types of Liquids**



11.2.2 Age Pattern of Breastfeeding

Breast milk contains all the nutrients needed by children in the first six months of life. Supplementing breast milk before the child is four months of age is discouraged because it increases the likelihood of contamination and, hence, the risk of diarrhea. At a later stage of the baby's development breast milk should be supplemented by other liquids and eventually by solid or mushy food to provide adequate nourishment.

The 2007 BDHS collected data on infant feeding for all last-born children under three years of age living with the mother, using a 24-hour recall period. As shown in Table 11.3 and Figure 11.4, almost all Bangladeshi children are breastfed for the first year of life. Even among children age 20-23 months, 91 percent still receive breast milk. However, supplementation of breast milk with other liquids and foods begins early in Bangladesh. Among infants less than 2 months old, only two-thirds (64 percent) are exclusively breastfed. The remainder are given water, other milk, and other liquids in addition to breast milk, and 6 percent even receive complementary foods. The current recommendation to exclusively breastfeed for the first six months of life is far from being met in Bangladesh. Only 43 percent of children less than six months of age are exclusively breastfed, indicating no improvement in exclusive breastfeeding practices over the years.

From about six months of age, the introduction of complementary foods is critical to meeting the protein, energy, and micronutrient needs of children. Although some young children are given complementary foods early, others receive it late. Among children age 6-9 months, only three in four children receive complementary food. Complementary feeding among children age 6–9 months has improved in the last three years from 62 percent in 2004 to 74 percent in 2007.

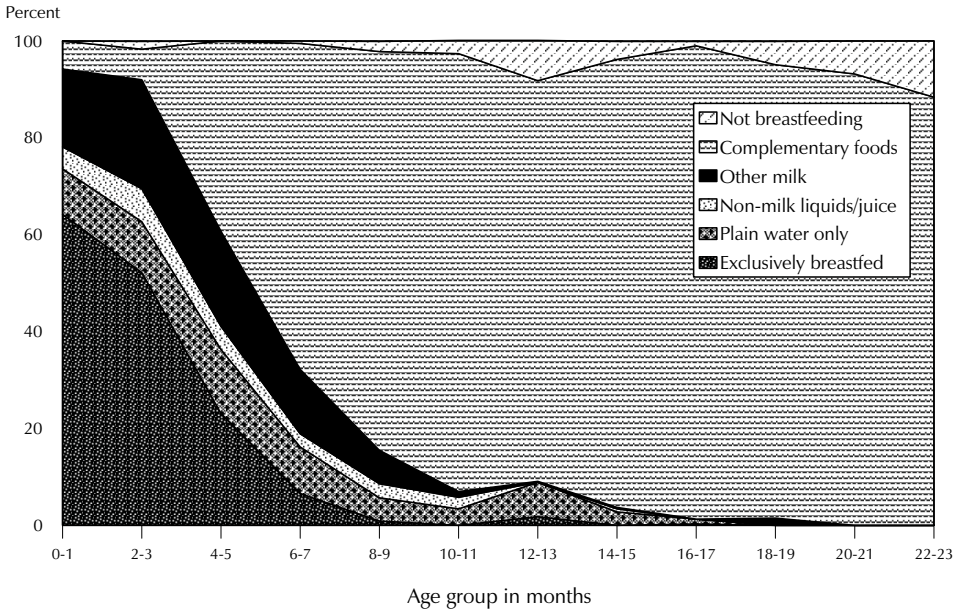
Table 11.3 Breastfeeding status by age

Percent distribution of youngest children under three years who are living with their mother by breastfeeding status, and the percentage currently breastfeeding, according to age in months, Bangladesh 2007

Age in months	Not breast-feeding	Breastfeeding and consuming: Exclusively breastfed	Plain water only	Non-milk liquids/ juice	Other milk	Comple-mentary foods	Total	Percentage currently breast-feeding	Number of youngest children under three years
<2	0.0	64.2	9.4	4.5	16.1	5.8	100.0	100.0	129
2-3	1.6	52.2	10.5	6.8	22.5	6.3	100.0	98.4	146
4-5	0.0	23.1	13.2	4.8	19.6	39.3	100.0	100.0	207
6-7	0.5	6.6	9.6	2.7	13.3	67.3	100.0	99.5	238
8-9	2.1	0.9	4.8	2.9	6.9	82.3	100.0	97.9	204
10-11	2.7	0.0	3.4	2.4	1.2	90.4	100.0	97.3	174
12-15	5.5	0.7	4.5	0.4	0.3	88.7	100.0	94.5	321
16-19	2.9	0.2	0.5	0.1	0.7	95.6	100.0	97.1	423
20-23	9.0	0.0	0.0	0.0	0.0	91.0	100.0	91.0	369
24-27	21.9	0.0	0.0	0.0	0.1	77.9	100.0	78.1	347
28-31	29.1	0.4	0.0	0.0	0.3	70.2	100.0	70.9	351
32-35	39.3	0.4	0.8	0.0	0.0	59.6	100.0	60.7	332
0-5	0.5	42.9	11.4	5.3	19.6	20.3	100.0	99.5	483
6-9	1.2	4.0	7.4	2.8	10.4	74.2	100.0	98.8	441

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

Figure 11.4 Infant Feeding Practices by Age



BDHS 2007

Figure 11.5 examines trends in the exclusive breastfeeding of children less than six months old since the 1993-1994 BDHS. The percentage of children exclusively breastfed was calculated for the 24-hour period preceding the survey. Exclusive breastfeeding has not increased in the past twelve years. It remained unchanged at around 45 percent in the 1993-1994 and 1999-2000 BDHS surveys and then declined to 42 percent in the 2004 BDHS. There has been no notable improvement in exclusive breastfeeding practices since 2004.

Figure 11.5 Trends in Exclusive Breastfeeding for Children Under Six Months

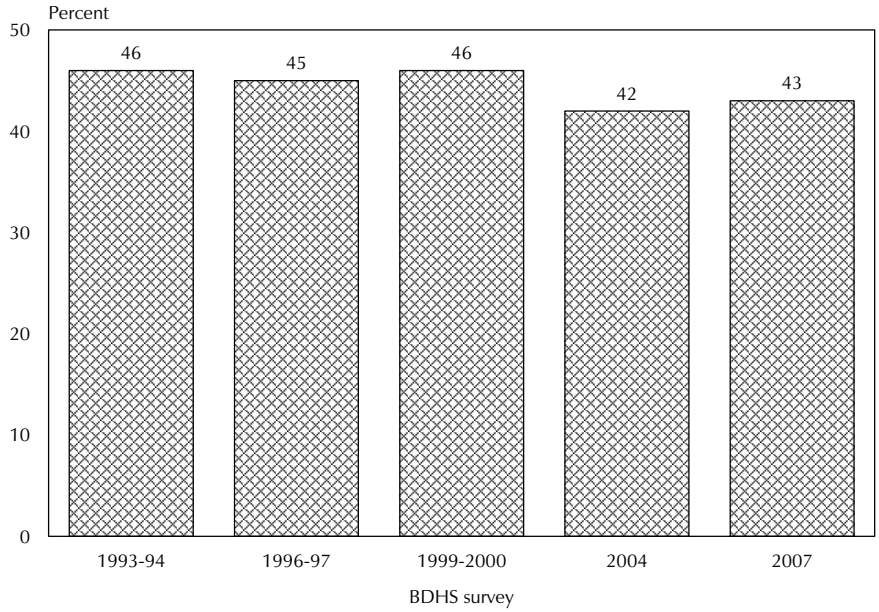
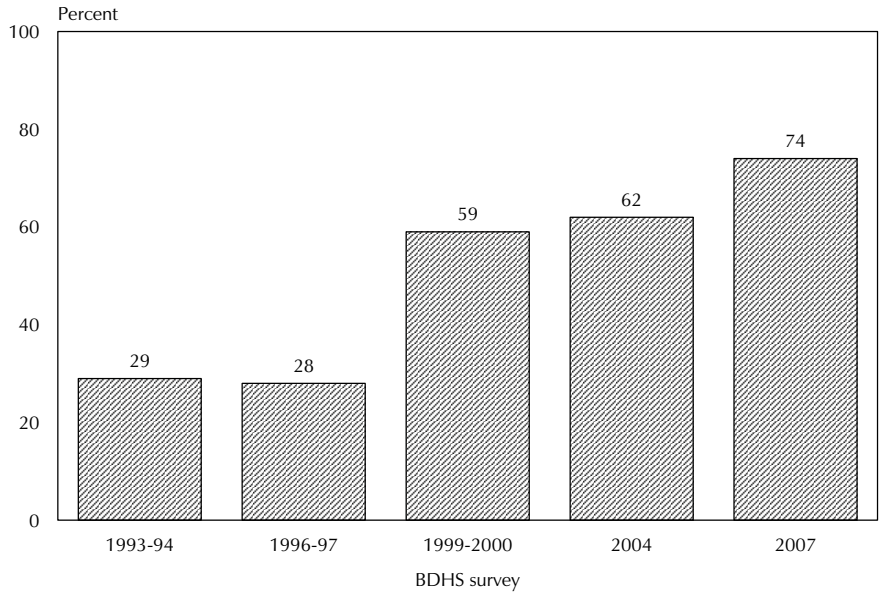


Figure 11.6 shows the trend in the standard indicator of timely complementary feeding: the percentage of children age 6-9 months who were breastfeeding and received complementary foods in the 24 hours preceding the survey. This percentage remained low in the 1993-1994 and 1996-1997 BDHS surveys (29 percent and 28 percent, respectively). It more than doubled to 59 percent in the 1999-2000 BDHS and edged slightly higher to 62 percent in the 2004 BDHS. Since 2004, the proportion of children age 6–9 months who are breastfeeding and receiving complementary foods has improved to 74 percent.

Figure 11.6 Trends in Complementary Feeding for Children 6-9 Months



11.2.3 Duration of Breastfeeding

Table 11.4 shows the median duration and frequency of breastfeeding by selected background characteristics. The estimates of median and mean duration of breastfeeding are based on current status data, that is, the proportion of children born in the four years preceding the survey who were being breastfed at the time of the survey.

The median duration of breastfeeding among Bangladeshi children is 32.8 months, which has not changed since the 2004 BDHS. The median duration of exclusive breastfeeding is estimated at 1.8 months, and the median duration of predominant breastfeeding is 3.2 months. The mean duration of any breastfeeding is 32.5 months, while the mean duration of exclusive breastfeeding is 3.3 months and of predominant breastfeeding 4.8 months.

The median duration of any, exclusive, and predominant breastfeeding varies little across the background characteristics. The median duration of any breastfeeding is five months shorter in urban areas than in rural areas. It is longest among children living in Rajshahi and Khulna divisions (37 months and 36 months, respectively) and shortest in Sylhet and Chittagong divisions (28 months and 26 months, respectively). Children of mothers with some secondary or higher education are breastfed for a shorter period of time than children of mothers with primary or no education. Furthermore, the median duration of breastfeeding is 10 months shorter among children in the highest wealth quintile than among children in the lowest quintile. Differentials in the median duration of exclusive breastfeeding are small, except that Chittagong division stands out as having the highest median duration of exclusive breastfeeding (2.9 months).

Table 11.4 Median duration of breastfeeding

Median duration of any breastfeeding, exclusive breastfeeding, and predominant breastfeeding among children born in the four years preceding the survey, by background characteristics, Bangladesh 2007

Background characteristic	Median duration (months) of breastfeeding among children born in the past four years[1]		
	Any breast-feeding	Exclusive breast-feeding	Predomi-nant breast-feeding[2]
Sex			
Male	32.0	1.5	2.7
Female	33.3	2.2	3.6
Residence			
Urban	29.5	1.6	3.1
Rural	34.5	1.8	3.2
Division			
Barisal	31.0	(0.7)	3.4
Chittagong	25.6	2.9	4.7
Dhaka	35.8	1.0	2.0
Khulna	36.3	(2.0)	3.5
Rajshahi	37.0	(1.2)	2.9
Sylhet	28.0	2.3	4.2
Mother's education			
No education	33.9	1.2	2.2
Primary incomplete	35.1	2.0	4.4
Primary complete[3]	34.4	(2.3)	4.1
Secondary incomplete	31.3	1.5	2.6
Secondary complete or higher[4]	31.1	2.6	3.8
Wealth quintile			
Lowest	36.8	1.9	4.0
Second	32.0	1.0	3.3
Middle	31.5	1.3	1.9
Fourth	32.4	1.6	2.9
Highest	26.6	2.7	3.6
Total	32.8	1.8	3.2
Mean for all children	32.5	3.3	4.8

Note: Median and mean durations are based on current status. Includes children living and deceased at the time of the survey. Figures in parentheses are based on 25-49 unweighted cases.

[1] It is assumed that non-last-born children and last-born children not currently living with the mother are not currently breastfeeding.

[2] Either exclusively breastfed or received breast milk and plain water, and/or non-milk liquids only

[3] Primary complete is defined as completing grade 5.

[4] Secondary complete is defined as completing grade 10.

The median duration of exclusive breastfeeding for children under four years shows little change over the last three BDHS surveys. It has always been low: 1.8 months in 1999-2000, 1.7 months in 2004, and 1.8 months in 2007 (NIPORT et al., 2001; NIPORT et al., 2005). It should be noted that although medians are calculated from smoothed data, they still depend on the point at which the proportion breastfeeding dips below 50 percent. Therefore, they are volatile.

11.2.4 Complementary Feeding

Babies need nutritious food in addition to breast milk from the age of six months, so this is the recommended age to begin giving complementary foods. The 2007 BDHS collected data on certain foods given to breastfeeding and nonbreastfeeding children. Table 11.5 presents information on the types of complementary foods received by children less than three years during the day and night preceding the survey, according to breastfeeding status. Because of the small number of nonbreastfeeding children under age two, all 2-month age categories under age 15 months have been combined into a broader age group (0-15 months).

For many breastfeeding children, liquids other than breast milk are introduced earlier than the recommended age of six months. Even among the youngest breastfeeding children (less than two months), 12 percent drink milk other than breast milk, 5 percent are given infant formula, and 6 percent consume other liquids. In addition, 6 percent of breastfeeding children under two months of age are given solid or semisolid food.

Table 11.5 Foods and liquids consumed by children in the day or night preceding the interview

Percentage of youngest children under three years of age who are living with the mother by type of foods consumed in the day or night preceding the interview, according to breastfeeding status and age, Bangladesh 2007

	Liquids			Solid or semi-solid foods						
Age in months	Infant formula	Other milk[1]	Other liquids[2]	Food made from grains[3]	Fruits and vegetables rich in vitamin A[4]	Other fruits and vege-tables	Food made from legumes and nuts	Meat, fish, poultry, and eggs	Any solid or semi-solid food	Number of children
BREASTFEEDING CHILDREN										
<2	4.6	11.6	6.0	1.5	0.0	0.5	0.0	0.0	5.8	129
2-3	13.2	10.2	11.2	5.9	0.0	0.0	0.0	0.0	6.4	144
4-5	9.2	27.8	18.7	20.8	9.2	12.0	1.0	2.1	39.3	207
6-7	15.4	26.4	23.2	50.9	26.0	21.8	7.7	10.1	67.6	237
8-9	16.3	37.0	26.9	75.5	43.3	28.9	18.9	23.6	84.0	199
10-11	14.8	29.6	23.1	88.3	47.2	40.9	21.0	34.3	92.9	170
12-15	6.3	33.5	19.1	89.2	52.8	47.1	30.5	47.9	93.8	304
16-19	8.2	32.4	17.8	94.1	67.1	57.9	35.6	64.3	98.5	411
20-23	5.2	35.6	22.3	96.5	70.4	60.1	43.0	71.0	100.0	336
24-35	1.9	39.7	19.2	97.5	71.8	61.6	37.2	75.1	99.0	722
0-5	9.2	18.1	13.0	11.1	4.0	5.3	0.4	0.9	20.4	481
6-9	15.8	31.2	24.9	62.1	33.9	25.0	12.8	16.3	75.1	436
Total	7.8	32.0	19.4	75.6	50.3	43.1	26.1	46.3	81.3	2,858
NONBREASTFEEDING CHILDREN										
<16	(63.6)	(59.0)	(43.0)	(78.6)	(45.3)	(56.3)	(26.1)	(46.3)	(81.4)	30
16-19	*	*	*	*	*	*	*	*	*	12
20-23	(19.3)	(58.9)	(33.9)	(94.8)	(59.0)	(65.5)	(53.5)	(71.7)	(94.8)	33
24-35	8.9	37.9	28.9	97.9	72.8	64.0	46.3	76.7	98.5	309
0-5	*	*	*	*	*	*	*	*	*	2
6-9	*	*	*	*	*	*	*	*	*	5
Total	14.3	41.5	31.0	95.9	69.2	63.3	45.6	73.3	96.6	384

Note: Breastfeeding status and food consumed refer to a "24-hour" period (yesterday and last night). Figures in parentheses are based on 25-49 unweighted cases; an asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
[1] Other milk includes fresh, tinned and powdered cow or other animal milk.
[2] Does not include plain water
[3] Includes fortified baby food
[4] Includes papaya, mango, and green leafy vegetables

Eighteen percent of breastfeeding children under the age of six months consume animal milk, while 13 percent consume liquids other than water, and 9 percent consume infant formula. Consumption of animal milk and other liquids peaks at age 8-9 months (37 percent and 27 percent, respectively) and then stays more or less steady thereafter. Consumption of infant formula also peaks at 8-9 months (16 percent) and then decreases. One in five breastfeeding children under age 6 months are fed solid or semisolid foods.

WHO recommends the introduction of solid or semisolid food to children around the age of six months because by that age breast milk alone is no longer sufficient to maintain a child's optimal growth. The percentage of breastfeeding children receiving solid or semisolid food increases with the age of the child. By age 4-5 months, 39 percent of breastfeeding children receive solid or semisolid foods. At age 6-7 months, 68 percent of breastfeeding children receive solid or semisolid foods. This increase is consistent with the recommendation that solid or semisolid food should be introduced around six months of age. Nevertheless, it is disconcerting to note that even at age 6-7 months, about three in ten breastfeeding children are not given any solid or semisolid food.

Foods made from grains quickly become the primary complementary food for a majority of children (51 percent) at age 6-7 months. Consumption of fruits and vegetables that are rich in vitamin A (such as banana, mango, papaya, and dark green leafy vegetables) generally begins at age 4-5 months. At that age, 9 percent of children eat fruit and vegetables that are rich in vitamin A; this proportion rises to 47 percent by the end of the first year of life and then increases rapidly. Consumption of other fruits and vegetables begins at about the same age. Meat, fish, poultry, and eggs have bodybuilding substances essential to good health, and they are important for balanced physical and mental development. These foods are introduced at a somewhat later age than fruits and vegetables. Only about one in ten children are given meat, fish, poultry, and eggs when they are age 6-7 months, and the proportion receiving these foods increases with age.

As expected, more nonbreastfeeding children consume supplements at an earlier age than breastfeeding children. For nonbreastfeeding children under three years of age, the proportion consuming various foods is higher than among breastfeeding children.

11.3 Infant and Young Child Feeding Practices

Appropriate Infant and Young Child Feeding (IYCF) practices include timely initiation of feeding solid/semi-solid foods from age 6 months, feeding small amounts and increasing the amount of foods and frequency of feeding as the child gets older, while maintaining breastfeeding. For the average healthy breastfed child, solid/semisolid foods should be provided two or three times a day at age 6-8 months and three or four times a day at age 9-24 months, with an additional snack offered once or twice a day, as desired. These minimum feeding frequencies are based upon the energy needs from complementary foods estimated from age-specific total daily energy requirements plus 2 SD (to meet the needs of almost all children) minus the average energy intake from breast milk by children in developing countries. Infants with low breast milk intake would need to be fed more frequently. However, overly frequent feeding may lead to the displacement of breast milk (PAHO and WHO, 2003).

Although it is internationally recommended that infants should be breastfed for up to two years, there are a number of infants who will not have the benefits of breastfeeding or who will have stopped breastfeeding before two years. Guidelines have been developed for this group of children, who may not be breastfed because of their mothers known HIV positive status, or whose mothers have died, or for some other reason do not breastfeed (WHO, 2005a). The nonbreastfed child is recommended to be fed solid/semi-solid foods four or five times a day at age 6-23 months, with an additional snack being offered once or twice a day, as desired.

Appropriate nutrition includes feeding children a variety of foods to ensure that nutrient requirements are met. Studies have shown that plant-based complementary foods by themselves are insufficient to meet the needs for certain micronutrients (WHO and UNICEF, 1998). Therefore it is advised that meat, poultry, fish, or eggs be eaten daily or as often as possible. Vegetarian diets may not meet children's nutrient requirements unless supplements or fortified products are used. Vitamin A- rich fruits and vegetables should be consumed daily. And the diets of children should include an adequate fat content. Fat is important in the diets of infants and young children because it provides essential fatty acids, facilitates absorption of fat-soluble vitamins (such as vitamin A), and enhances dietary energy density and palatability. Tea and coffee contain compounds that inhibit iron absorption and are not recommended for children. Sugary drinks and excessive juice consumption should be avoided because other than energy, they contribute little to the diet and as a result decrease the child's appetite for more nutritious foods (PAHO and WHO, 2003).

In summary,

- Breastfed children 6-23 months should receive animal source foods and vitamin A-rich fruits and vegetables daily (PAHO/WHO, 2003). Since first foods almost universally include a grain- or tuber-based staple, it is unlikely that young children who eat two or fewer food groups will receive both an animal-source food and a vitamin A-rich fruit or vegetable. Therefore, three food groups are considered as the minimum appropriate number of food groups for breastfed infants (Arimond and Ruel, 2003).
- Breastfed infants 6-8 months should be fed meals of complementary foods two to three times per day, with one to two snacks as desired; breastfed children 9-23 months should be fed meals three to four times per day, with one to two snacks (PAHO/WHO, 2003). The table shows the percentage of breastfed children who were fed at least the minimum number of times for their age (i.e., at least twice for infants 6-8 months and at least three times for children 9-23 months).
- Non-breastfed children 6-23 months should receive milk products to ensure their calcium needs are met. In addition, they need animal-source foods and vitamin A-rich fruits and vegetables. Therefore, four food groups are considered as a minimum appropriate number of food groups for non-breastfed young children.
- Non-breastfed children 6-23 months should be fed meals four to five times per day, with one to two snacks as desired (WHO, 2005a). The table shows the percentage of non-breastfed children ages 6-23 who were fed at least the minimum number of times (i.e., at least four per day).

Table 11.6 shows Infant and Young Child Feeding (IYCF) practices for the youngest child age 6-23 months living with the mother. The percentage of children who are fed with appropriate feeding practices is calculated taking into account guidelines on the number of food groups and the number of times a child should eat during the day or night preceding the survey.

Overall, 42 percent of children age 6-23 months are fed appropriately according to recommended IYCF practices; that is, they are given milk or milk products and foods from the recommended number of food groups and are fed at least the recommended minimum number of times (Figure 11.7). Breastfed children were more likely than nonbreastfed children to meet the recommendations for both diversity in food groups and frequency of feeding (43 percent versus 11 percent). Nearly all children age 6-23 months

are breastfed or given milk products. More than two in five breastfed children (44 percent) in this age group are given the recommended number of food groups (three or more food groups for breastfed children, or four or more food groups for nonbreastfed children) compared with 31 percent of non-breastfed children. About four in five breastfed children (81 percent) are fed at least the minimum number of times as compared with 75 percent of nonbreastfed children. Only 36 percent of nonbreastfed children consumed any milk or milk products in the day and night preceding the interview.

Table 11.6 Infant and young child feeding (IYCF) practices

Percentage of youngest children age 6-23 months living with their mother who are fed according to three IYCF feeding practices based upon number of food groups and times they are fed during the day or night preceding the survey, by breastfeeding status and background characteristics, Bangladesh 2007

	Among breastfed children 6-23 months, percentage fed:				Among non-breastfed children 6-23 months, percentage fed:					Among all children 6-23 months, percentage fed:				
Background characteristic	3+ food groups[1]	Minimum times or more[2]	Both 3+ food groups and minimum times or more	Number of breastfed children 6-23 months	Milk or milk products[3]	4+ food groups	4+ times or more	With 3 IYCF practices[4]	Number of non-breastfed children 6-23 months	Breast milk or milk products[3]	3+ or 4+ food groups[5]	Minimum times or more[6]	With all 3 IYCF practices	Number of all children 6-23 months
Age														
6-8	16.2	59.8	16.2	337	*	*	*	*	2	99.8	16.1	59.7	16.1	339
9-11	39.8	74.7	36.5	268	*	*	*	*	8	98.9	39.4	74.0	35.6	276
12-17	49.1	84.8	47.5	506	*	*	*	*	19	98.6	48.4	84.6	46.5	526
18-23	59.9	94.6	58.4	544	(18.1)	(32.7)	(80.4)	(7.7)	44	93.9	57.9	93.5	54.6	588
Sex														
Male	46.0	82.5	43.7	818	(39.6)	(30.0)	(68.8)	(10.0)	43	97.0	45.2	81.8	42.0	861
Female	42.9	80.1	42.1	838	(30.6)	(32.1)	(83.8)	(12.6)	30	97.6	42.5	80.3	41.1	868
Residence														
Urban	50.3	85.1	48.2	358	(53.1)	(34.2)	(75.4)	(19.9)	33	96.0	49.0	84.3	45.8	390
Rural	42.8	80.2	41.4	1,298	(21.9)	(28.2)	(74.7)	(3.8)	41	97.6	42.4	80.1	40.3	1,339
Division														
Barisal	38.3	76.5	36.2	96	*	*	*	*	2	98.3	38.1	75.3	35.7	98
Chittagong	38.0	69.6	35.1	368	(21.0)	(17.1)	(66.9)	(6.4)	22	95.5	36.8	69.5	33.5	390
Dhaka	44.5	83.4	43.0	534	(40.8)	(29.8)	(81.9)	(9.4)	35	96.3	43.6	83.3	40.9	569
Khulna	43.9	89.6	42.7	141	*	*	*	*	4	99.3	44.1	89.0	43.0	145
Rajshahi	56.2	89.9	55.9	387	*	*	*	*	8	98.8	56.2	90.1	55.2	395
Sylhet	32.2	74.4	30.6	130	*	*	*	*	3	98.8	32.8	73.6	30.0	133
Mother's education														
No education	36.8	76.1	36.0	373	*	*	*	*	11	97.2	36.4	76.8	35.0	384
Primary incomplete	40.3	82.3	38.8	351	*	*	*	*	7	98.8	39.9	81.9	38.3	357
Primary complete[7]	45.9	80.6	45.9	154	*	*	*	*	5	98.2	45.5	80.5	45.1	160
Secondary incomplete	48.3	83.7	46.4	544	(27.1)	(28.0)	(68.7)	(1.9)	31	96.1	47.2	82.9	44.0	575
Secondary complete or higher[8]	52.5	82.5	49.5	230	(64.8)	(39.9)	(74.7)	(24.3)	19	97.3	51.5	81.9	47.5	249
Wealth quintile														
Lowest	37.9	83.5	37.5	344	*	*	*	*	6	98.9	37.3	83.8	36.9	350
Second	39.0	78.3	38.4	359	*	*	*	*	9	97.6	39.1	78.4	37.5	368
Middle	48.0	79.5	47.1	333	*	*	*	*	10	97.3	47.8	79.6	46.0	343
Fourth	46.1	83.6	44.1	318	*	*	*	*	12	97.0	45.0	83.4	42.8	330
Highest	52.6	82.0	48.5	302	(58.3)	(34.9)	(65.4)	(17.3)	37	95.5	50.7	80.2	45.1	338
Total	44.4	81.3	42.9	1,656	35.9	30.9	75.0	11.0	73	97.3	43.8	81.0	41.5	1,729

Note: Totals include 4 breastfed children with information missing on mother's educational attainment. Figures in parentheses are based on 25-49 unweighted cases; an asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

[1] Food groups: a. infant formula, milk other than breastmilk, cheese or yogurt or other milk products; b. foods made from grains, roots, and tubers, including porridgeand fortified baby food from grains; c. vitamin A-rich fruits and vegetables; d. other fruits and vegetables; e. eggs; f. meat, poultry, fish, and shellfish (and organ meats); g. legumes and nuts; h. foods made with oil, fat, butter. [2] At least twice a day for breastfed infants 6-8 months and at least three times a day for breastfed children 9-23 months

[3] Includes commercial infant formula, fresh, tinned, and powdered animal milk, and cheese, yogurt, and other milk products

[4] Nonbreastfed children ages 6-23 months are considered to be fed with a minimum standard of three IYCF practices if they receive other milk or milk products and are fed at least the minimum number of times per day with at least the minimum number of food groups.

[5] 3+ food groups for breastfed children and 4+ food groups for non-breastfed children

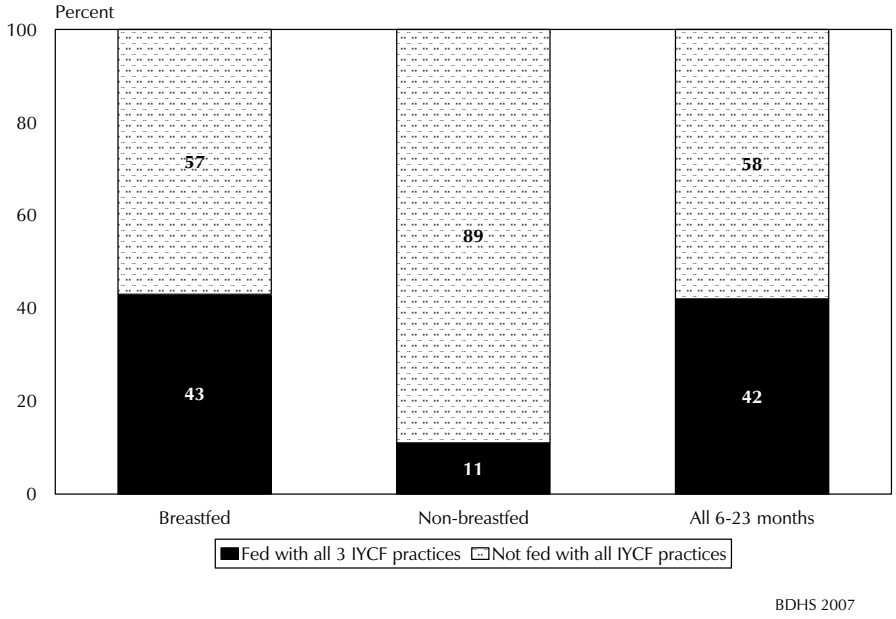
[6] Fed solid or semi-solid food at least twice a day for infants 6-8 months, 3+ times for other breastfed children, and 4+ times for non-breastfed children

[7] Primary complete is defined as completing grade 5.

[8] Secondary complete is defined as completing grade 10.

Appropriate infant and young child feeding practices increase sharply with the age of children. For example, only 16 percent of children age 6-8 months are fed according to IYCF recommendations, compared with 55 percent of children age 18-23 months. Children in urban areas and children of mothers who have completed primary education or higher are more likely than other children to be fed according to these recommendations. Feeding practices in the Rajshahi, Khulna, and Dhaka are better than those in other divisions. There is very little difference in feeding practices for girls and boys.

Figure 11.7 Infant and Young Child Feeding (IYCF) Practices



BDHS 2007

11.3.1 Micronutrient Intake among Children

The 2007 BDHS collected information on the consumption of vitamin A-rich foods and supplements. Table 11.7 shows that 78 percent of youngest children age 6-35 months living with the mother consumed foods rich in vitamin A in the day or night preceding the survey. Consumption increases with age, from 39 percent among children age 6-9 months to 92 percent among children age 24-35 months. There is little difference by sex and birth order in the consumption of vitamin A-rich foods. Breastfeeding children are less likely to consume vitamin A-rich foods than nonbreastfeeding children. The proportion of children consuming vitamin A-rich foods is highest in Rajshahi (85 percent), closely followed by Kulna (84 percent) and Dhaka divisions (81 percent); it is lowest in Sylhet and Chittagong divisions (69 and 70 percent, respectively). Children of more educated mothers and children in the highest wealth quintile are also more likely than other children to receive vitamin A-rich foods.

Iron is essential for cognitive development. Low iron intake can also contribute to anemia. Overall, about 58 percent of children age 6-35 months living with the mother consumed foods rich in iron during the 24 hours preceding the interview (Table 11.7). Differences by background characteristics are similar to those seen for the consumption of vitamin A-rich foods, except for birth order and rural-urban residence. Consumption of iron-rich foods decreases with birth order, from 62 percent among first order births to 53 percent among sixth or higher order births. Urban children are somewhat more likely to receive foods rich in iron than rural children (63 percent compared with 57 percent).

Table 11.7 Micronutrient intake among children

Among youngest children age 6-35 months who are living with their mother, the percentage who consumed vitamin A-rich and iron-rich foods in the day or night preceding the survey, and among all children age 9-59 months, the percentage who were given vitamin A supplements in the six months preceding the survey, by background characteristics, Bangladesh 2007

	Among youngest children age 6-35 months living with the mother:			Among all children age 9-59 months:	
Background characteristic	Percentage who consumed foods rich in vitamin A in past 24 hours[1]	Percentage who consumed foods rich in iron in past 24 hours[2]	Number of children	Percentage given vitamin A supplements in past 6 months	Number of children
Age in months					
6-9	38.6	16.3	441	33.4	103
10-11	58.3	34.0	174	55.1	174
12-17	77.7	54.3	526	84.2	529
18-23	89.2	69.0	588	91.3	617
24-35	91.9	75.6	1,030	91.8	1,176
36-47	na	na	na	91.5	1,129
48-59	na	na	na	91.8	1,163
Sex					
Male	77.7	58.1	1,374	88.5	2,439
Female	78.2	57.9	1,386	88.1	2,452
Birth order					
1	79.4	62.3	949	88.5	1,624
2-3	76.9	56.2	1,224	88.5	2,101
4-5	78.3	55.9	427	89.2	821
6+	77.4	52.6	160	84.5	345
Breastfeeding status					
Breastfeeding	76.3	55.5	2,378	85.9	2,470
Not breastfeeding	88.9	73.9	380	90.8	2,407
Mother's age					
15-19	81.5	62.7	440	87.0	726
20-24	75.5	55.5	871	89.1	1,575
25-29	77.1	57.0	688	87.2	1,211
30-34	78.8	59.5	391	89.6	715
35-49	80.9	59.7	265	89.4	490
Residence					
Urban	79.6	63.2	609	90.3	1,032
Rural	77.5	56.5	2,151	87.8	3,859
Division					
Barisal	71.1	53.2	166	84.9	309
Chittagong	69.6	53.1	594	86.0	1,069
Dhaka	80.5	59.8	899	89.7	1,563
Khulna	84.0	66.4	263	90.7	484
Rajshahi	84.6	60.8	625	88.8	1,044
Sylhet	69.4	49.7	213	87.5	421
Mother's education					
No education	72.7	49.7	652	86.4	1,350
Primary incomplete	76.2	52.4	576	87.7	1,090
Primary complete[3]	78.6	60.1	267	90.7	452
Secondary incomplete	81.3	63.3	874	89.8	1,373
Secondary complete or higher[4]	81.4	66.9	384	88.6	614
Wealth quintile					
Lowest	78.7	53.3	578	88.8	1,123
Second	74.1	51.3	577	84.9	1,027
Middle	77.3	55.7	537	88.8	941
Fourth	79.1	64.1	541	89.5	927
Highest	81.0	66.6	526	90.0	874
Total	78.0	58.0	2,760	88.3	4,891

Note: Information on vitamin A supplements is based on the mother's recall. Total for children age 6-35 months includes 2 children with information missing on breastfeeding status and 7 children with information missing on mother's educational attainment; total for children age 9-59 months includes 14 children with information missing on breastfeeding status and 12 children with information missing on mother's educational attainment.

na = Not applicable

[1] Includes meat and organ meat, fish, poultry, eggs, dark green leafy vegetables, mango, papaya, and other locally grown fruits and vegetables that are rich in vitamin A

[2] Includes meat and organ meat

[3] Primary complete is defined as completing grade 5.

[4] Secondary complete is defined as completing grade 10.

11.3.2 Vitamin A Supplementation

Vitamin A is an essential micronutrient for the immune system. Severe vitamin A deficiency (VAD) can result in childhood blindness. VAD can also increase the severity of infections such as measles and diarrheal diseases in children and slow recovery from illness. An important strategy to overcome VAD deficiency in Bangladesh has been the distribution of vitamin A capsules to children age 9-59 months. Children under 9 months are not included primarily because most children in this age group are breastfed and receive vitamin A through breast milk. Children age 9-11 months receive vitamin A supplementation at the time of the measles vaccination, and children age 12-59 months receive supplementation every six months during National Immunization Days and vitamin A campaigns.

The 2007 BDHS asked mothers if their children under age five had taken a vitamin A capsule during the six months preceding the survey. Table 11.7 shows that 88 percent of children age 9-59 months had received a vitamin A supplement in the last six months. The likelihood of receiving a vitamin A supplement varies with children's age. Children under the age of 12 months are less likely to have received a recent vitamin A supplement than children age 12-59 months. Nonbreastfeeding children are more likely to have received a recent vitamin A supplement than breastfeeding children (91 percent compared with 86 percent). Children living in the Sylhet, Chittagong, and Barisal divisions are not only less likely to consume fruits and vegetables rich in vitamin A, but they are also disadvantaged in terms of receiving vitamin A supplementation. The proportion of children receiving a vitamin A supplement in the past six months is highest in Khulna (91 percent) and lowest in Barisal (85 percent). Children of mothers who have completed at least primary education are more likely to have received a vitamin A supplement than children of mothers with no education or incomplete primary education. Children living in urban areas, children of older mothers, and children in the highest wealth quintile are also more likely than their counterparts to receive vitamin A supplements. The proportion of children age 9-59 months receiving a recent vitamin A supplement has increased by six percentage points, from 82 percent in the 2004 BDHS to 88 percent in the 2007 BDHS.

11.4 Nutritional Status of Women

The 2007 BDHS measured the height and weight of all ever-married women age 15-49. The data are used to derive two measures of nutritional status: height and body mass index (BMI). A woman's height can be used to predict the risk of difficulty during pregnancy, given the relationship between height and pelvic size. The risk of giving birth to low-weight babies is also higher among women of small stature. The cutoff point at which mothers can be considered at risk because of short stature is normally between 140 and 150 centimeters. The BMI is used to measure thinness or obesity. It is defined as weight in kilograms divided by height in meters squared (kg/m2). The main advantage of the BMI is that it does not require a reference table from a well-nourished population. A cutoff point in the BMI of 18.5 is used to define thinness or acute undernutrition. A BMI of 25 or above usually indicates overweight or obesity, and 30 or above indicates obesity.

Table 11.8 presents nutritional indicators for women by various background characteristics. The analysis excludes women for whom there was no information on height and/or weight and women for whom a BMI could not be estimated because they were pregnant or had given birth in the preceding two months. The height analysis is based on 10,857 ever-married women age 15-49 years, while the analysis of BMI is based on 10,021 women.

Table 11.8 Nutritional status of women

Among ever-married women age 15-49, the percentage with height under 145 cm, mean body mass index (BMI), and the percentage with specific BMI levels, by background characteristics, Bangladesh 2007

	Height			Body Mass Index[1]								
Background characteristic	Mean height in centi-meters	Percent-age below 145 cm	Number of women	Mean BMI	18.5-24.9 (total normal)	<18.5 (total thin)	17.0-18.4 (mildly thin)	<17 (moder-ately and severely thin)	≥25.0 (total over-weight or obese)	25.0-29.9 (over-weight)	≥30.0 (obese)	Number of women
Age												
15-19	150.3	15.7	1,402	19.5	62.1	34.9	23.3	11.7	2.9	2.8	0.1	1,128
20-24	150.5	14.4	2,151	20.2	61.4	31.7	20.2	11.6	6.9	6.0	0.9	1,861
25-29	150.6	14.2	1,914	20.9	57.8	28.5	19.5	9.0	13.7	12.0	1.6	1,758
30-34	150.6	14.7	1,639	21.1	60.5	24.6	14.4	10.2	15.0	12.8	2.2	1,563
35-39	150.4	16.4	1,546	21.2	55.4	27.3	15.1	12.2	17.3	14.6	2.7	1,517
40-44	150.4	13.8	1,196	20.9	57.3	29.5	17.2	12.3	13.2	11.3	1.9	1,191
45-49	150.0	17.2	1,011	20.7	53.5	33.5	16.3	17.2	13.0	10.4	2.6	1,003
Residence												
Urban	150.9	13.5	2,457	22.2	56.2	19.6	12.2	7.4	24.2	19.2	5.0	2,292
Rural	150.3	15.5	8,400	20.2	59.2	32.6	19.7	12.9	8.2	7.4	0.7	7,730
Division												
Barisal	150.4	16.5	653	20.1	57.8	33.9	20.4	13.5	8.3	7.7	0.6	601
Chittagong	150.7	13.1	2,000	20.7	60.1	28.3	17.4	10.9	11.6	9.6	2.0	1,818
Dhaka	150.3	16.6	3,394	20.9	57.6	28.1	17.0	11.0	14.3	12.3	2.1	3,156
Khulna	151.0	12.6	1,373	20.9	62.9	25.2	16.5	8.7	11.9	10.7	1.2	1,287
Rajshahi	150.1	15.3	2,746	20.5	58.0	31.5	18.9	12.6	10.5	8.7	1.8	2,545
Sylhet	150.3	15.8	692	19.9	52.2	39.3	21.5	17.9	8.5	7.5	1.0	614
Education												
No education	149.7	19.1	3,687	19.8	55.3	37.6	21.8	15.8	7.1	6.2	0.9	3,516
Primary incomplete	150.0	18.2	2,298	20.4	59.9	30.9	18.8	12.2	9.2	8.4	0.8	2,114
Primary complete[2]	150.5	12.5	920	20.7	60.7	28.4	16.8	11.6	11.0	9.3	1.7	851
Secondary incomplete	151.1	10.8	2,646	21.1	61.5	23.8	15.9	8.0	14.6	12.0	2.6	2,337
Secondary complete or higher[3]	151.7	8.7	1,291	22.5	58.0	16.2	10.5	5.7	25.8	21.8	4.0	1,189
Wealth quintile												
Lowest	149.6	19.2	2,087	19.2	53.4	43.4	25.2	18.1	3.2	3.0	0.2	1,923
Second	150.0	17.5	2,128	19.6	60.6	35.4	21.2	14.2	4.0	3.8	0.2	1,941
Middle	150.5	15.1	2,162	20.1	60.0	32.7	20.3	12.5	7.3	6.5	0.8	1,976
Fourth	150.6	13.6	2,234	20.9	63.1	25.2	15.5	9.6	11.7	10.5	1.2	2,086
Highest	151.4	10.3	2,247	23.1	55.3	13.4	8.7	4.7	31.4	25.5	5.9	2,095
Total	150.4	15.1	10,857	20.6	58.5	29.7	18.0	11.7	11.8	10.1	1.7	10,021

Note: The Body Mass Index (BMI) is expressed as the ratio of weight in kilograms to the square of height in meters (kg/m^2). Total for height includes 15 women with information missing on educational attainment; total for BMI includes 14 women with information missing on educational status

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

[2] Primary complete is defined as completing grade 5.

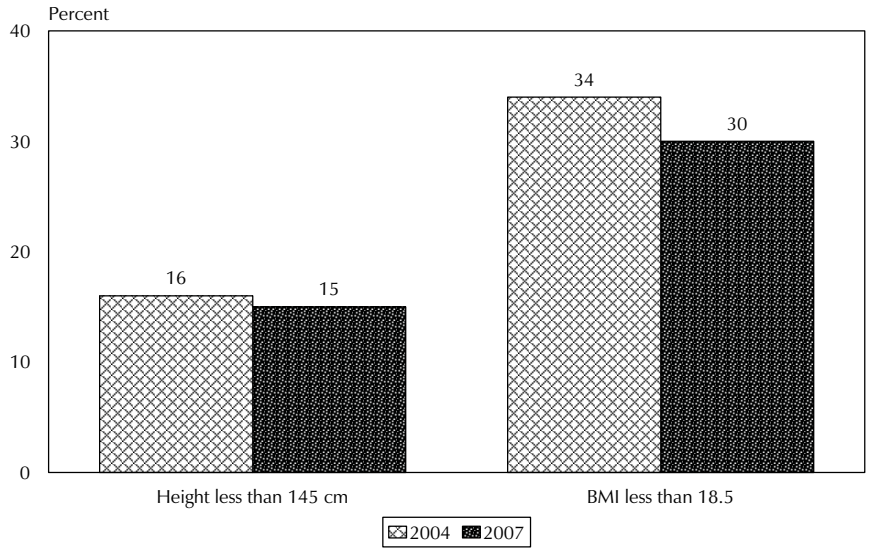
[3] Secondary complete is defined as completing grade 10.

Overall, the mean height for women is 150.4 centimeters, and 15 percent fall below the cutoff of 145 centimeters. Women in younger and older age groups are slightly shorter than women in other age groups. Urban women and women in Chittagong and Khulna divisions are taller than other women. Education and wealth are positively associated with height. For example, 19 percent of uneducated women and women in the lowest wealth quintile are below 145 centimeters, compared with 9 percent of women who have completed secondary or higher education and 10 percent of women in the highest wealth quintile.

The mean BMI for women age 15-49 is 20.6 (Table 11.8). About six in ten women (59 percent) are considered to have normal BMI, while 30 percent are undernourished or thin (BMI less than 18.5), and 12 percent are overweight or obese (BMI 25 or higher). There are large variations by background characteristics. Women age 15-19 and women age 45-49 are more likely to be thin or undernourished than women in other age cohorts (35 percent and 34 percent, respectively). The proportion of overweight or obese women is low among women under 25 years and varies from 13 to 17 percent among older women. Rural women are more likely to be undernourished than urban women (33 percent and 20 percent, respectively), while urban women are about three times more likely to be overweight or obese than rural women (24 percent and 8 percent, respectively). Among the divisions, Sylhet has the highest (39 percent) and Khulna the lowest (25 percent) proportion of women who are undernourished. As educational attainment and household wealth rise, the proportion of women who are undernourished declines sharply and the proportion of women who are overweight or obese rises.

Both the 2004 and 2007 BDHS surveys included anthropometric measurements of all ever-married women age 15-49. In previous BDHS surveys, only women who had children under five years of age were selected for anthropometric measurements. Hence, the comparisons are confined to the 2004 and 2007 surveys (Figure 11.8). The mean height of all ever-married women age 15-49 has not changed since 2004. The data indicate a slight improvement in women's nutritional status as measured by the BMI. Since 2004 the mean BMI has increased from 20.2 to 20.6; consequently, the proportion of women with a BMI below the cutoff point of 18.5 has decreased from 34 percent to 30 percent. Moreover, obesity among women has increased slightly, from 9 percent in 2004 to 12 percent in 2007.

Figure 11.8 Trends in Nutritional Status of Ever-Married Women 2004 and 2007 BDHS



Note: Nutritional status data are for ever-married women age 10-49 in 2004 and age 15-49 in 2007.

11.4.1 Micronutrient Intake among Mothers

Table 11.9 presents information on the percentage of women who received a vitamin A dose during the first two months after the birth of their most recent child. Overall, 20 percent of women age 15-49 with a child born in the past five years received a postpartum vitamin A dose; this varies with urban-rural residence, number of living children, division, educational attainment, and household wealth. There is no discernible pattern with respect to the age of the women. Women in urban areas (24 percent) are more likely to receive vitamin A supplements than those in rural areas (18 percent). Among the divisions, the percentage of women who receive a postpartum vitamin A dose is highest in Barisal and Chittagong (23 percent each), followed by Rajshahi and Sylhet (20 percent each).

Postpartum vitamin A supplementation increases steadily with educational level. Only 14 percent of women with no education or incomplete primary education received a vitamin A dose postpartum, compared with 26 percent of women with some secondary education and 27 percent of women who have completed secondary or higher education. Vitamin A supplementation is also strongly associated with household wealth, increasing from 13 percent among mothers in the lowest wealth quintile to 27 percent among mothers in the top quintile.

Table 11.9 Micronutrient intake among mothers

Among women age 15-49 with a child born in the past five years, the percentage who received a vitamin A dose in the first two months after the birth of the last child, by background characteristics, Bangladesh 2007

Background characteristic	Percentage who received vitamin A dose postpartum[1]	Number of women
Age		
15-19	19.2	798
20-24	20.8	1,648
25-29	18.7	1,239
30-34	19.4	702
35-49	17.6	518
Number of children ever born		
1	23.9	1,566
2-3	18.6	2,141
4-5	16.7	843
6+	12.0	355
Residence		
Urban	24.2	1,039
Rural	18.2	3,866
Division		
Barisal	23.4	313
Chittagong	23.4	1,030
Dhaka	16.5	1,556
Khulna	17.3	503
Rajshahi	19.7	1,118
Sylhet	20.1	384
Education		
No education	14.4	1,282
Primary incomplete	13.8	1,056
Primary complete[2]	16.8	451
Secondary incomplete	25.6	1,453
Secondary complete or higher[3]	27.0	651
Wealth quintile		
Lowest	12.5	1,068
Second	15.7	1,045
Middle	18.8	932
Fourth	24.9	958
Highest	27.0	902
Total	19.5	4,905

Note: Total includes 12 women with information missing on educational attainment
[1] In the first two months after delivery
[2] Primary complete is defined as completing grade 5.
[3] Secondary complete is defined as completing grade 10.

HIV/AIDS-RELATED KNOWLEDGE, ATTITUDES, AND BEHAVIOR

12

Acquired Immune Deficiency Syndrome (AIDS) was first recognized internationally in 1981. It is caused by the human immunodeficiency virus (HIV), which weakens the immune system and makes the body susceptible to and unable to recover from other opportunistic diseases. Secondary infections lead to death if not adequately treated. A large proportion of those infected with HIV die within five to ten years (WHO, 1992). Epidemiological studies have identified the main routes of transmission of HIV to be unsafe sexual intercourse, intravenous injections with contaminated needles, unscreened or contaminated blood transfusions, and transmission from an infected mother to her child during pregnancy, delivery or breastfeeding. HIV cannot be transmitted through food, water, insect vectors, or casual contact.

The first case of AIDS in Bangladesh was reported in 1989. In 2007, a total of 333 new cases of HIV infection 125 new AIDS cases, and 14 deaths due to AIDS were reported. The total number of HIV-positive people in Bangladesh increased from 363 in 2003 to 1,207 by the end of 2007—a threefold increase in four years (NASP, 2007). This indicates both the likelihood of incomplete reporting and the potential for growth of the epidemic.

Bangladesh's HIV/AIDS prevention program started in 1985. In 1995, the Directorate General of Health Services (DGHS) of the Ministry of Health and Family Welfare formed a Task Force convened by the Technical Committee of the National AIDS Council (TC-NAC). This committee is comprised of experts from various fields relevant to the prevention and control of HIV and STDs. With political support from the National AIDS Council and technical support from the TC-NAC, the Task Force led the process of developing a National Policy on HIV and AIDS, which was endorsed by the Cabinet in 1997 (NASP and MOHFW, 2008).

In 1998, as recommended by the National Policy on HIV and AIDS, a National AIDS/STD Program (NASP) was established under the DGHS to oversee HIV/AIDS programs in the country under the guidance of the National AIDS Council. The National AIDS/STD Program has established guidelines on key issues, including testing, care, blood safety, sexually transmitted infections, and prevention among youth, women, migrant populations, and sex workers. In 2004, a six-year National Strategic Plan (2004-2010) was approved. The National AIDS Communication Strategy (2006-2010) was also developed and launched (NASP, 2006).

Bangladesh has been conducting serological surveillance and behavioral surveys since 1999. These national-level data are powerful tools in better understanding and addressing the HIV situation at both national and sub-national levels and thereby designing prevention, treatment, care, and support programs. The seventh serological surveillance survey of HIV in Bangladesh was conducted in 2006 (NASP, 2007). Since 1989-90, serological surveillance surveys of most-at-risk groups have been conducted approximately every two years. Infection levels have remained below 1 percent. Injection drug users (IDU) accounted for almost nine in ten HIV-positive cases found in the 2006 sero-surveillance survey. Among male IDUs in Dhaka city, HIV prevalence increased from around 1 percent in 1999 to about 7 percent in 2006 (NASP, 2006).

Bangladesh has been implementing the HIV prevention program through awareness raising activities since 1987, a time when there were no identified cases of HIV in the country. Over the past 20 years, the HIV program has grown in size and quality, involved a wider network of stakeholders, and increased its coverage of most-at-risk populations, including young people. There have been various

efforts to prevent HIV transmission, such as public health education through the media and program activities by both government and nongovernmental organizations, particularly with groups that are considered to be at high risk for the transmission of HIV/AIDS.

Since Bangladesh is still considered a low-prevalence country, no special focus has been placed on the general population. The major challenge for Bangladesh is that HIV is not seen as posing an immediate threat. As a result, the focus continues to be mainly on high-risk groups. To meet this challenge, this chapter presents current levels of knowledge and attitudes regarding HIV/AIDS prevention and transmission in the general population of men and women of reproductive age. The chapter also discusses the self-reported prevalence of sexually transmitted infections (STIs) and symptoms.

Table 12.1 Knowledge of AIDS

Percentage of ever-married women and ever-married men age 15-49 who have heard of AIDS, by background characteristics, Bangladesh 2007

Background characteristic	Women		Men	
	Ever heard of AIDS	Number of women	Ever heard of AIDS	Number of men
Age				
15-24	78.1	3,599	91.4	310
15-19	76.8	1,424	*	20
20-24	78.9	2,175	91.4	290
25-29	70.7	1,931	90.4	616
30-39	64.0	3,224	88.1	1,151
40-49	52.1	2,243	81.7	1,150
Marital status				
Married	68.3	10,192	86.7	3,202
Divorced/separated/ widowed	55.7	804	(73.1)	26
Residence				
Urban	87.0	2,482	95.1	742
Rural	61.6	8,514	84.0	2,486
Division				
Barisal	61.7	662	83.1	186
Chittagong	65.3	2,023	88.4	531
Dhaka	73.1	3,431	88.7	977
Khulna	77.9	1,396	92.5	438
Rajshahi	61.0	2,776	83.1	907
Sylhet	55.0	707	77.0	188
Education				
No education	42.4	3,746	70.2	964
Primary incomplete	61.8	2,320	87.4	859
Primary complete[1]	74.7	929	90.7	218
Secondary incomplete	91.1	2,681	98.5	607
Secondary complete or higher[2]	95.2	1,304	98.7	580
Wealth quintile				
Lowest	40.0	2,115	72.0	592
Second	52.9	2,157	79.7	677
Middle	66.4	2,186	87.3	671
Fourth	82.7	2,259	95.3	634
Highest	92.2	2,278	97.8	654
Total 15-49	67.4	10,996	86.6	3,227
50-54	na	na	74.5	544
Total men 15-54	na	na	84.8	3,771

Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed. Total number of women includes 16 women with information missing on educational attainment
na = Not applicable
[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

12.1 KNOWLEDGE OF HIV/AIDS AND TRANSMISSION AND PREVENTION METHODS

12.1.1 Knowledge of AIDS

The 2007 BDHS asked women and men if they had ever heard of an illness called AIDS. Table 12.1 shows the percentage of ever-married women and men age 15-49 who have heard of AIDS, by background characteristics. Knowledge of AIDS is higher among men than women for all background characteristics. About two-thirds (67 percent) of ever-married women have heard of AIDS, compared with about nine in ten (87 percent) ever-married men. Knowledge of AIDS has increased considerably in the past 10 years, rising from 19 percent of ever-married women in 1996-97 to 67 percent in 2007. Among currently married men, knowledge has grown from 33 percent in the 1996-97 BDHS to 87 percent in the 2007 BDHS. Messages on HIV/AIDS broadcast through various electronic and printed media may have contributed to this increase in AIDS knowledge.

Awareness of HIV/AIDS among ever-married women varies greatly by age, marital status, urban-rural residence, administrative division, education, and household wealth. Knowledge of AIDS is higher

among younger women and currently married women compared with other women. Women living in urban areas have a higher level of AIDS knowledge than rural women (87 percent and 62 percent, respectively). Among administrative divisions, awareness of AIDS ranges from a low of 55 percent of women in Sylhet to a high of 78 percent of women in Khulna. Knowledge of AIDS increases with both education and wealth. Nearly all women (95 percent) who have completed secondary or higher education have heard of AIDS, compared with two in five women (42 percent) with no education. AIDS knowledge rises from 40 percent of women in the lowest wealth quintile to 92 percent of women in the highest wealth quintile.

Patterns of awareness of HIV/AIDS by background characteristics are similar for ever-married men, but the differentials are smaller. The gap in knowledge of HIV/AIDS between men and women is much smaller in urban areas than in rural areas; the gap also decreases as women's education and household wealth increase.

12.1.2 Knowledge of HIV Prevention Methods

HIV prevention programs focus their messages and efforts on three important aspects of behavior: delaying sexual debut (abstinence), staying faithful to one uninfected partner, and condom use (the ABC message). To ascertain whether programs have effectively communicated these messages, respondents were asked specific questions about whether it is possible to reduce the chances of getting the AIDS virus by abstaining from sex, having just one faithful uninfected sexual partner, and using a condom at every sexual encounter.

Table 12.2 presents knowledge about specific HIV prevention methods among ever-married women and men age 15-49 by background characteristics. About one-third of ever-married women are aware of each of the three major ways to reduce the risk of getting HIV: abstaining from sexual intercourse (32 percent), limiting sex to one uninfected partner who has no other partners (33 percent), and using condoms (32 percent). Overall, men have greater knowledge of HIV prevention methods than women. The most commonly known HIV prevention methods among men are the use of condoms (66 percent) and limiting sex to one faithful uninfected partner (63 percent). Only 20 percent of women are aware *both* that using condoms *and* limiting sexual intercourse to one uninfected faithful partner can reduce the risk of getting the AIDS virus, compared with 52 percent of men.

Young women and men age 15-24 are more knowledgeable about the various modes of prevention than older respondents. For instance, about 26 percent of women and 60 percent of men age 15-24 mentioned that using condoms and limiting sex to one faithful uninfected partner can reduce the risk of getting the AIDS virus, compared with 13 percent of women and 46 percent of men age 40-49. Also, about 38 percent of women age 15-24 mentioned that not having sexual intercourse at all can reduce the risk of getting the AIDS virus, compared with 24 percent of women age 40-49.

Knowledge of HIV prevention methods among both women and men is highest in urban areas and among residents of Khulna division. Education and household wealth are strongly correlated with knowledge of HIV prevention methods. For example, 44 percent of women who have completed secondary or higher education know that using condoms and limiting sexual intercourse to one uninfected partner can reduce a person's chances of getting the AIDS virus, compared with 9 percent of women with no education. Similarly, 53 percent of women who have completed secondary or higher education know that abstaining from sexual intercourse can reduce a person's chances of getting the AIDS virus, compared with 19 percent of women with no education. Women living in households in the higher wealth quintiles are also more likely to be aware of ways to prevent the AIDS virus than women in the lower quintiles. Patterns are similar for men, but men are much more knowledgeable about the ways HIV is prevented than women for all background characteristics.

Table 12.2 Knowledge of HIV prevention methods

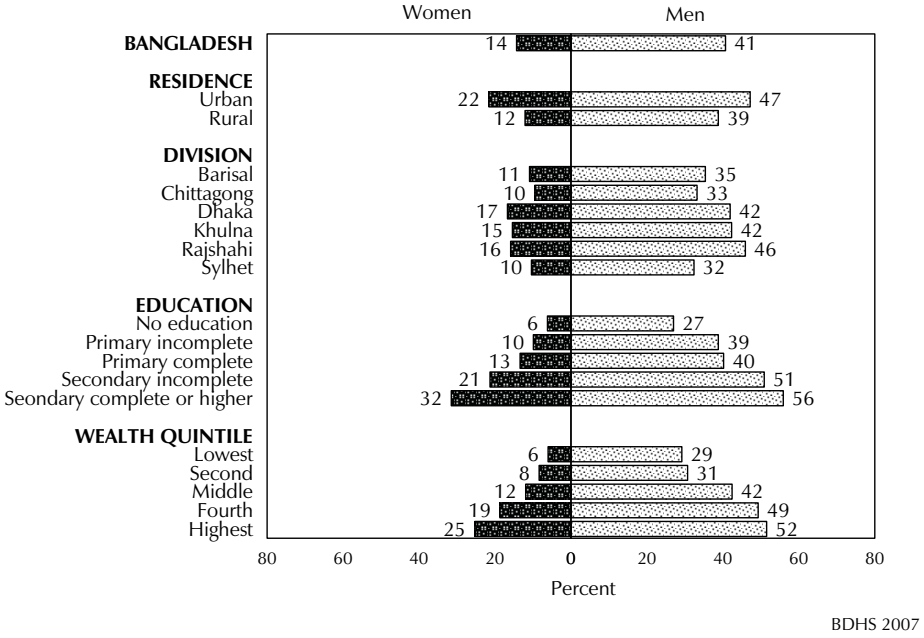
Percentage of ever-married women and ever-married men age 15-49 who, in response to prompted questions, say that people can reduce the risk of getting the AIDS virus by using condoms every time they have sexual intercourse, by having one sex partner who is not infected and has no other partners, and by abstaining from sexual intercourse, by background characteristics, Bangladesh 2007

	Women					Men				
Background characteristic	Using condoms[1]	Limiting sexual intercourse to one uninfected partner[2]	Using condoms and limiting sexual intercourse to one uninfected partner[1,2]	Abstaining from sexual intercourse	Number of women	Using condoms[1]	Limiting sexual intercourse to one uninfected partner[2]	Using condoms and limiting sexual intercourse to one uninfected partner[1,2]	Abstaining from sexual intercourse	Number of men
Age										
15-24	39.9	39.7	25.7	37.5	3,599	73.9	68.1	60.2	61.4	310
15-19	39.3	40.8	25.4	36.8	1,424	*	*	*	*	20
20-24	40.4	38.9	25.9	38.0	2,175	73.1	68.1	59.9	62.9	290
25-29	33.8	33.3	21.0	33.4	1,931	73.4	67.1	58.7	62.1	616
30-39	30.2	30.0	18.5	30.6	3,224	67.6	63.6	53.3	56.2	1,151
40-49	19.9	23.8	12.6	23.6	2,243	57.9	58.7	45.8	53.9	1,150
Marital status										
Married	32.9	33.2	20.7	32.5	10,192	65.9	63.0	52.4	57.1	3,202
Divorced/separated/widowed	19.2	23.8	12.4	24.4	804	(56.5)	(50.9)	(41.3)	(46.9)	26
Residence										
Urban	46.2	45.4	30.2	44.3	2,482	76.4	70.0	60.1	64.7	742
Rural	27.8	28.7	17.2	28.3	8,514	62.7	60.8	50.0	54.7	2,486
Division										
Barisal	27.9	27.9	17.2	27.1	662	59.7	60.7	48.4	49.3	186
Chittagong	27.6	26.5	15.0	24.8	2,023	65.3	57.6	46.2	54.9	531
Dhaka	34.0	36.8	22.2	35.9	3,431	67.1	65.8	55.0	56.4	977
Khulna	37.8	36.6	23.3	39.8	1,396	70.8	64.8	56.3	59.0	438
Rajshahi	32.2	33.2	22.0	31.1	2,776	66.6	65.2	54.5	60.7	907
Sylhet	25.0	22.4	13.6	25.2	707	52.1	50.2	39.6	50.9	188
Education										
No education	15.0	17.3	8.5	19.3	3,746	48.3	44.6	34.4	42.8	964
Primary incomplete	25.4	25.8	14.5	27.2	2,320	62.1	62.9	49.0	57.0	859
Primary complete[3]	32.7	33.2	19.3	32.7	929	62.8	66.5	51.0	61.2	218
Secondary incomplete	46.4	47.3	30.0	43.4	2,681	81.2	74.7	66.6	65.1	607
Secondary complete or higher[4]	62.1	57.2	43.7	52.7	1,304	85.6	79.7	72.7	70.5	580
Wealth quintile										
Lowest	15.6	16.9	9.5	18.6	2,115	48.1	50.2	36.5	45.8	592
Second	21.6	23.8	12.2	23.3	2,157	54.0	52.5	40.1	50.2	677
Middle	28.8	30.0	17.5	29.2	2,186	66.9	64.6	54.6	57.2	671
Fourth	39.1	40.4	25.2	39.7	2,259	77.7	71.6	62.3	64.7	634
Highest	52.7	49.8	35.0	47.4	2,278	81.7	75.2	67.3	66.4	654
Total 15-49	31.9	32.5	20.1	31.9	10,996	65.8	62.9	52.3	57.0	3,227
50-54	na	na	na	na	na	53.6	54.3	42.4	49.6	544
Total men 15-54	na	na	na	na	na	64.1	61.7	50.9	55.9	3,771

Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed. Total number of women includes 16 women with information missing on educational attainment
na = Not applicable
[1] Using condoms every time they have sexual intercourse
[2] Partner who has no other partners
[3] Primary complete is defined as completing grade 5.
[4] Secondary complete is defined as completing grade 10.

Figure 12.1 shows the percentage of ever-married women and men age 15-49 who know *all three* methods to reduce the chances of getting the AIDS virus (the complete ABC message). Two-fifths of men (41 percent) and only 14 percent of women know all three HIV prevention methods. Knowledge of the ABC message varies by background characteristics in a pattern similar to other findings. HIV prevention knowledge is higher among men than women, and differentials in knowledge are smaller than those for women, except for education and household wealth. Among women, knowledge of the ABC message is lower among those who live in rural areas, reside in Chittagong, have no education, and belong to the lowest wealth quintile, compared with other women.

Figure 12.1 Percentage of Ever-married Women and Men Who Know All Three Means of HIV Prevention (Abstaining, Being Faithful, and Using Condoms)



BDHS 2007

12.1.3 Rejection of Misconceptions about HIV/AIDS

It is important to reject incorrect beliefs about AIDS and eliminate misconceptions. Common misconceptions about AIDS in Bangladesh include the idea that HIV-infected people always appear ill and the belief that the virus can be transmitted through mosquito bites or by sharing food with someone who has AIDS.

The data presented in Tables 12.3.1 and 12.3.2 indicate that many Bangladeshi adults lack accurate knowledge about the ways in which the AIDS virus can and cannot be transmitted. Only 27 percent of women and 30 percent of men age 15-49 know that the AIDS virus cannot be transmitted by mosquito bites. Slightly larger proportions (30 percent of women and 37 percent of men) correctly believe that a person cannot become infected by sharing food with a person who has AIDS. Both women (52 percent) and men (75 percent) are much more likely to be aware that a healthy-looking person can have the AIDS virus.

Table 12.3.1 Comprehensive knowledge about AIDS: Women

Percentage of ever-married women age 15-49 who say that a healthy-looking person can have the AIDS virus and who, in response to prompted questions, correctly reject local misconceptions about AIDS transmission or prevention, and the percentage with a comprehensive knowledge about AIDS by background characteristics, Bangladesh 2007

Background characteristic	Percentage of respondents who say that: A healthy-looking person can have the AIDS virus	AIDS cannot be transmitted by mosquito bites	A person cannot become infected by sharing food with a person who has AIDS	Percentage who say that a healthy-looking person can have the AIDS virus and who reject the two most common local misconceptions[1]	Percentage with a comprehensive knowledge about AIDS[2]	Number of women
Age						
15-24	60.7	31.4	37.9	17.0	8.0	3,599
15-19	59.5	29.5	36.6	16.5	6.8	1,424
20-24	61.5	32.7	38.8	17.3	8.7	2,175
25-29	55.5	30.7	32.7	16.5	6.7	1,931
30-39	49.7	24.6	27.3	12.7	5.3	3,224
40-49	39.6	19.3	18.1	7.8	3.1	2,243
Marital status						
Married	53.2	27.4	30.6	14.2	6.2	10,192
Divorced/separated/widowed	39.9	19.3	21.0	8.3	2.8	804
Residence						
Urban	69.3	42.7	51.0	25.8	12.0	2,482
Rural	47.3	22.2	23.7	10.3	4.2	8,514
Division						
Barisal	50.4	25.5	23.6	11.8	5.9	662
Chittagong	46.0	29.3	31.0	13.3	4.1	2,023
Dhaka	57.5	31.1	36.1	17.7	8.3	3,431
Khulna	64.8	28.1	31.8	15.0	6.7	1,396
Rajshahi	47.8	21.1	24.3	10.8	5.0	2,776
Sylhet	39.4	20.3	20.3	7.4	2.7	707
Education						
No education	30.4	12.2	12.3	3.9	1.4	3,746
Primary incomplete	46.6	19.9	20.4	7.6	1.9	2,320
Primary complete[3]	59.1	26.7	28.3	11.7	3.4	929
Secondary incomplete	72.3	40.0	46.4	22.4	9.8	2,681
Secondary complete or higher[4]	79.2	54.4	64.5	37.0	20.6	1,304
Wealth quintile						
Lowest	29.6	11.0	11.3	4.0	1.2	2,115
Second	39.8	17.0	14.9	6.5	2.4	2,157
Middle	51.0	21.1	22.8	7.7	3.1	2,186
Fourth	64.9	35.1	39.6	18.2	7.9	2,259
Highest	73.8	48.2	58.4	31.3	14.7	2,278
Total 15-49	52.3	26.8	29.9	13.8	6.0	10,996

Note: Total includes 16 women with information missing on educational attainment

[1] Two most common local misconceptions: AIDS can be transmitted by mosquito bites and a person can become infected by sharing food with a person who has AIDS

[2] Comprehensive knowledge means knowing that consistent use of condoms during sexual intercourse and having just one uninfected faithful partner can reduce the chance of getting the AIDS virus, knowing that a healthy-looking person can have the AIDS virus, and rejecting the two most common local misconceptions about AIDS transmission or prevention.

[3] Primary complete is defined as completing grade 5.

[4] Secondary complete is defined as completing grade 10.

Table 12.3.2 Comprehensive knowledge about AIDS: Men

Percentage of ever-married men age 15-49 who say that a healthy-looking person can have the AIDS virus and who, in response to prompted questions, correctly reject local misconceptions about AIDS transmission or prevention, and the percentage with a comprehensive knowledge about AIDS by background characteristics, Bangladesh 2007

Background characteristic	Percentage of respondents who say that:			Percentage who say that a healthy looking person can have the AIDS virus and who reject the two most common local miscon- ceptions[1]	Percentage with a compre- hensive knowledge about AIDS[2]	Number of men
	A healthy-looking person can have the AIDS virus	AIDS cannot be transmitted by mosquito bites	A person cannot become infected by sharing food with a person who has AIDS			
Age						
15-24	79.8	30.1	45.9	21.9	17.9	310
15-19	*	*	*	*	*	20
20-24	79.2	30.2	45.4	22.0	17.9	290
25-29	78.7	34.1	43.5	22.2	16.6	616
30-39	76.1	32.1	37.7	19.6	15.2	1,151
40-49	69.9	26.9	31.4	14.4	11.1	1,150
Marital status						
Married	74.8	30.5	37.4	18.6	14.4	3,202
Divorced/separated/widowed	(60.9)	(24.4)	(31.3)	(4.5)	(0.9)	26
Residence						
Urban	81.0	41.7	55.0	28.0	22.7	742
Rural	72.8	27.0	32.1	15.6	11.8	2,486
Division						
Barisal	75.2	27.0	31.9	13.8	10.7	186
Chittagong	67.8	37.1	38.9	16.4	11.3	531
Dhaka	75.4	28.2	39.0	18.5	14.5	977
Khulna	83.7	28.0	38.4	16.7	12.2	438
Rajshahi	76.2	31.3	37.6	22.4	18.4	907
Sylhet	62.1	27.6	25.8	13.9	9.8	188
Education						
No education	56.2	16.2	20.0	7.1	4.8	964
Primary incomplete	75.2	23.1	29.6	11.5	9.2	859
Primary complete[3]	77.9	31.8	38.1	16.8	11.8	218
Secondary incomplete	87.0	38.4	46.1	23.0	18.3	607
Secondary complete or higher[4]	90.8	56.0	68.2	43.5	34.2	580
Wealth quintile						
Lowest	59.3	17.5	16.3	6.6	5.1	592
Second	67.2	21.9	22.7	9.7	6.0	677
Middle	74.8	28.0	37.7	17.3	14.2	671
Fourth	85.3	35.7	46.8	23.7	17.9	634
Highest	86.0	48.3	62.0	34.5	27.6	654
Total 15-49	74.7	30.4	37.3	18.5	14.3	3,227
50-54	60.7	27.2	29.7	15.3	12.2	544
Total men 15-54	72.7	30.0	36.2	18.0	14.0	3,771

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

[1] Two most common local misconceptions:AIDS can be transmitted by mosquito bites and a person can become infected by sharing food with a person who has AIDS

[2] Comprehensive knowledge means knowing that consistent use of condom during sexual intercourse and having just one uninfected faithful partner can reduce the chance of getting the AIDS virus, knowing that a healthy-looking person can have the AIDS virus, and rejecting the two most common local misconceptions about AIDS transmission or prevention.

[3] Primary complete is defined as completing grade 5.

[4] Secondary complete is defined as completing grade 10.

12.1.4 Comprehensive Knowledge about AIDS

As the landscape of the HIV epidemic changes with time, it is necessary for people to have more comprehensive knowledge of AIDS. The 2007 BDHS combines several indicators previously discussed to assess comprehensive knowledge about AIDS. Comprehensive knowledge is defined as knowing that both consistent condom use during sexual intercourse and having just one uninfected faithful partner are AIDS prevention methods; being aware that a healthy-looking person can have the AIDS virus; and rejecting the two most common local misconceptions about AIDS. By this measure, only 6 percent of women and 14 percent of men age 15-49 have comprehensive knowledge about AIDS.

Tables 12.3.1 and 12.3.2 show how comprehensive AIDS knowledge varies by background characteristics. Men are more likely to have comprehensive AIDS knowledge than women for all background characteristics shown. Among women, comprehensive knowledge about AIDS decreases with age, and it is higher among married respondents and urban residents than other women. Among administrative divisions, comprehensive AIDS knowledge is lowest in Sylhet. Comprehensive knowledge about AIDS increases with education, rising from 1 percent among women with no education to 21 percent among women who have completed secondary or higher education. Comprehensive knowledge about AIDS also increases with household wealth.

12.1.5 Knowledge of Means of Transmission of HIV

To ascertain whether respondents know about non-sexual means of transmission of HIV, the 2007 BDHS asked whether it is possible to get the AIDS virus by using an unsterilized needle or syringe and through unsafe blood transfusion. Table 12.4 shows that 59 percent of women and 80 percent of men know that the AIDS virus can be transmitted by using an unsterilized needle or syringe, while 60 percent of women and 82 percent of men know that the AIDS virus can be transmitted via blood transfusion. About 57 percent of women and four in five men know both of these means of HIV transmission.

Table 12.4 also reveals considerable variation in respondents' knowledge of HIV transmission by background characteristics. Knowledge is higher among younger women, married women, urban women, women living in Khulna, women who have completed secondary or higher education, and women who belong to the highest wealth quintile. Similar patterns are observed for men.

Table 12.4 Knowledge of transmission of HIV through unclean needles and unsafe blood transfusions

Percentage of ever-married women and men age 15-49 who, in response to prompted questions, say that people can get the AIDS virus by using an unsterilized needle or syringe and through blood transfusion, by background characteristics, Bangladesh 2007

Background characteristic	Women				Men			
	Using an unsterilized needle or syringe	Via a blood transfusion	Both	Number of women	Using an unsterilized needle or syringe	Via a blood transfusion	Both	Number of men
Age								
15-24	69.9	70.5	66.9	3,599	84.7	85.9	83.7	310
15-19	69.3	70.4	66.5	1,424	*	*	*	20
20-24	70.3	70.5	67.2	2,175	85.3	86.1	84.2	290
25-29	62.2	62.4	59.3	1,931	84.2	85.9	83.0	616
30-39	56.3	56.6	53.9	3,224	81.9	82.9	79.8	1,151
40-49	44.0	45.1	41.8	2,243	74.9	77.3	73.8	1,150
Marital status								
Married	60.4	60.9	57.8	10,192	80.2	81.9	78.7	3,202
Divorced/separated/widowed	45.1	45.8	42.0	804	(71.3)	(71.3)	(71.3)	26
Residence								
Urban	79.1	80.5	76.9	2,482	90.2	91.9	89.3	742
Rural	53.5	53.8	50.8	8,514	77.1	78.8	75.5	2,486
Division								
Barisal	49.5	51.7	46.4	662	72.7	75.2	69.9	186
Chittagong	52.4	54.4	49.4	2,023	81.1	82.4	78.7	531
Dhaka	64.7	65.2	62.1	3,431	79.9	82.3	78.0	977
Khulna	72.5	72.4	70.0	1,396	89.4	89.1	88.4	438
Rajshahi	56.7	56.0	54.3	2,776	79.6	81.4	79.3	907
Sylhet	46.0	46.8	43.3	707	66.4	68.5	64.7	188
Education								
No education	34.7	34.9	32.5	3,746	61.7	62.9	59.7	964
Primary incomplete	52.5	52.7	49.4	2,320	80.8	83.2	79.4	859
Primary complete[1]	66.3	67.1	63.8	929	82.8	85.8	81.4	218
Secondary incomplete	82.4	83.4	79.3	2,681	92.2	93.9	90.8	607
Secondary complete or higher[2]	89.9	90.5	87.7	1,304	96.0	96.8	95.3	580
Wealth quintile								
Lowest	33.2	33.4	31.3	2,115	62.7	65.0	61.2	592
Second	45.0	44.6	41.9	2,157	71.9	74.1	69.6	677
Middle	56.7	57.5	53.5	2,186	81.6	83.2	81.1	671
Fourth	73.4	74.6	70.8	2,259	89.3	90.2	87.2	634
Highest	85.5	86.2	83.2	2,278	94.0	95.2	93.0	654
Total 15-49	59.3	59.8	56.7	10,996	80.1	81.8	78.7	3,227
50-54	na	na	na	na	69.3	70.7	68.1	544
Total men 15-54	na	na	na	na	78.6	80.2	77.1	3,771

Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed. Total number of women includes 16 women with information missing on educational attainment

na = Not applicable

[1] Primary complete is defined as completing grade 5.

[2] Secondary complete is defined as completing grade 10.

12. 2 ATTITUDES TOWARD NEGOTIATING SAFE SEXUAL RELATIONS WITH HUSBANDS

Comprehensive knowledge about HIV transmission and ways to prevent it are basic prerequisites for prevention, but translating knowledge into behavior depends on a number of individual, social, and contextual factors. One of the important determinants of practicing safer sex is control over one's own sexuality. Knowledge about HIV transmission and ways to prevent it are of little use if women feel powerless to negotiate safer sex practices with their husbands. In an effort to assess a woman's ability to negotiate safer sex with her husband, the 2007 BDHS asked women and men if they think that a wife is justified in refusing to have sex with her husband when she knows he has a disease that can be transmitted through sexual contact.

Table 12.5 shows that the majority of women and men (86 percent and 90 percent, respectively) think that if a woman knows her husband has a sexually transmitted infection (STI), she is justified in refusing to have sex with him. There are minimal variations in women's attitudes toward negotiating safer sex with husbands by background characteristics, with the exception of administrative division. The proportion of women who support a woman's right to refuse sex ranges from 67 percent in Barisal to 93 percent in Khulna.

Table 12.5 Attitudes toward negotiating safer sexual relations with husband

Percentage of ever-married women and men age 15-49 who believe that, if a husband has a sexually transmitted disease, his wife is justified in refusing to have sexual intercourse with him, by background characteristics, Bangladesh 2007

Background characteristic	Women		Men	
	Refusing to have sexual intercourse is justified	Number of women	Refusing to have sexual intercourse is justified	Number of men
Age				
15-24	86.8	3,599	90.7	310
15-19	88.5	1,424	*	20
20-24	85.6	2,175	90.2	290
25-29	85.6	1,931	91.8	616
30-39	86.3	3,224	90.4	1,151
40-49	83.9	2,243	88.8	1,150
Marital status				
Married	86.1	10,192	90.2	3,202
Divorced/separated/widowed	82.2	804	(78.9)	26
Residence				
Urban	87.6	2,482	88.5	742
Rural	85.3	8,514	90.6	2,486
Division				
Barisal	66.6	662	69.2	186
Chittagong	77.5	2,023	80.4	531
Dhaka	90.5	3,431	94.6	977
Khulna	92.6	1,396	88.9	438
Rajshahi	91.7	2,776	97.2	907
Sylhet	68.6	707	83.7	188
Education				
No education	83.5	3,746	90.7	964
Primary incomplete	84.6	2,320	89.4	859
Primary complete[1]	85.9	929	88.6	218
Secondary incomplete	87.8	2,681	89.7	607
Secondary complete or higher[2]	90.4	1,304	91.2	580
Wealth quintile				
Lowest	83.8	2,115	88.6	592
Second	85.2	2,157	89.9	677
Middle	84.4	2,186	91.9	671
Fourth	87.5	2,259	89.5	634
Highest	88.0	2,278	90.5	654
Total 15-49	85.8	10,996	90.1	3,227
50-54	na	na	90.7	544
Total men 15-54	na	na	90.2	3,771

Note: Figures in parentheses are based on 25-49 unweighted cases; an asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed. Total number of women includes 16 women with information missing on educational attainment
na = Not applicable
[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

12.3 Self-reported Prevalence of Sexually Transmitted Infections (STIs) and STI Symptoms

Information about the prevalence of sexually transmitted infections (STIs) is useful not only as a marker of unprotected sexual intercourse but also as a cofactor for HIV transmission. STIs are closely associated with HIV because they increase the likelihood of contracting HIV and share similar risk factors. The 2007 BDHS asked respondents who ever had sex whether, in the past 12 months, they had had a disease contracted through sexual contact. They were also asked whether they had experienced a genital sore or ulcer or had any abnormal genital discharge in the past year. These symptoms are useful in identifying STIs among men. However, they are less easily interpreted in women, because women are likely to experience more conditions of the reproductive tract other than STIs that produce a genital discharge.

Table 12.6 shows that self-reported STI prevalence among women and men age 15-49 in Bangladesh is negligible. Less than 1 percent of women and less than 2 percent of men reported having had an STI in the 12 months prior to the survey. It is likely that these figures underestimate the actual prevalence of STIs among the sexually active population in Bangladesh, as many STI symptoms are not easily recognized, and many STIs do not have any visible symptoms.

Self-reported prevalence of STIs and/or STI symptoms (including genital sore or ulcer and bad smelling or abnormal genital discharge) is higher among women than men. Eleven percent of women age 15-49 reported having had an STI and/or symptoms of an STI in the 12 months prior to the survey, compared with only 4 percent of men. Women who report STI symptoms are somewhat more likely to say they have had a bad-smelling or abnormal genital discharge (7 percent) than a genital ulcer or sore (5 percent). The percentage of women reporting an STI and/or STI symptoms varies by background characteristics, mainly marital status, urban-rural residence, and administrative division. It is higher among married women, rural women, and women living in Barisal.

Table 12.6 Self-reported prevalence of sexually-transmitted infections (STIs) and STI symptoms

Among women and men age 15-49 who ever had sexual intercourse, the percentage reporting having an STI and/or symptoms of an STI in the past 12 months, by background characteristics, Bangladesh 2007

	Women					Men				
Background characteristic	STI	Bad - smelling/ abnormal genital discharge	Genital sore/ ulcer	STI/ genital discharge/ sore or ulcer	Number of women who ever had sexual intercourse	STI	Bad-smelling/ abnormal genital discharge	Genital sore /ulcer	STI/ genital discharge/ sore or ulcer	Number of men who ever had sexual intercourse
Age										
15-24	0.2	7.1	5.2	11.0	3,599	2.8	2.1	6.8	8.7	309
15-19	0.2	6.8	4.7	10.2	1,424	*	*	*	*	20
20-24	0.2	7.3	5.4	11.5	2,175	2.1	2.2	5.8	7.9	289
25-29	0.6	8.1	6.1	12.2	1,931	1.8	2.0	2.8	4.8	616
30-39	0.7	7.9	5.3	11.4	3,224	0.8	1.3	1.9	3.4	1,151
40-49	0.4	6.4	4.1	9.3	2,243	1.3	2.1	2.2	3.9	1,150
Marital status										
Currently married	0.4	7.5	5.3	11.3	10,192	1.3	1.8	2.6	4.4	3,200
Divorced/separated/ widowed	0.5	5.6	3.0	7.2	804	(6.7)	(6.7)	(7.4)	(7.4)	26
Residence										
Urban	0.4	6.4	4.6	9.6	2,482	0.8	1.1	2.0	3.1	741
Rural	0.4	7.7	5.3	11.4	8,514	1.5	2.0	2.9	4.8	2,485
Division										
Barisal	1.3	10.0	9.7	16.4	662	1.5	1.4	3.4	5.0	185
Chittagong	0.4	7.9	6.4	12.7	2,023	1.6	1.3	2.7	4.1	531
Dhaka	0.3	7.3	4.1	10.0	3,431	1.4	2.2	2.0	4.0	977
Khulna	0.5	8.5	5.8	12.2	1,396	0.4	0.7	2.6	2.9	438
Rajshahi	0.5	6.6	4.4	9.9	2,776	1.4	1.6	2.8	4.5	907
Sylhet	0.0	4.8	4.0	7.5	707	2.2	4.8	4.9	9.9	187
Education										
No education	0.3	8.0	4.8	11.2	3,746	1.4	3.2	3.3	5.4	964
Primary incomplete	0.4	8.4	4.7	11.3	2,320	1.5	1.5	2.8	4.5	858
Primary complete[1]	0.9	7.4	6.5	12.4	929	1.3	1.9	2.3	3.5	218
Secondary incomplete	0.4	6.6	5.2	10.6	2,681	1.0	1.0	2.8	4.2	606
Secondary complete or higher[2]	0.5	5.3	5.7	9.7	1,304	1.5	0.8	1.4	3.0	580
Wealth quintile										
Lowest	0.4	7.8	5.1	11.6	2,115	0.7	1.8	2.2	3.4	592
Second	0.6	8.5	5.4	12.1	2,157	0.7	1.5	2.9	4.4	677
Middle	0.5	7.1	5.7	11.0	2,186	2.0	3.4	3.3	5.9	671
Fourth	0.2	8.2	5.6	11.9	2,259	2.6	1.2	3.3	5.7	633
Highest	0.4	5.3	3.8	8.3	2,278	0.6	1.0	1.6	2.5	654
Total 15-49	0.4	7.4	5.1	11.0	10,996	1.3	1.8	2.7	4.4	3,226
50-54	na	na	na	na	na	1.8	1.5	2.2	4.2	544
Total men 15-54	na	na	na	na	na	1.4	1.8	2.6	4.4	3,770

Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed. Total number of women includes 16 women with information missing on educational attainment

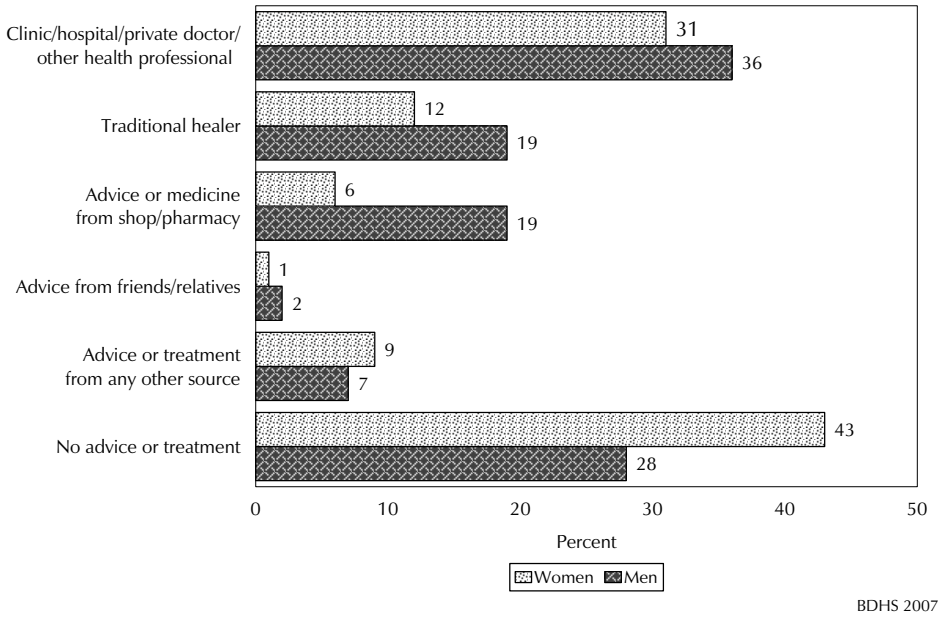
na = Not applicable

[1] Primary complete is defined as completing grade 5.

[2] Secondary complete is defined as completing grade 10.

When women or men reported having an STI and/or STI symptoms in the past 12 months, the 2007 BDHS asked them whether they sought any advice or treatment for it. Figure 12.2 shows that 43 percent of women and 28 percent of men sought no advice or treatment, while 31 percent of women and 36 percent of men sought advice or treatment from a clinic, hospital, private doctor, or other health professional.

Figure 12.2 Women and Men Age 15-49 Seeking Advice or Treatment for STIs



BDHS 2007

WOMEN'S EMPOWERMENT AND DEMOGRAPHIC AND HEALTH OUTCOMES 13

This chapter examines indicators of women's empowerment and relates them with selected demographic and health outcomes. Women's empowerment takes top priority on Bangladesh's list of improvements for the social and economic conditions of its people. Bangladesh is committed to improving socioeconomic conditions for women and integrating them into the mainstream of national life.

Data from the 2007 BDHS discussed in earlier chapters show that women lag behind men in educational attainment, literacy, employment, and exposure to mass media. All of these are critical contributors to women's empowerment and exert considerable influence on the development of women's personality and on strengthening their position in the household and in society in general. According to the United Nations Development Programme's Human Development Report for 2007-2008, Bangladesh ranks 140 among 177 countries on the Human Development Index and 81 out of 93 countries on the Gender Empowerment Measure, which measures gender inequality in economic and political terms (UNDP, 2007). The Global Gender Gap Index 2007, developed by the World Economic Forum, ranks Bangladesh 100 out of 128 countries in terms of gender equality (Hausmann et al., 2007).

Empowerment and autonomy are essential for the achievement of sustainable development. The full participation and partnership of both women and men is required in productive and reproductive life, including shared responsibilities for the care and nurturing of children and maintaining the household.

The 2007 BDHS explores women's empowerment in terms of employment, type of earnings, and control over cash and earnings, and freedom of movement. The Women's Questionnaire collects data on general background characteristics, including age, education, and household wealth, for female respondents. In addition to these data, the 2007 BDHS collected information from women and men on other measures of women's autonomy and status, particularly women's role in making household decisions. Information collected in the survey is used to estimate two different indicators of women's empowerment: women's participation in household decisionmaking and the acceptance of wife beating. The extent to which women's empowerment influences health outcomes (such as reproductive health care practices, contraceptive use, and unmet need) is also examined.

13.1 EMPLOYMENT AND FORM OF EARNINGS

Currently married women were asked whether they were employed at the time of survey and, if not, whether they were employed at any time during the 12 months preceding the survey. Table 13.1 shows what percentage of currently married women age 15-49 were employed during the 12 months preceding the survey, and the percent distribution of employed women by the type of earnings they received (cash, in-kind, both, or neither).

One-third of currently married women age 15-49 reported being employed in the last 12 months. Women in the youngest age group were least likely to have been employed. Employment increased from 20 percent among women age 15-19 to 43 percent among women age 30-34, before declining to 33 percent in the oldest age group (45-49 years).

Table 13.1 Employment and cash earnings of currently married women

Percentage of currently married women age 15-49 who were employed at any time in the last 12 months. and the percent distribution of currently married women employed in the last 12 months by type of earnings, according to age, Bangladesh 2007

	Currently married women		Percent distribution of currently married respondents employed in the last 12 months, by type of earnings						
Age	Percentage employed	Number of women	Cash only	Cash and in-kind	In-kind only	Not paid	Missing	Total	Number of women
15-19	20.0	1,376	80.1	2.6	0.7	16.6	0.0	100.0	276
20-24	28.7	2,094	77.7	7.0	2.5	12.7	0.1	100.0	601
25-29	35.2	1,859	76.4	7.4	4.0	12.0	0.3	100.0	654
30-34	42.9	1,551	74.8	6.9	3.6	14.4	0.3	100.0	666
35-39	37.1	1,437	75.8	8.1	4.7	11.4	0.0	100.0	533
40-44	36.9	1,040	71.6	7.2	4.6	16.5	0.0	100.0	384
45-49	33.3	835	69.4	9.2	6.7	14.6	0.0	100.0	278
Total 15-49	33.3	10,192	75.4	7.1	3.8	13.6	0.1	100.0	3,391

Although employment is assumed to go hand in hand with payment for work, not all women receive earnings for the work they do. Even among women who do receive earnings, not all are paid in cash. The results show that three-quarters of employed women earn only cash, 7 percent receive both cash and in-kind payment, and 14 percent of women do not receive any form of payment for their work.

Among employed women, those age 15-19 are more likely to be employed for cash only (80 percent) than women age 45-49 (69 percent).

13.2 CONTROL OVER WOMEN'S EARNINGS

Besides having access to income, women need to have control over their earnings in order to be empowered. In order to assess control over earnings, the survey asked currently married women with cash earnings in the past 12 months who the main decisionmaker is with regard to the use of their earnings.

Table 13.2 shows that women's control over their earnings varies by background characteristics. Almost one-third (31 percent) of currently married women with cash earnings report that they alone decide how their earnings are used, while nearly six in ten women (56 percent) say that they decide jointly with their husband. Only 12 percent of women report that their husband alone decides how their earnings will be used. The proportion of women who say that they decide by themselves has decreased from 39 percent in 2004 to the current level of 31 percent. At the same time, the percentage of currently married women who say that they jointly decide with their husband has increased from 47 percent to 56 percent.

Women age 25-39 are least likely to independently decide how their earnings should be spent. Women with no children and those with five or more children are slightly more likely to make independent decisions about spending their earnings than women with one to four children. Currently married women with one to four children are more likely to make joint decisions with their husbands than women with no children or five or more children.

Urban women are more likely than rural women to make independent decisions about spending their earnings (40 percent and 28 percent, respectively). Rural women are more likely than urban women to report making these decisions jointly with their husband (58 percent versus 51 percent, respectively).

Table 13.2 Control over women's cash earnings

Percent distribution of currently married women age 15-49 who received cash earnings for employment in the 12 months preceding the survey by person who decides how wife's cash earnings are used, according to background characteristics, Bangladesh 2007

Background characteristic	Person who decides how the wife's cash earnings are used					Total	Number of women
	Mainly wife	Wife and husband jointly	Mainly husband	Other	Missing		
Age							
15-19	32.4	50.7	12.8	3.9	0.3	100.0	228
20-24	32.9	52.4	11.9	2.3	0.5	100.0	509
25-29	24.8	60.4	12.8	1.1	0.9	100.0	547
30-34	28.6	60.8	10.6	0.0	0.0	100.0	544
35-39	28.7	60.7	9.6	1.0	0.0	100.0	447
40-44	39.0	50.4	10.1	0.0	0.5	100.0	302
45-49	33.9	47.4	17.8	0.9	0.0	100.0	219
Number of living children							
0	34.9	51.1	10.5	3.0	0.5	100.0	220
1-2	30.0	57.1	10.7	1.7	0.6	100.0	1,339
3-4	28.9	57.4	13.2	0.4	0.0	100.0	929
5+	34.4	52.2	13.3	0.0	0.0	100.0	309
Residence							
Urban	39.9	51.1	8.3	0.5	0.2	100.0	641
Rural	27.7	57.7	12.9	1.4	0.4	100.0	2,156
Division							
Barisal	32.9	49.6	16.8	0.5	0.2	100.0	120
Chittagong	40.7	42.8	11.7	3.9	0.8	100.0	327
Dhaka	29.7	58.6	10.3	1.1	0.3	100.0	900
Khulna	36.5	51.4	11.4	0.7	0.0	100.0	406
Rajshahi	25.5	61.5	12.2	0.6	0.2	100.0	972
Sylhet	23.6	53.2	19.9	0.8	2.5	100.0	71
Education							
No education	25.8	58.6	14.3	0.8	0.5	100.0	1,102
Primary incomplete	26.6	57.3	14.5	1.1	0.5	100.0	634
Primary complete[1]	32.1	55.8	10.0	2.0	0.0	100.0	202
Secondary incomplete	37.2	54.3	6.6	2.0	0.0	100.0	519
Secondary complete or higher[2]	42.2	48.9	7.7	1.0	0.2	100.0	335
Wealth quintile							
Lowest	20.3	62.6	15.3	1.3	0.5	100.0	691
Second	23.7	61.5	14.5	0.1	0.2	100.0	625
Middle	31.8	56.5	9.4	1.8	0.5	100.0	514
Fourth	42.1	46.1	9.4	2.2	0.3	100.0	530
Highest	40.7	50.3	8.3	0.5	0.2	100.0	437
Total	30.5	56.2	11.8	1.2	0.3	100.0	2,797

Note: Total includes 5 women with information missing on educational attainment
[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

The way decisions are made varies between administrative divisions. Women living in Chittagong (41 percent), Khulna (37 percent), and Barisal (33 percent) have more independence in deciding how to spend their earnings than women living in Sylhet (24 percent), Rajshahi (26 percent), and Dhaka (30 percent). The reverse is true for joint decisionmaking: the wife and husband were more likely to decide together on how to use women's earnings in Rajshahi, Dhaka, and Sylhet (62 percent, 59 percent, and 53 percent) than in the other divisions.

Women's decisionmaking power regarding their earnings increases with their level of education and household wealth. More than two in five women who have completed secondary or higher education (42 percent) make independent decisions on how to use the money they earn, compared with about one in four women (26 percent) with no education. Women with no education are more likely to decide jointly with their husband. Women in the two wealthiest quintiles are more likely to decide independently how to spend their earnings than those in the lowest wealth quintile (42 percent, 41 percent, and 20 percent,

respectively). In contrast, the likelihood that women decide jointly with their husband declines from the lowest to the highest wealth quntiles.

13.3 FREEDOM OF MOVEMENT

Freedom of movement outside the home is an important aspect of women's autonomy and empowerment. This is particularly true in a largely patriarchal country such as Bangladesh with a long tradition of *purdah*, which is the practice of secluding women from the view of men, especially in rural areas. The 2007 BDHS, asked currently married women whether they do go—or can go—alone or with their young children to a health center or hospital to seek care for themselves or their children. The results are shown in Table 13.3. Two-thirds of women say that they go alone or can go alone to the health centre and hospital. An additional 16 percent of women say that they go or can go to these health facilities if

Table 13.3 Freedom of movement

Percent distribution of currently married women age 15-49 by freedom of movement to go to a hospital or health center, according to background characteristics, Bangladesh 2007

Background characteristic	Goes or can go alone to health center or hospital	Goes or can go to health center or hospital with children	Cannot go to health center or hospital alone or with children	Total	Number
Age					
15-19	59.6	6.4	34.1	100.0	1,376
20-24	68.0	12.6	19.4	100.0	2,094
25-29	70.6	15.6	13.8	100.0	1,859
30-34	69.2	18.0	12.8	100.0	1,551
35-39	66.3	20.4	13.4	100.0	1,437
40-44	63.6	22.1	14.2	100.0	1,040
45-49	55.8	27.9	16.4	100.0	835
Number of living children					
0	62.0	1.0	37.0	100.0	1,093
1-2	69.9	13.8	16.3	100.0	4,768
3-4	65.2	21.3	13.5	100.0	3,139
5+	54.7	28.6	16.7	100.0	1,192
Residence					
Urban	74.0	13.2	12.8	100.0	2,283
Rural	63.5	17.4	19.1	100.0	7,909
Division					
Barisal	63.1	18.5	18.4	100.0	626
Chittagong	62.7	16.3	21.0	100.0	1,877
Dhaka	69.2	16.5	14.2	100.0	3,189
Khulna	69.4	18.0	12.6	100.0	1,281
Rajshahi	67.9	13.3	18.8	100.0	2,584
Sylhet	45.5	23.9	30.6	100.0	635
Educational attainment					
No education	59.3	20.1	20.6	100.0	3,282
Primary incomplete	63.6	19.8	16.6	100.0	2,161
Primary complete[1]	67.1	15.0	17.9	100.0	888
Secondary incomplete	69.7	12.1	18.2	100.0	2,584
Secondary complete or higher[2]	77.7	11.3	11.0	100.0	1,260
Wealth quintile					
Lowest	62.2	17.5	20.4	100.0	1,903
Second	61.4	17.3	21.4	100.0	1,994
Middle	66.4	16.2	17.4	100.0	2,055
Fourth	66.7	17.1	16.3	100.0	2,136
Highest	72.0	14.3	13.7	100.0	2,104
Total	65.8	16.4	17.7	100.0	10,192

Note: Total includes 16 women with information missing on educational attainment
[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

they are accompanied by their children. Freedom of movement increases with age and peaks among women age 25-29. The proportion of women restricted from going to the hospital or health center alone or accompanied only by their children decreases from 34 percent among women age 15-19 to 13 percent among women age 30-39. Women with at least one child, urban women, women who have completed secondary or higher education, and women in the highest wealth quintile have fewer restrictions on going to health facilities. Women in Sylhet have less freedom of movement than women living in other divisions.

13.4 WOMEN'S EMPOWERMENT

The 2007 BDHS survey collected information from women and men on other measures of women's autonomy and status. In particular, questions were asked about women's participation in household decisions. Such information provides insight into women's control over their environment and their attitudes towards gender roles, both of which are relevant to understanding women's demographic and health behavior.

13.4.1 Women's Participation in Decisionmaking: Women's Perspective

The ability of women to make decisions that affect the circumstances of their own lives is an essential aspect of empowerment. To assess women's decisionmaking autonomy, the 2007 BDHS sought information on women's participation in decisions regarding her own health care, her child's health care, large household purchases, household purchases for daily needs, and visits to the woman's family or relatives. Table 13.4.1 shows the percent distribution of currently married women according to who in the household usually makes these five kinds of household decisions. Women are considered to participate in decisionmaking if they make decisions alone or jointly with their husband.

In the 2004 BDHS, both currently married and ever-married women were asked about participation in decisionmaking. However, the 2007 BDHS only asked currently married women about household decisionmaking.

Table 13.4.1 Women's participation in decisionmaking

Percent distribution of currently married women age 15-49 by person who usually makes decisions about five kinds of issues, Bangladesh 2007

Decision	Mainly wife	Wife and husband jointly	Mainly husband	Someone else	Wife and someone else jointly	Missing	Total	Number of women
Woman's own health care	13.8	42.0	32.3	5.3	6.6	0.0	100.0	10,192
Major household purchases	8.5	47.7	25.3	9.0	9.5	0.0	100.0	10,192
Purchases of daily household needs	32.6	31.0	18.8	10.1	7.3	0.0	100.0	10,192
Visits to her family or relatives	12.6	46.1	25.8	7.5	8.0	0.0	100.0	10,192
Child's health care	18.7	45.3	16.1	3.8	5.4	10.6	100.0	10,192

The strength of women's role in decisionmaking varies with the type of decision. One in three currently married women decide independently on daily household purchases, but only 9 percent to 19 percent make independent decisions on other matters. About one-third of currently married women have no final say even on decisions that concern their own health care (38 percent), large household purchases (34 percent), or whether to visit family members (33 percent). Women and their husbands are most likely to make joint decisions regarding large household purchases (48 percent), visiting family or relatives (46 percent), and a child's health care (45 percent).

13.4.2 Women's Participation in Decisionmaking: Men's Perspective

The 2007 BDHS also asked men who has a greater say in making specific decisions, although the list of issues was not identical to those raised with women. Men were asked about making decisions regarding large household purchases, household purchases for daily needs, visiting the wife's family or relatives, what to do with the wife's earnings, the man's own health care, and a child's health care.

Table 13.4.2 shows the percent distribution of currently married men age 15-49 by who usually makes these six decisions. A sizeable percentage of men report that household decisions are made jointly with their spouse, with the exception of deciding how to use their wife's earnings Two-thirds report joint decisionmaking on how to spend money the wife earns, 60 percent on visiting the wife's family or relatives, 56 percent on major household purchases, 54 percent on child health care, and 50 percent on the man's own health care. Much smaller proportions of men say that their wives make these decisions independently. Men are most likely report that their wives independently decide how to spend their own cash earnings (24 percent).

Table 13.4.2 Men's report of wives' participation in decisionmaking

Percent distribution of currently married men age 15-49 by person who usually makes decisions about six kinds of issues, Bangladesh 2007

Decision	Mainly wife	Wife and husband jointly	Mainly husband	Someone else	Respondent and someone else jointly	Missing	Total	Number of men
Man's own health care	3.0	50.0	36.1	1.5	9.4	0.0	100.0	3,202
Major household purchases	2.0	55.7	23.3	3.4	15.6	0.0	100.0	3,202
Purchases of daily household needs	10.4	41.9	33.0	5.5	9.2	0.0	100.0	3,202
Visits to wife's family or relatives	2.9	59.6	23.3	2.6	11.5	0.1	100.0	3,202
Child's health care	18.0	54.3	11.9	1.0	4.2	10.6	100.0	3,202
What to do with the money wife earns[1]	24.2	65.6	7.8	0.1	1.4	0.9	100.0	729

[1] Restricted to men whose wives have cash earnings

13.4.3 Women's Participation in Decisionmaking by Background Characteristics

Table 13.5.1 shows the percentage of women who report that they alone or jointly with their husbands make five specific household decisions, according to background characteristics. A majority of currently married women participate in each individual decision. Less than one-third (32 percent) participate in all five decisions, and 17 percent do not participate in any of the decisions.

Whether women participate in all five decisions varies with their background characteristics. Participation in decisionmaking increases with age, rising from 11 percent among women age 15-19 to 43 percent among women age 35-39, before decreasing among women age 40-49. Urban women more often participate in decisionmaking than do rural women. Among administrative divisions, women's participation in decisionmaking is lowest in Barisal (25 percent) and Sylhet (26 percent). Women in Sylhet are the least likely to have a final say, either alone or jointly, in each individual decision investigated; less than half of women in Sylhet participate in each of the five decisions.

As expected, employed women who have cash earnings are more likely to have a say in all five decisions than women who are not employed or women who work but not for cash (37 percent, 30 percent, and 33 percent, respectively). Women without children are less likely to participate in all five household decisions than women with children. The relationship between decisionmaking and women's education is mixed. Although women in the highest wealth quintile are most likely to participate in all five decisions, the relationship between household wealth and decisionmaking is not clear.

Table 13.5.1 Women's participation in decisionmaking by background characteristics

Percentage of currently married women age 15-49 who usually make specific decisions either by themselves or jointly with their husband, by background characteristics, Bangladesh 2007

Background characteristic	Alone or jointly have final say in:							Number of women
	Woman's own health care	Making major household purchases	Making purchases for daily household needs	Visits to her family or relatives	Child's health care	All specified decisions	No specified decisions	
Age								
15-19	37.3	34.0	37.7	34.2	32.4	11.0	36.3	1,376
20-24	52.9	50.0	56.1	52.7	59.8	26.2	21.7	2,094
25-29	59.2	61.1	68.5	63.1	71.4	36.1	14.2	1,859
30-34	64.4	67.2	72.6	68.1	75.0	39.6	8.8	1,551
35-39	64.5	67.4	75.9	70.6	78.1	43.2	8.4	1,437
40-44	58.8	61.2	74.5	66.6	71.3	37.2	10.4	1,040
45-49	52.0	51.2	63.4	56.9	56.9	28.7	18.3	835
Employment (last 12 months)								
Not employed	53.8	51.9	58.9	55.7	60.6	29.5	20.4	6,799
Employed for cash	61.1	66.8	73.9	65.5	71.8	36.9	9.6	2,797
Employed not for cash	54.0	55.0	69.8	62.0	66.4	32.6	14.2	590
Number of living children								
0	41.0	35.6	39.1	38.4	5.1	3.4	36.3	1,093
1-2	56.6	56.7	62.3	58.2	69.5	33.0	17.1	4,768
3-4	60.6	63.0	72.8	65.9	74.7	39.2	11.1	3,139
5+	54.0	55.2	67.8	60.4	68.1	32.8	14.8	1,192
Residence								
Urban	62.4	59.6	66.2	64.3	67.6	35.6	14.1	2,283
Rural	53.9	55.2	62.9	57.1	63.0	30.6	17.9	7,909
Division								
Barisal	53.3	44.6	54.1	53.5	61.1	25.2	20.9	626
Chittagong	54.9	49.3	57.7	53.5	60.6	30.4	22.0	1,877
Dhaka	56.6	58.5	67.3	60.2	65.7	32.4	14.7	3,189
Khulna	58.7	60.8	64.5	58.3	66.1	33.0	13.0	1,281
Rajshahi	57.6	62.3	69.6	65.9	68.0	34.1	12.7	2,584
Sylhet	44.3	42.2	46.8	43.3	48.1	25.9	36.4	635
Education								
No education	56.2	60.6	67.8	61.4	67.2	34.2	14.8	3,282
Primary incomplete	56.0	57.7	68.7	60.5	63.9	32.4	14.8	2,161
Primary complete[1]	56.0	56.5	63.2	57.4	67.3	31.6	16.7	888
Secondary incomplete	51.5	48.1	54.4	52.1	57.0	26.4	22.9	2,584
Secondary complete or higher[2]	63.3	58.5	63.6	63.1	67.8	35.0	15.3	1,260
Wealth quintile								
Lowest	55.3	59.7	67.5	62.3	67.0	33.3	15.4	1,903
Second	54.8	57.6	66.7	57.2	63.8	31.3	16.6	1,994
Middle	54.0	54.9	61.9	57.4	62.7	30.1	16.9	2,055
Fourth	54.3	52.5	59.2	54.0	60.2	28.7	19.8	2,136
Highest	60.5	56.7	63.6	63.1	66.7	35.3	16.3	2,104
Total	55.8	56.2	63.7	58.7	64.0	31.7	17.0	10,192

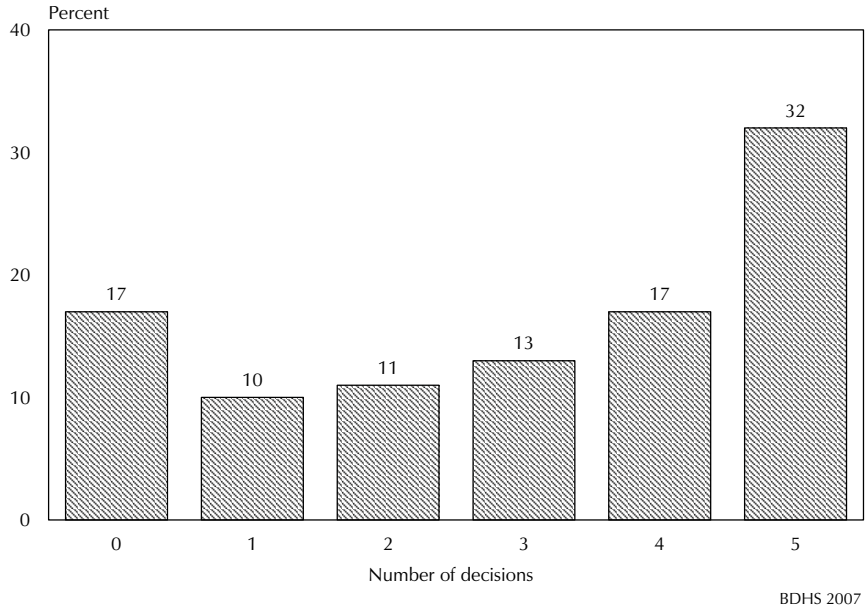
Note: Total includes 6 women with information missing on employment status and 16 women with information missing on educational attainment

[1] Primary complete is defined as completing grade 5.

[2] Secondary complete is defined as completing grade 10.

Women may have a say in some, but not other, decisions. The number of decisions which a woman makes herself or jointly with her husband is positively related to women's empowerment and reflects the degree of control women are able to exercise in areas that affect their lives and environments. Figure 13.1 shows the percent distribution of currently married women according to the number of decisions in which they participate.

Figure 13.1 **Number of Household Decisions in Which Currently Married Women Participate**



13.4.4 Men's Report of Wives' Participation in Decisionmaking by Background Characteristics

Table 13.5.2 shows the percentage of currently married men age 15-49 who say that their wives participate in household decisions, either independently or jointly with them, by background characteristics.

Only 8 percent of men age 15-49 report that their wives have a say in all six decisions examined. According to men, their wives are most likely to participate in decisions about a child's health care (72 percent) and visiting their own family, friends, and relatives (63 percent). The wife's opinion is rarely sought in decisions on how to spend her earnings (20 percent). However, more than half of the men say that their wives participate in decisions on the purchase of major household items (58 percent), men's health care (53 percent), and the purchase of daily household needs (52 percent). Fifteen percent of men said their wives do not participate in any of these six decisions.

Differentials by all background characteristics for specific decisions are minimal. The proportion of men who report that women have a say in all six decisions (8 percent) and in none of these decisions (15 percent) is similar in both urban and rural areas. There are no clear patterns either by the man's level of education or household wealth.

Table 13.5.2 Men's report of wives' participation in decisionmaking by background characteristics

Percentage of currently married men age 15-49 who say their wives usually make specific decisions by themselves or jointly with their husband, by background characteristics, Bangladesh 2007

Background characteristic	Own health care	Making major household purchases	Making purchases for daily household needs	Visits to her family or relatives	What to do with the money the wife earns	Child's health care	All specified decisions	No specified decisions	Number of men
Age									
15-19	*	*	*	*	*	*	*	*	20
20-24	43.4	36.7	37.1	44.9	13.7	40.0	4.0	35.6	287
25-29	43.9	46.2	41.1	49.6	16.3	59.8	4.3	21.5	614
30-34	51.3	54.9	48.6	60.0	17.8	70.6	8.1	15.3	472
35-39	58.4	63.6	58.2	67.4	20.5	80.6	8.4	12.2	670
40-44	59.5	69.4	64.4	72.1	26.8	85.9	13.4	7.3	560
45-49	58.2	66.4	58.2	73.8	24.6	82.5	9.7	7.6	580
Employment (last 12 months)									
Not employed	*	*	*	*	*	*	*	*	23
Employed	53.0	57.9	52.3	62.5	20.5	72.5	8.2	15.2	3,178
Residence									
Urban	53.2	59.5	55.1	63.8	22.2	71.3	8.8	15.0	737
Rural	53.0	57.2	51.5	62.1	19.9	72.6	8.1	15.3	2,464
Division									
Barisal	47.8	46.3	37.0	48.4	15.3	66.9	4.7	16.3	186
Chittagong	42.0	53.3	44.3	59.2	12.7	68.8	3.5	18.3	526
Dhaka	54.9	59.7	56.7	63.0	21.6	72.3	8.2	14.4	971
Khulna	46.6	56.2	52.9	62.7	19.6	72.6	7.2	16.7	435
Rajshahi	61.6	63.6	58.2	70.4	27.2	76.9	13.5	12.5	898
Sylhet	53.1	46.3	38.2	45.3	11.0	64.4	2.2	19.8	186
Education									
No education	57.8	64.5	57.9	68.8	20.6	75.8	9.5	15.1	955
Primary incomplete	52.5	58.3	53.6	62.0	22.4	74.9	8.0	12.3	856
Primary complete[1]	51.8	55.8	48.0	57.5	19.2	66.1	9.6	19.9	216
Secondary incomplete	47.1	47.9	45.9	55.3	16.6	67.8	4.8	18.9	598
Secondary complete or higher[2]	52.4	56.5	49.7	62.2	21.6	69.5	9.5	14.4	577
Wealth quintile									
Lowest	54.6	62.9	56.1	66.5	23.5	75.5	9.9	13.3	588
Second	55.4	62.6	56.2	63.6	20.0	75.0	7.5	13.2	670
Middle	51.3	54.0	49.1	58.7	19.4	68.7	7.7	19.0	667
Fourth	49.9	51.8	47.5	59.0	19.3	72.3	8.3	15.8	627
Highest	54.0	57.5	53.0	65.1	20.1	70.2	8.0	14.7	650
Total 15-49	53.0	57.7	52.3	62.5	20.4	72.3	8.2	15.2	3,202
50-54	50.7	54.4	51.9	64.8	18.6	71.9	8.3	14.2	531
Total men 15-54	52.7	57.2	52.3	62.8	20.2	72.2	8.2	15.1	3,733

Note: An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

13.5 ATTITUDES TOWARDS WIFE BEATING

The critical problems that women face are many and diverse. One of the most serious is violence against women, and Bangladesh is no exception in this regard. One of the most common forms of violence against women worldwide is abuse by the husband or partner (Heise et al., 1999). Domestic violence is a serious issue because it concerns the personal security of women, and the right to personal security is fundamental to all other rights.

The 2007 BDHS obtained information on women's and men's attitudes towards wife beating. Women and men were asked whether a husband is justified in hitting or beating his wife under a series of

circumstances: if she goes out without telling him, if she neglects the children, if she argues with him, if she does not obey elders, and if she refuses to have sexual intercourse with him. A woman's attitude toward wife beating is considered to be a proxy for her perception of her status. A lower score on the "number of reasons wife beating is justified" indicates a woman's greater sense of entitlement, self-esteem and status, and reflects positively on her sense of empowerment. In contrast, a woman who believes that a husband is justified in hitting or beating his wife for all of these reasons may consider herself to be of low status, both absolutely and relative to men. Such a perception could act as a barrier to accessing health care for herself and her children, affect her attitude toward contraceptive use, and impact her general well-being.

13.5.1 Attitude towards Wife Beating: Women

Table 13.6.1 shows the percentage of women age 15-49 who agree with different reasons for wife beating by background characteristics. More than one-third (36 percent) of women believe that a husband is justified in beating his wife for at least one of the reasons listed.

The most widely accepted reason for wife beating among women in Bangladesh is disobeying elders (24 percent), followed by arguing with her husband (22 percent). Less than one-fifth of women think that going out without telling her husband (18 percent) and neglecting the children (16 percent) justifies wife beating. Only 9 percent of women feel that denying sex is an acceptable reason for a man to beat his wife.

Approval of at least one reason for wife beating varies little with age, marital status, urban-rural residence, employment status, or number of children. However, acceptance of wife beating for at least one reason is higher among women age 15-19. Women are less likely to accept wife beating for any reason if they are employed but are not paid in cash, if they live in Dhaka or Rajshahi divisions, if they have completed secondary or higher education, and if they belong to the highest wealth quintile.

Table 13.6.1 Attitude toward wife beating: Women

Percentage of all women age 15-49 who agree that a husband is justified in hitting or beating his wife for specific reasons, by background characteristics, Bangladesh 2007

Background characteristic	Husband is justified in hitting or beating his wife if she: Does not obey elders	Argues with him	Goes out without telling him	Neglects the children	Refuses to have sexual intercourse with him	Percentage who agree with at least one specified reason	Number
Age							
15-19	26.6	23.8	17.5	17.2	7.9	41.0	1,424
20-24	23.5	19.8	16.8	17.2	8.1	35.0	2,175
25-29	23.2	20.5	16.6	15.5	8.1	35.9	1,931
30-34	22.5	20.3	19.5	16.0	9.7	35.4	1,660
35-39	23.9	21.7	17.8	14.1	10.5	34.5	1,564
40-44	23.4	24.5	20.0	16.1	10.7	37.5	1,213
45-49	22.5	21.9	18.3	15.7	10.2	34.4	1,030
Employment (last 12 months)							
Not employed	24.4	21.8	18.4	17.1	9.6	36.7	7,145
Employed for cash	22.4	22.0	17.7	14.5	8.6	36.0	3,198
Employed not for cash	21.3	16.0	13.8	10.8	7.2	30.2	645
Marital status							
Currently married	23.8	21.5	17.9	16.0	9.2	36.3	10,192
Divorced/ separated/ widowed	21.4	21.0	17.7	15.9	8.6	34.2	804
Number of living children							
0	24.0	18.4	15.3	15.5	6.8	36.7	1,212
1-2	22.2	20.5	16.3	15.8	7.9	34.3	5,144
3-4	25.0	22.4	19.3	15.6	10.8	37.7	3,336
5+	25.5	26.2	23.2	18.3	11.6	38.9	1,304
Residence							
Urban	20.2	17.5	14.5	14.4	7.3	31.1	2,482
Rural	24.7	22.7	18.9	16.5	9.7	37.6	8,514
Division							
Barisal	29.5	28.1	25.1	24.0	12.0	46.9	662
Chittagong	28.6	25.5	22.1	21.4	10.9	42.8	2,023
Dhaka	21.7	17.4	15.6	13.0	7.8	31.7	3,431
Khulna	23.9	22.2	13.9	13.8	8.9	36.7	1,396
Rajshahi	20.0	20.6	17.1	14.5	7.5	32.7	2,776
Sylhet	27.0	26.0	21.6	17.9	14.3	40.8	707
Education							
No education	22.5	23.1	19.0	14.9	11.2	35.6	3,746
Primary incomplete	25.7	22.6	20.4	17.3	10.1	38.7	2,320
Primary complete[1]	25.8	23.7	20.0	18.9	9.9	38.2	929
Secondary incomplete	26.6	22.1	17.1	17.8	7.5	39.1	2,681
Secondary complete or higher[2]	15.9	12.3	10.6	11.4	4.2	25.5	1,304
Wealth quintile							
Lowest	23.9	23.7	19.0	15.3	9.4	37.3	2,115
Second	26.0	24.7	20.1	18.8	11.8	38.8	2,157
Middle	26.2	23.7	20.9	17.8	10.3	39.1	2,186
Fourth	24.4	21.3	17.0	15.8	8.4	37.5	2,259
Highest	18.0	14.6	12.8	12.5	5.9	28.3	2,278
Total	23.6	21.5	17.9	16.0	9.1	36.1	10,996

Note: Total includes 8 women with information missing on employment status and 16 women with information missing on educational attainment

[1] Primary complete is defined as completing grade 5.

[2] Secondary complete is defined as completing grade 10.

13.5.2 Attitude towards Wife Beating: Men

Men were also asked when they thought wife beating was justified. The proportion of men who find physical violence against women justifiable is similar to that of women. Overall, 36 percent of Bangladeshi men age 15-49 agree that at least one of the reasons given is sufficient justification for wife beating (Table 13.6.2).

Table 13.6.2 Attitude toward wife beating: Men

Percentage of all men age 15-49 who agree that a husband is justified in hitting or beating his wife for specific reasons, by background characteristics, Bangladesh 2007

Background characteristic	Husband is justified in hitting or beating his wife if she: Does not obey elders	Argues with him	Goes out without telling him	Neglects the children	Refuses to have sexual intercourse with him	Percentage who agree with at least one specified reason	Number
Age							
15-19	*	*	*	*	*	*	20
20-24	30.8	26.5	19.4	19.8	6.7	43.9	290
25-29	25.2	24.8	16.2	15.0	3.6	37.8	616
30-34	23.2	22.1	15.4	17.9	4.0	34.6	476
35-39	24.2	24.8	16.5	17.2	4.7	37.3	674
40-44	18.4	23.9	15.2	12.6	3.4	32.3	567
45-49	19.8	25.3	15.5	13.3	3.7	33.5	583
Employment (last 12 months)							
Not employed	(16.4)	(9.8)	(14.3)	(8.1)	(8.1)	(20.9)	28
Employed	23.2	24.6	16.2	15.7	4.2	36.2	3,199
Marital status							
Currently married	23.0	24.4	16.0	15.6	4.2	36.0	3,202
Divorced/ separated/ widowed	(45.6)	(39.8)	(32.4)	(26.2)	(13.9)	(45.6)	26
Residence							
Urban	18.2	17.1	11.9	10.5	3.4	28.3	742
Rural	24.6	26.7	17.5	17.2	4.5	38.4	2,486
Division							
Barisal	28.4	26.1	20.0	23.3	5.7	41.1	186
Chittagong	22.4	28.8	18.0	13.0	2.3	39.1	531
Dhaka	20.9	19.0	13.9	12.6	3.1	30.4	977
Khulna	22.8	30.0	18.7	17.2	4.5	37.5	438
Rajshahi	25.2	25.1	15.7	18.2	5.5	39.4	907
Sylhet	22.6	23.3	15.4	15.8	7.3	33.1	188
Education							
No education	26.3	32.3	20.6	17.8	6.3	42.0	964
Primary incomplete	26.5	28.1	18.6	20.3	5.2	41.2	859
Primary complete[1]	21.0	24.9	14.9	13.3	2.7	37.0	218
Secondary incomplete	22.5	18.5	15.4	13.7	2.7	33.5	607
Secondary complete or higher[2]	14.3	12.2	6.7	8.4	1.5	21.1	580
Wealth quintile							
Lowest	27.9	32.7	21.8	20.6	4.4	44.7	592
Second	28.9	30.6	21.3	21.3	6.9	43.6	677
Middle	24.9	25.7	17.1	16.0	4.8	38.5	671
Fourth	21.2	21.9	12.6	13.3	3.1	33.7	634
Highest	12.9	12.0	8.4	7.3	1.9	20.4	654
Total 15-49	23.1	24.5	16.2	15.7	4.2	36.1	3,227
50-54	19.7	26.6	17.7	15.9	5.2	34.3	544
Total men 15-54	22.6	24.8	16.4	15.7	4.4	35.8	3,771

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

[1] Primary complete is defined as completing grade 5.

[2] Secondary complete is defined as completing grade 10.

Men are most likely to justify beating a wife if she argues with him (25 percent), followed by showing disrespect to elders (23 percent). Like women, men are least likely to say that refusing to have sex (4 percent) is grounds for wife beating. About 16 percent of men feel that neglecting the children or going out without telling him are justifiable reasons for wife beating.

Younger men, men with no education, rural men, and men in the lowest wealth quintile are more likely to agree with at least one of the reasons for wife beating. Acceptance of wife beating is inversely related to educational level and household wealth. Men's beliefs, like women's, vary slightly by region. Men in Barisal are most likely to agree that wife beating is justified for at least one of the reasons given.

13.6 INDICATORS OF WOMEN'S EMPOWERMENT

In order to examine how selected demographic and health outcomes vary by women's empowerment, information on women's participation in household decisionmaking and their attitudes towards wife beating are summarized in two separate indices. These indices are based on only on women's responses to the survey. The first index is the number of household decisions in which women participate alone or jointly with their husband (see Table 13.5.1 for the list of decisions). This index ranges in value from 0 to 5 and is positively related to women's empowerment. This reflects the degree of control that women are able to exercise through making decisions in areas that affect their own lives and environments.

The second index, which also ranges in value from 0 to 5, is the total number of reasons that a woman believes justifies a husband beating his wife (see Table 13.6.1). A lower score on this indicator is interpreted as reflecting a greater sense of entitlement, higher self-esteem, and a higher status of women. In general, it is expected that women who participate in making household decisions are also more likely to have gender-egalitarian beliefs and to reject wife beating. Note that the decisionmaking index is defined only for currently married women, whereas the index on attitudes toward wife beating is defined for all women.

Table 13.7 provides a brief overview on how these two basic empowerment indicators—number of decisions in which women participate and number of reasons for which wife beating is justified—relate to one another. The more household decisions that women participate in, the more likely they are to reject all reasons for wife beating; however, the variation is small. A larger proportion of women who participate in three to five household decisions (64 percent to 66 percent) disagree with all reasons justifying wife beating than women who participate in two or fewer decisions (62 percent).

Table 13.7 Indicators of women's empowerment

Percentage of currently married women age 15-49 who participate in all five household decisions and percentage who disagree with all reasons for justifying wife beating, by value on each of the indicators of women's empowerment, Bangladesh 2007

Empowerment indicator	Percentage who participate in all five decisions	Percentage who disagree with all the reasons justifying wife beating	Number of women
Number of decisions in which women participate[1]			
0	na	61.9	1,738
1-2	na	61.5	2,137
3-4	na	64.1	3,085
5	na	65.8	3,232
Number of reasons for which wife beating is justified[2]			
0	32.7	na	6.493
1-2	31.0	na	2,180
3-4	27.6	na	1,019
5	29.7	na	500

na = Not applicable
[1] See Table 13.5.1 for the list of decisions.
[2] See Table 13.6.1 for the list of reasons.

Similarly, the more reasons that women believe justify wife beating, the less likely they are to participate in all five household decisions. Thirty-three percent of women who do not support wife beating for any reason at all participate in all household decisions, compared with 30 percent or less of women who agree with three or more reasons justifying wife beating.

13.7 CURRENT USE OF CONTRACEPTION BY WOMEN'S EMPOWERMENT

A woman's desire and ability to control her fertility and her choice of contraceptive method are affected, in part, by her status in the household and her own sense of empowerment. A woman who feels that she is unable to control her life may be less likely to feel that she can make and carry out decisions about her fertility. She may also feel the need to choose methods that are less obvious or which do not depend on her husband's cooperation. Table 13.8 shows the distribution of currently married women age 15-49 by current contraceptive method, according to women's empowerment indicators.

The results show that women who participate in more household decisions and women who accept fewer justifications for wife beating are more likely to use any method of contraception. This pattern is consistent both for modern and traditional methods. Current use of modern contraceptive methods rises from 37 percent among women who participate in no household decisions to 52 percent among women who participate in all five household decisions. This pattern is also consistent for different types of methods. For example, use of temporary methods rises from 30 percent among women who participate in no household decisions to 41 percent among women who participate in all five decisions. Similarly, the fewer reasons women accept for wife beating, the more likely they are to use a method of contraception.

Table 13.8 Current use of contraception by women's empowerment

Percent distribution of currently married women age 15-49 by current contraceptive method, according to indicators of women's empowerment, Bangladesh 2007

			Modern methods							
Empowerment indicator	Any method	Any modern method	Female sterilization	Male sterilization	Temporary modern female methods[1]	Male condom	Any traditional method	Not currently using	Total	Number of women
Number of decisions in which women participate[2]										
0	43.1	37.0	3.5	0.3	29.9	3.3	6.1	56.9	100.0	1,738
1-2	52.9	44.6	5.1	0.8	34.9	3.9	8.3	47.1	100.0	2,137
3-4	59.2	50.9	6.1	0.9	39.4	4.6	8.3	40.8	100.0	3,085
5	61.2	51.7	4.8	0.8	40.5	5.5	9.6	38.8	100.0	3,232
Number of reasons for which wife beating is justified[3]										
0	56.4	47.8	5.2	0.9	36.8	4.9	8.6	43.6	100.0	6,493
1-2	56.8	48.2	4.6	0.3	38.6	4.8	8.7	43.2	100.0	2,180
3-4	52.8	45.6	3.7	0.9	38.1	2.9	7.2	47.2	100.0	1,019
5	49.7	43.9	6.8	0.8	34.1	2.2	5.8	50.3	100.0	500
Total	55.8	47.5	5.0	0.7	37.2	4.5	8.3	44.2	100.0	10,192

Note: If more than one method is used, only the most effective method is considered in this tabulation.
[1] Pill, IUD, injectables, implants, female condom, diaphragm, foam/jelly, and lactational amenorrhea method
[2] See Table 13.5.1 for the list of decisions.
[3] See Table 13.6.1 for the list of reasons.

13.8 IDEAL FAMILY SIZE AND UNMET NEED BY WOMEN'S EMPOWERMENT

The ability of women to make decisions effectively has important implications for their fertility preferences and the practice of family planning. As a woman becomes more empowered to negotiate decisions regarding fertility, she has more control over contraceptive use and thus her chances of becoming pregnant and giving birth.

Table 13.9 shows how women's ideal family size and their unmet need for family planning vary by women's empowerment indicators. The data indicate that there is no relationship between decisionmaking power and mean ideal number of children. Ideal family size is almost the same among women who believe that wife beating is never justified (2.3 children) and among women who believe that wife beating is justified for all five reasons (2.4 children).

However, there is a positive association between participation in decisionmaking and unmet need for family planning. The findings show that women who participate in all five household decisions have the lowest unmet need. Although there is no clear linear relationship between unmet need and agreement with reasons justifying wife beating, the data show that unmet need is highest among women who believe that wife beating is justified for all five reasons.

Table 13.9 Women's empowerment, ideal number of children, and unmet need for family planning

Mean ideal number of children for women 15-49 and the percentage of currently married women age 15-49 with an unmet need for family planning, by indicators of women's empowerment, Bangladesh 2007

Empowerment indicator	Mean ideal number of children[1]	Number of women	Percentage of currently married women with an unmet need for family planning[2]			Number of women
			For spacing	For limiting	Total	
Number of decisions in which women participate[3]						
0	2.3	1,682	4.9	1.7	6.6	1,738
1-2	2.3	2,108	3.4	1.6	5.0	2,137
3-4	2.3	3,049	2.1	2.4	4.6	3,085
5	2.3	3,191	1.4	2.0	3.4	3,232
Number of reasons for which wife beating is justified[4]						
0	2.3	6,907	2.4	2.0	4.5	6,493
1-2	2.3	2,302	3.3	1.7	5.0	2,180
3-4	2.4	1,081	2.3	1.9	4.2	1,019
5	2.4	514	3.3	2.8	6.1	500
Total	2.3	10,804	2.6	2.0	4.6	10,192

[1] Mean excludes respondents who gave non-numeric responses
[2] See Table 7.4 for the definition of unmet need for family planning.
[3] Restricted to currently married women. See Table 13.5.1 for the list of decisions.
[4] See Table 13.6.1 for the list of reasons.

13.9 REPRODUCTIVE HEALTH CARE BY WOMEN'S EMPOWERMENT

Table 13.10 examines whether empowered women are more likely to access antenatal, delivery, and postnatal care services from medically trained health professionals. In societies where health care is widespread, women's empowerment may not affect their access to reproductive health services. In other societies, however, increased empowerment of women is likely to increase their ability to seek out and use health services from qualified health providers to better meet their own reproductive health goals,

including the goal of safe motherhood. The table includes only women who had a birth in the five years preceding the survey and examines their access to antenatal care (ANC), delivery care, and postnatal care.

The data show that women's empowerment, as measured by household decisionmaking, is not strongly related to whether women receive appropriate delivery assistance and timely postnatal care. Utilization of antenatal care is more closely related to women's decisionmaking power than the other two services, although the differences remain small. The proportion of women receiving antenatal care rises from 50 percent among women who participate in none of the decisions to 54 percent of women who participate in all five decisions.

Women's attitude toward wife beating is related to their use of all three health services. Compared with women who believe that wife beating is never justified, women who accept all five reasons for wife beating are less likely to receive antenatal care (54 percent and 45 percent, respectively), delivery assistance (22 percent and 10 percent, respectively), and postnatal care within the first two days after giving birth (22 percent and 11 percent, respectively) from medically trained providers.

Table 13.10 Reproductive health care by women's empowerment

Percentage of women age 15-49 with a live birth in the five years preceding the survey who received antenatal care, delivery assistance, and postnatal care from health personnel for the most recent birth, by indicators of women's empowerment, Bangladesh 2007

Empowerment indicator	Received antenatal care from medically trained provider	Received delivery assistance from medically trained provider	Received postnatal care from medically trained provider within the first two days after delivery	Number of women with a child born in the past five years
Number of decisions in which women participate[1]				
0	49.9	19.1	19.9	908
1-2	50.8	18.5	19.1	973
3-4	52.0	18.8	19.9	1,414
5	54.3	21.7	21.0	1,498
Number of reasons for which wife beating is justified[2]				
0	54.0	21.8	21.8	3,083
1-2	48.5	17.7	19.4	1,043
3-4	48.1	14.3	13.7	521
5	44.7	10.3	10.9	257
Total	51.7	19.5	19.8	4,905

Note: For delivery assistance, medically trained provider includes doctor, nurse, midwife, paramedic, female welfare visitor (FWV), and community-skilled birth attendant (CSBA). For antenatal care and postnatal care, medically trained provider includes these cadres plus medical assistant (MA) and sub-assistant community medical officer (SACMO).

[1] Restricted to currently married women. See Table 13.5.1 for the list of decisions.

[2] See Table 13.6.1 for the list of reasons.

DOMESTIC VIOLENCE 14

Domestic violence comes in many different forms, but all originate in the abuse of power at the household level. Certain aspects of Bangladeshi society, such as restrictions on women's movement outside their homes, unequal access to education, and restricted employment opportunities, limit women's ability to exercise their human rights and make them more vulnerable to domestic violence (Bennett and Manderson, 2003). Although Article 28 of the Bangladeshi constitution states, "The State shall not discriminate against any citizen on grounds only of religion, race, caste, sex or place of birth" (Mittra and Kumar, 2004: 211), women experience many forms of discrimination and inequality and have few protections particularly against domestic violence. Some claim that domestic violence is a mundane aspect of many women's lives in Bangladesh (Akanda and Shamim, 1985; Ameen, 2005; Begum, 2005). Bangladeshi women, however, are not an exception. Routine violence is part of many women's lives around the world, and most violence against women occurs within the home, typically perpetrated by husbands and in-laws (Momsen, 2004).

In recognition of the widespread nature of violence against women, the 1995 Fourth World Conference on Women in Beijing labeled it a critical issue and "an obstacle to the achievement of the objectives of equality, development and peace" (Begum, 2005). The World Health Organization (WHO) defines violence as "the intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, that either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment or deprivation" (Krug et al., 2002:5). Violence can be self-directed, such as suicidal behavior; it can be interpersonal, such as family or intimate partner violence or violence between individuals who are not related; or it can be collective, including violence by organized groups of people. Furthermore, the nature of violent acts may be physical, sexual, emotional, or may involve neglect or deprivation. The United Nations recognizes violence against women as a public policy and human rights concern (UN, 1993; UN, 1995). Domestic violence is an important component of gender-based violence and has been shown to have a direct impact on women's reproductive health and on child health (Heise, 1993, Heise et al., 1995; Jejeebhoy, 1998; Kishor and Johnson, 2004; WHO, 2005b).

As in many countries, domestic violence is a criminal offence in Bangladesh. In 1983, the government of Bangladesh introduced The Cruelty to Women (Deterrent Punishment) Ordinance, which states that a person can receive a penalty of 14 years to lifetime imprisonment for kidnapping or abducting women (Monsoor, 1999). This ordinance also addresses other forms of violence, such as dowry deaths and torture. With increased awareness of domestic violence as a social concern, the Repression against Women and Children (Special Enactment) Act XVII of 1995 was enacted with the objective of reducing violence against women (Monsoor, 1999). Additional legislation against domestic violence (the Women and Children Repression Act) was passed in 2000 and amended in 2003. Under this act, a person can receive capital punishment for rape, acid throwing, dowry deaths, abduction, sexual harassment, trafficking, and prostitution. In addition, the Acid Crime Control Act was introduced in 2002. However, these laws have never been fully implemented and hence have not been as effective as they could be in reducing domestic violence or in assisting women who experience it. Other sources of help for abused women are also being established in Bangladesh. For example, the ONE-STOP CRISIS CENTER, established in Dhaka Medical College Hospital with the help of non-governmental organizations and donor agencies, provides assistance to women in crisis (Nasreen, 2008). In many cases, women who experience domestic violence are not aware either of the laws against domestic violence or the assistance available from the public and private sectors.

14.1 MEASUREMENT OF DOMESTIC VIOLENCE

A culture of silence surrounds the issue of domestic violence, making the collection of data on this sensitive issue challenging (Kishor and Johnson, 2004). In fact, Barakat et al. (2007) estimate that 99 percent of violent acts are never reported by women. With little reliable data on domestic violence, the 2007 BDHS took the initiative to include a module on domestic violence in the Women's and Men's Questionnaires. Reliable data are critical for empowering those who are struggling to ensure justice for women (Pkhakadze and Jamaspishvili, 2007).

National and international research has shown that violence against women committed by the husband, or spousal violence, is one of the most common forms of violence experienced by women. To measure spousal violence, the 2007 BDHS collected information from ever-married women on whether they had ever experienced violent acts committed by their husbands and from ever-married men about whether they had perpetrated violent acts against their wives. The survey measured spousal violence with a shortened and modified Conflict Tactics Scale (CTS) (Straus, 1990). Women were asked the following eight questions:

(Does/did) your (last) husband ever do any of the following things to you:

a) Push you, shake you, or throw something at you?
b) Slap you?
c) Twist your arm or pull your hair?
d) Punch you with his fist or with something that could hurt you?
e) Kick you, drag you, or beat you up?
f) Try to choke you or burn you on purpose?
g) Threaten or attack you with a knife, gun, or any other weapon?
h) Physically force you to have sexual intercourse with him even when you did not want to?

These clearly worded questions are used to estimate the prevalence of physical (a-g) and sexual violence (h). For currently married women, the questions were asked with reference to the current husband. For formerly, but not currently, married women, the questions were asked with reference to the woman's most recent husband. Women could respond yes or no to each item. A 'yes' response to one of the first seven items constitutes evidence of physical violence, while a 'yes' response to the last item constitutes evidence of sexual violence. After each 'yes' response, currently married women were asked about the frequency of the act in the 12 months preceding the survey (often, sometimes, or not at all). Note that divorced, separated, and widowed women were asked about ever experiencing spousal violence by their most recent husband, but they were not asked about their experience of violence in the past 12 months.

Men were asked the following eight questions:

At any time, were there any circumstances or family disagreements which caused you to:

a) Push, shake, or throw something at your wife?
b) Slap your wife?
c) Twist her arm or pull her hair?
d) Punch her with your fist or with something that could hurt her?
e) Kick her, drag her, or beat her up?
f) Try to choke her or burn her on purpose?
g) Threaten or attack her with a knife, gun, or any other weapon?
h) Physically force her to have sexual intercourse with you even when she did not want to?

Asking about specific acts of violence, rather than about the experience of violence in general, improves the measurement of violence by removing the effect of variations in the understanding and interpretation of what constitutes violence. For example, a woman has to say whether she has ever been slapped, not whether she has ever experienced any violence. Most people would probably agree on what constitutes a slap. However, what constitutes a violent act or what is understood as violence may vary among individuals, as it does across cultures. This approach of inquiring about a wide range of acts has the additional advantage of giving the respondent multiple opportunities to disclose any experience of violence and of allowing an assessment of the severity of violence.

In addition to being asked about the different forms of spousal violence, both women and men were asked about reasons for the violence. Women reporting violence were also asked whether they had told anyone about the violence and whether they had received any help from anyone. The last two questions have significant implications for the development of programs and policies. If victims of violence do not report it to others, they are difficult to find and assist. Additionally, this means that official statistics, which are often based on reported violence, will understate violence against women.

14.2 Ethical Considerations

Several specific protections based on WHO's ethical and safety recommendations for research on domestic violence (WHO, 2001) were built into the 2007 BDHS. These include:

a) The questions on domestic violence in the Women's and Men's Questionnaires were administered to only one eligible respondent per household, whether female or male. Selecting only one person to receive the domestic violence questions protects the privacy of that person and helps to ensure that other respondents in the household are not aware of the types of questions that the selected respondent was asked. This privacy is important because the discovery by an abusive husband that his wife has disclosed violence to an interviewer could put the woman at risk for further violence. Households were preselected in the survey office for a male or female respondent to the domestic violence questions. If there was more than one eligible female or male respondent in the household, the respondent was selected randomly through a specially designed simple selection procedure based on the Kish Grid (Kish, 1965), which was built into the Household Questionnaire.

b) Informed consent was obtained from survey respondents at the beginning of the interview. For the domestic violence section, respondents were read an additional statement informing them that the questions to follow could be sensitive and reassuring them of the confidentiality of their responses.

c) The domestic violence module was implemented only if privacy could be obtained. If privacy could not be ensured, the interviewer was instructed to skip the module, thank the respondent, end the interview, and write an explanation of what happened.

14.3 Special Training for Implementing the Domestic Violence Module

Socioeconomic and cultural contexts within Bangladeshi society inhibit women from speaking about their experience of domestic violence. It is assumed that many women may not disclose incidents of domestic violence because they fear further violence by perpetrators or because of shame or embarrassment. Interviewers were instructed that complete privacy is essential for ensuring the security of both interviewer and respondent. Asking about violence or reporting violence, especially in households where the perpetrator may be present at the time of the interview, carries the risk of further violence.

Accordingly, interviewers were provided training for implementing the domestic violence module based on a training manual specially developed to enable the field staff to collect violence data in a secure, confidential, and ethical manner. Moreover, the domestic violence module is administered at the end of the interview, so that both interviewer and respondent become well acquainted with each other by the time they reach the section on domestic violence (Kishor and Johnson, 2004).

Although most women interviewed do not ask for help, some abused women may ask the interviewer for assistance. To prepare for this possibility, all field organizations involved in the implementation of the 2007 BDHS were required to compile a list of organizations that assist women in distress. This list was provided to interviewers, and they were specially trained to provide this information in a confidential and safe manner if asked by respondents.

14.4 Characteristics of the Subsample of Respondents for the Violence Module

Given that only one person from each selected household was interviewed and that respondents were not interviewed if privacy could not be ensured, it is important to investigate response rates and to compare the characteristics of the subsamples of women and men selected for the domestic violence module with the full samples in order to assess the representativeness of the subsample. Out of 4,489 women eligible to respond to the domestic violence module, only seven women had to be excluded because of lack of privacy. An additional 15 women were not interviewed for other reasons. Among 3,381 eligible men, six were excluded for lack of privacy, and one was not interviewed for another reason.

The distribution of respondents selected for the violence module by age, marital status, urban-rural residence, administrative division, educational level, and household wealth is for the most part identical to that of the full sample participating in the individual interviews (data not shown). The majority of women are currently married (94 percent), while 6 percent are divorced, separated, or widowed. Nearly all men are currently married, with less than 1 percent divorced, separated, or widowed. Twenty-three percent of women and men live in urban areas, while 77 percent live in rural areas. Almost one-third of respondents live in Dhaka division, one-fourth live in Rajshahi, and one-sixth in Chittagong. About 13 percent of ever-married women and men live in Khulna, 6 percent live in Barisal, and the same percentage live in Sylhet. No notable differences between the subsample and the full sample are observed based on education and household wealth. In conclusion, the subsamples of women and men selected for the domestic violence questions appear to be representative of the entire population of men and women of reproductive age.

14.5 Spousal Violence: Women's Report

This section presents data on women's experience of violence by their current or most recent husband as reported by the women themselves. The background characteristics considered include age, employment status, number of living children, marital status and duration, urban-rural residence, division, level of education, household wealth, husband's characteristics, and women's empowerment indicators.

14.5.1 Physical and Sexual Spousal Violence

Table 14.1 shows the percentage of ever-married women age 15-49 who have ever experienced spousal violence, and the percentage of currently married women who have experienced spousal violence in the 12 months preceding the survey. As mentioned above, separated, divorced, and widowed women were not asked about spousal violence in the 12 months preceding the survey.

Nearly one-half of ever-married women (49 percent) have ever experienced some form of physical violence by their husbands in their current or most recent marriage. Eighteen percent report ever having been physically forced to have sex by their husbands when they did not want to. More than half of all ever-married women (53 percent) have experienced some form of physical and/or sexual violence, while 13 percent have experienced both types of violence.

The second, third, and fourth columns of Table 14.1 show the frequency with which currently married women experienced spousal violence in the 12 months preceding the survey. Overall, 18 percent experienced physical violence and 11 percent experienced sexual violence in the past 12 months. One in four currently married women experienced physical and/or sexual violence often or sometimes in the past year, and 5 percent experienced both forms of violence often or sometimes during the same period. Women are more likely to report that physical violence occurs sometimes in the past 12 months (15 percent) than often (4 percent). The same is true of reports of sexual violence: 8 percent of currently married women report they were forced to have sex sometimes in the past 12 months, compared with 3 percent who said they were forced to do so often.

Table 14.1 Forms of spousal violence

Percentage of ever-married women age 15-49 who have experienced various forms of violence by their husband, ever and in the 12 months preceding the survey, Bangladesh 2007

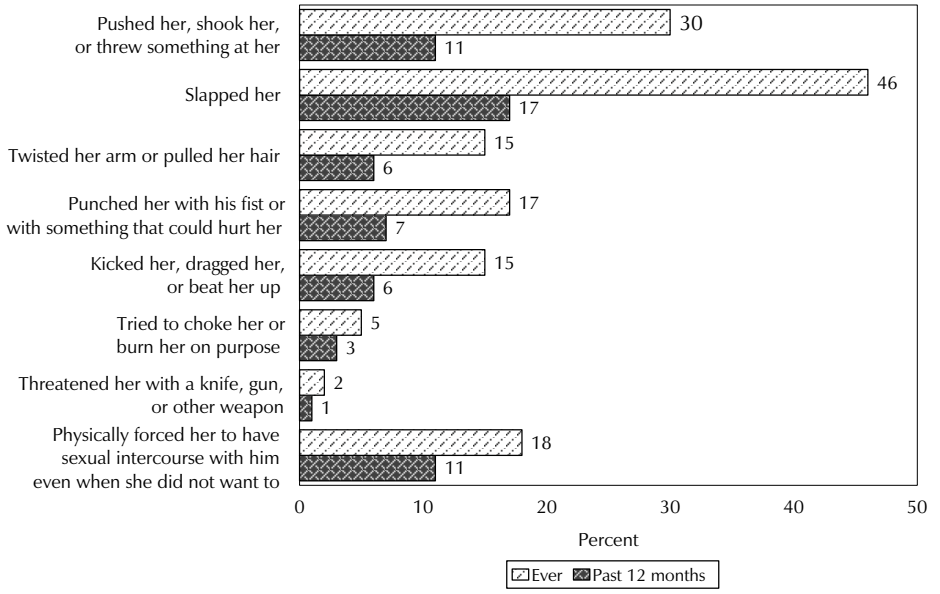
		In the past 12 months[1]		
	Ever	Often	Sometimes	Often or sometimes
Physical violence				
Any	48.7	3.6	14.8	18.4
Pushed her, shook her, or threw something at her	29.8	2.1	8.5	10.6
Slapped her	45.9	3.0	13.6	16.6
Twisted her arm or pulled her hair	15.4	1.4	4.4	5.8
Punched her with his fist or with something that could hurt her	16.7	1.3	5.3	6.6
Kicked her, dragged her, or beat her up	15.4	1.3	4.4	5.7
Tried to choke her or burn her on purpose	5.3	0.8	1.7	2.5
Threatened her or attacked her with a knife, gun, or other weapon	1.6	0.2	0.4	0.6
Sexual violence				
Physically forced her to have sexual intercourse with him even when she did not want to	17.8	2.6	8.4	11.0
Any form of physical and/or sexual violence	53.3	5.4	18.5	23.9
Both physical and sexual violence	13.2	0.8	3.9	4.7
Number of ever married women	4,467	4,181	4,181	4,181

Note: Husband refers to the current husband for currently married women and the most recent husband for divorced, separated, or widowed women.
[1] Restricted to currently married women

The most common act of physical violence is slapping (Figure 14.1). Forty-six percent of ever-married women report ever being slapped by their current or most recent husband. This result is consistent with WHO's Multi-Country Study on women's health and violenceagainst women, which reported that slapping was the most common act of violence reported by currently married women in the last 12 months (WHO, 2005b). The next most common act of physical violence is being pushed, shaken, or having something thrown at them (30 percent). Almost 17 percent of ever-married women report that

their husbands have punched them with their fist or with something that could hurt them. Fifteen percent report being kicked, dragged, or beaten, and an equal percentage report that their husbands have twisted their arms or pulled their hair. Smaller proportions of women report that their husbands have ever tried to choke them or burn them on purpose or ever threatened them with a weapon, indicating that these more severe acts of physical violence are less common in Bangladesh.

Figure 14.1 Forms of Spousal Violence Experienced by Ever-Married Women



Note: Violence in the past 12 months is restricted to currently married women.

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14.5.2 Spousal Violence by Background Characteristics

Table 14.2 presents the percentage of women who report ever experiencing physical or sexual violence by background characteristics. Older women are more likely to have ever experienced physical violence than younger women. This result is consistent with previous studies and is related to the fact that older women have been exposed to the risk of violence for a longer time than younger women (Kishor and Johnson, 2004). In contrast, younger women are somewhat more likely to report ever having experienced sexual violence than older women. One in five ever-married women age 15-24 has ever experienced sexual violence, compared with 16 percent of women age 40-49.

It has been hypothesized that women in paid employment are more likely to have some power at the household level (Malhotra and Mather, 1997). Greater power should result in lowered risk of physical and sexual violence. However, the results of the 2007 BDHS show that women who are employed for cash are more likely to have experienced violence by a husband than women who are not employed or who are employed but not paid in cash. Unemployed women are least likely to report physical and sexual violence. The social and cultural context, such as male disapproval of wives working, may explain why unemployed women are less likely to face domestic violence (Ameen, 2005). Alternatively, women in paid employment may feel more empowered to report acts of violence when they occur. The information collected in the 2007 BDHS does not permit an examination of what causes the relationship between paid employment and physical and sexual violence.

Parity is positively related to experience of physical violence. As the number of children increases, there is a notable increase in physical violence. Martin et al. (1999) hypothesize that as the number of children increases, more resources are needed to support the family. Consequently, men feel stressed about financial pressures, which may contribute to increased violence. It is also important to note that age increases with parity and, as stated earlier, older women are more likely to have experienced physical violence. One-fourth of ever-married women with no children report having ever experienced physical violence. The proportion increases to 49 percent among women with 1-2 children, and to 54 to 55 percent among women who have three or more children. The relationship between parity and sexual violence is reversed; women who have no children are more likely to have ever experienced sexual violence than women who have one or more children.

Physical violence is directly related to the duration of the marriage. For example, 30 percent of women who have been married for less than five years report ever having experienced physical violence, compared with 47 percent of women married 5-9 years and 54 percent of women married for more than 10 years. In contrast, women are less likely to report sexual violence as the duration of marriage increases. Women are more likely to report physical violence if they have been married more than once or are currently separated, divorced, or widowed. This is not surprising since violence is often a root cause of marital dissolution (Kishor and Johnson, 2004).

Table 14.2 Spousal violence by background characteristics

Percentage of ever-married women age 15-49 by whether they have ever experienced physical or sexual violence committed by their husband, according to background characteristics, Bangladesh 2007

Background characteristic	Physical violence	Sexual violence	Physical or sexual violence	Number of women
Age				
15-19	39.5	20.4	47.3	590
20-24	43.1	19.3	49.0	881
25-29	49.1	17.5	54.5	816
30-39	52.1	16.7	55.2	1,321
40-49	55.2	16.4	57.8	859
Employed (last 12 months)				
Not employed	44.1	16.0	48.7	2,902
Employed for cash	57.6	20.6	62.3	1,321
Employed not for cash	54.8	24.4	59.8	244
Number of living children				
0	25.6	20.1	34.9	472
1-2	48.6	17.2	53.2	2,110
3-4	54.7	18.0	58.6	1,334
5+	54.4	17.5	56.8	550
Marital status and duration				
Currently married women	48.2	17.7	53.0	4,181
Married only once	47.6	17.3	52.2	3,949
0-4 years	30.3	20.2	40.0	769
5-9 years	46.7	16.2	50.6	761
10+ years	53.5	16.7	56.7	2,420
Married more than once	58.3	24.8	65.4	231
Divorced/separated/widowed	55.9	18.9	58.3	286
Residence				
Urban	45.1	13.3	47.8	1,033
Rural	49.8	19.1	55.0	3,434
Division				
Barisal	52.6	21.2	57.1	274
Chittagong	42.8	17.1	47.7	814
Dhaka	49.8	19.6	54.3	1,433
Khulna	51.2	14.6	53.9	548
Rajshahi	52.3	17.5	57.8	1,115
Sylhet	38.0	14.7	41.7	283
Education				
No education	58.5	20.0	61.9	1,558
Primary incomplete[1]	55.6	18.9	59.5	917
Primary complete	46.6	17.5	52.8	391
Secondary incomplete	37.6	15.7	43.9	1,081
Secondary complete or higher[2]	31.6	13.6	36.4	511
Wealth quintile				
Lowest	57.4	22.7	61.8	887
Second	54.0	19.3	58.9	877
Middle	53.8	19.4	58.5	859
Fourth	45.2	16.4	49.3	926
Highest	34.1	11.5	39.0	918
Respondent's father beat her mother				
Yes	68.5	27.0	73.5	1,102
No	41.0	14.7	45.6	3,114
Don't know	57.3	15.0	60.3	251
Total	48.7	17.8	53.3	4,467

Note: Husband refers to the current husband for currently married women and the most recent husband for divorced, separated or widowed women. Total includes 9 women with information missing on educational attainment

[1] Primary complete is defined as completing grade 5.

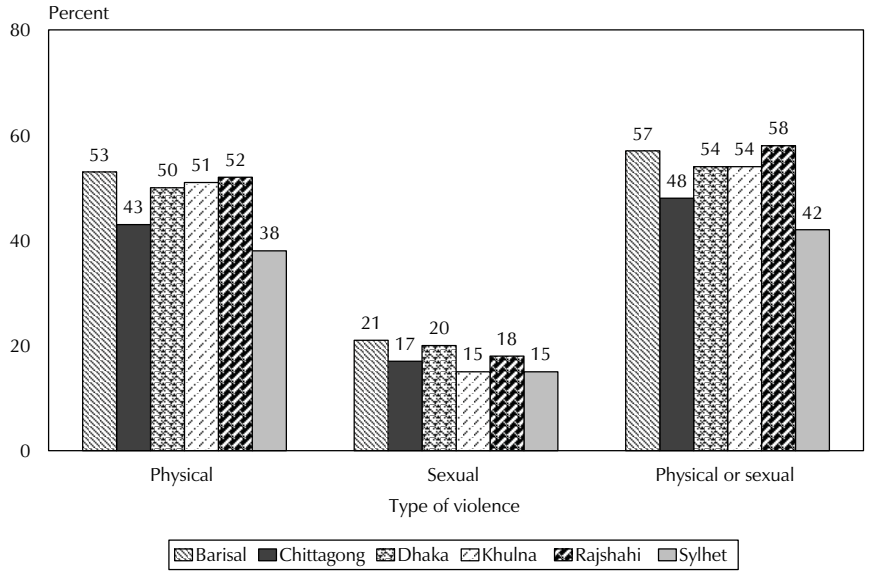
[2] Secondary complete is defined as completing grade 10.

Rural women are slightly more likely to report both physical and sexual violence than urban women. Women residing in Chittagong and Sylhet experience less physical violence compared with women in other divisions. It is interesting to note that the 2007 BDHS also found that age at marriage is higher in Chittagong and Sylhet compared with other divisions (Chapter 6). Sexual violence is lowest in Sylhet and Khulna and highest in Barisal. Twenty-one percent of ever-married women in Barisal reported sexual violence, followed by 20 percent of women in Dhaka division. The prevalence of physical and/or sexual violence ranges from 42 percent in Sylhet to 57 percent in Barisal and 58 percent in Rajshahi (Figure 14.2). In most divisions, the proportion of ever-married women who have experienced physical violence is more than twice as high as the proportion who have experienced sexual violence.

Education is strongly related to physical and sexual violence. Women with no education are most likely to have ever experienced physical violence (59 percent). As the level of education increases, the prevalence of physical violence decreases. Nonetheless, even among women who have completed secondary or higher education, one in three (32 percent) report having experienced physical violence. Women with no education are also the most likely to report sexual violence. The WHO study confirms that receiving higher education is associated with less violence in many settings, including Brazil, Namibia, Peru, and Tanzania, but it does not totally eliminate the risk (WHO, 2005b).

Table 14.2 also shows a clear relationship between household wealth and physical violence. Among women who belong to households in the lowest wealth quintile, 57 percent report physical violence, compared with 34 percent of women in the highest wealth quintile. A similar relationship is observed between wealth and sexual violence.

Figure 14.2 **Forms of Spousal Violence Experienced by Ever-Married Women by Division**



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A family history of violence is also highly associated with the experience of spousal violence. More than two-thirds of women who report having seen their father beat their mother have themselves experienced physical violence by their husbands, compared with only 41 percent of women whose fathers, to their knowledge, were not violent towards their mothers. Furthermore, women whose fathers beat their mothers are almost twice as likely as other women to have experienced sexual violence. This finding suggests that physical violence is perpetuated from one generation to the next (Kishor and Johnson, 2004).

Overall, being poor, having less education, having more children, and being married more than once are associated with increased risk of having ever experienced domestic violence, which is consistent with other studies (Ahmed, 2003; Bhuiya et al., 2003; WHO, 2005b).

14.5.3 Spousal Violence by Husband's Characteristics and Empowerment Indicators

Table 14.3 shows differentials in the prevalence of different forms of violence by husband's characteristics and indicators of women's empowerment. As the husband's education increases, the prevalence of spousal violence reported by women decreases. The level of the wife's education compared with that of her husband also is related to levels of violence. Reported experience of physical or sexual violence is lowest if both spouses are equally educated (42 percent) and highest if neither husband nor wife has been to school (64 percent).

Table 14.3 Spousal violence by husband's characteristics and empowerment indicators

Percentage of ever-married women age 15-49 who have ever suffered physical or sexual violence committed by their husband, according to his characteristics, marital characteristics, and empowerment indicators, Bangladesh 2007

	Physical violence	Sexual violence	Physical or sexual violence	Number of women
Husband's education				
No education	57.4	20.6	61.5	1,623
Primary incomplete	55.8	15.1	58.5	785
Primary complete[1]	46.0	22.4	52.0	403
Secondary incomplete	43.0	14.5	48.4	829
Secondary complete or higher[2]	32.1	16.1	38.2	817
Spousal age difference[3]				
Wife older	*	*	*	10
Wife is same age	*	*	*	20
Wife's 1-4 years younger	46.6	17.2	52.3	573
Wife's 5-9 years younger	50.8	17.6	54.5	1,845
Wife's 10+ years younger	45.8	17.8	51.6	1,726
Spousal education difference				
Husband better educated	45.4	16.4	50.8	1,637
Wife better educated	47.9	17.3	51.8	1,286
Both equally educated	35.1	17.0	41.9	424
Neither educated	60.3	20.9	63.8	1,100
Number of decisions in which women participate[4]				
0	40.0	14.9	45.2	437
1-2	45.1	19.5	51.7	756
3-4	49.9	20.7	54.8	1,373
5	50.5	15.1	54.1	1,616
Number of reasons for which wife beating is justified[5]				
0	45.2	17.0	49.7	2,913
1-2	53.5	17.1	57.5	912
3-4	54.6	21.4	60.9	441
5	65.1	25.0	70.3	201
Total	48.7	17.8	53.3	4,467

Note: Husband refers to the current husband for currently married women and the most recent husband for divorced, separated, or widowed women. Total includes 8 women with information missing on husband's education, 7 women with information missing on spousal age difference, and 20 women with information missing on spousal education difference. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

[1] Primary complete is defined as completing grade 5.

[2] Secondary complete is defined as completing grade 10.

[3] Restricted to currently married women

[4] Restricted to currently married women. See Table 13.5.1 for the list of decisions.

[5] See Table 13.6.1 for the list of reasons.

No clear pattern is seen between women's participation in household decisionmaking and the forms of violence they experience. This result is contrary to the expectation that the risk of experiencing domestic violence will decrease when women have more autonomy and greater participation in household decisionmaking (Koenig et al., 2003). Women who believe that a husband is not justified in beating his wife for any reason are less likely than other women to report physical or sexual violence (50 percent versus 70 percent).

14.5.4 Frequency of Spousal Violence

Table 14.4 shows the percent distribution of currently married women who reported ever experiencing physical or sexual violence by the frequency of violence in the 12 months preceding the survey, according to selected background characteristics. Among these women, 35 percent experienced violence sometimes and 10 percent experienced violence often in the 12 months preceding the survey. Fifty-five percent of currently married women have experienced violence in their current marriage at some time, but not in the past 12 months.

Table 14.4 Frequency of spousal violence among those who report violence

Percent distribution of currently married women age 15-49 who have ever suffered physical or sexual violence committed by their current or most recent husband by frequency of violence in the 12 months preceding the survey, according to background characteristics, Bangladesh 2007

Background characteristic	Frequency of physical or sexual violence in the past 12 months				Number of women
	Often	Sometimes	Not at all	Total	
Age					
15-19	13.3	63.0	23.8	100.0	266
20-24	14.9	48.2	36.9	100.0	405
25-29	12.8	38.2	49.0	100.0	434
30-39	8.9	24.2	67.0	100.0	678
40-49	3.9	18.6	77.6	100.0	430
Employed (last 12 months)					
Not employed	9.2	36.9	53.8	100.0	1,352
Employed for cash	12.3	31.9	55.8	100.0	733
Employed not for cash	10.0	30.5	59.5	100.0	128
Number of living children					
0	15.9	66.1	18.0	100.0	139
1-2	11.2	38.9	49.9	100.0	1,043
3-4	8.7	28.2	63.2	100.0	747
5+	8.6	22.5	68.8	100.0	283
Marital status and duration					
Married only once	10.3	34.6	55.1	100.0	2,061
0-4 years	13.3	63.6	23.1	100.0	307
5-9 years	13.1	45.6	41.4	100.0	384
10+ years	8.8	25.1	66.1	100.0	1,370
Married more than once	10.8	38.3	50.9	100.0	151
Residence					
Urban	9.3	32.8	57.9	100.0	450
Rural	10.6	35.4	54.0	100.0	1,763
Division					
Barisal	18.4	32.0	49.6	100.0	150
Chittagong	9.9	38.5	51.6	100.0	364
Dhaka	10.1	33.1	56.8	100.0	719
Khulna	11.1	31.5	57.3	100.0	274
Rajshahi	8.0	37.5	54.4	100.0	608
Sylhet	12.3	31.9	55.7	100.0	97
Education					
No education	10.0	29.7	60.3	100.0	865
Primary incomplete	11.7	32.2	56.1	100.0	509
Primary complete[1]	6.1	42.3	51.6	100.0	200
Secondary incomplete	9.4	43.3	47.4	100.0	461
Secondary complete or higher[2]	15.1	38.6	46.3	100.0	175
Wealth quintile					
Lowest	14.5	37.3	48.1	100.0	505
Second	12.1	37.4	50.5	100.0	487
Middle	8.4	32.4	59.2	100.0	471
Fourth	9.6	36.3	54.1	100.0	423
Highest	4.7	29.2	66.2	100.0	327
Total	10.3	34.9	54.8	100.0	2,213

Note: Husband refers to the current husband for currently married women and the most recent husband for divorced, separated, or widowed women. Total includes 3 women with information missing on educational attainment

[1] Primary complete is defined as completing grade 5.

[2] Secondary complete is defined as completing grade 10.

The likelihood of having experienced physical or sexual violence in the past 12 months decreases with increasing age. A general assumption is that as women grow older, their roles as mothers become more prominent than their roles as wives, and they achieve a certain status at the household and community levels which may reduce the likelihood of violence (Kishor and Johnson, 2004).

There is not much difference in the frequency of violence experienced in the past 12 months between women who have been married only once and those who have been married more than once. However, the duration of marriage is strongly associated with violence in the past 12 months. A much higher proportion of women married for less than five years experienced physical or sexual violence in the past 12 months than women who had been married for 5-6 years or 10 or more years. Furthermore, the shorter the marital duration, the greater the frequency of violence in the past 12 months. Notably, women who are not employed are somewhat more likely than women who are employed to have experienced physical or sexual violence in the past 12 months.

Differentials by urban-rural residence are small, and no clear pattern is observed by division. Contrary to the data on ever experience of violence, better educated women more frequently experienced physical or sexual violence in the past 12 months than other women. The frequency of spousal violence in the past 12 months generally decreases with increasing household wealth.

14.6 Spousal Violence: Men's Report

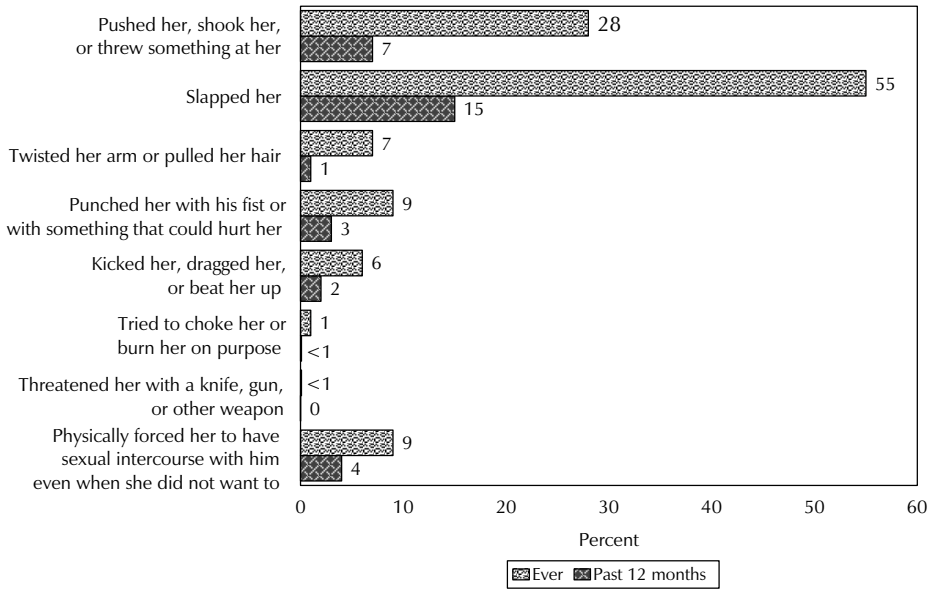
This section describes the reports of ever-married men regarding acts of physical or sexual violence that they committed against their current or most recent wife. Differentials based on background characteristics are also discussed.

14.6.1 Physical and Sexual Violence

Table 14.5 presents data collected from ever-married men age 15-49 on acts of physical or sexual violence that they have ever perpetrated against their current or former wives and, among currently married men, that they have perpetrated in the past 12 months. Fifty-eight percent of ever-married men report having ever physically abused their wives. One in six (16 percent) currently married men report that they have physically abused their wives often or sometimes in the past 12 months, with the vast majority reporting abuse sometimes. Sixty percent of ever-married men report ever committing physical and/or sexual violence against their wife, and 8 percent say that they have committed both physical and sexual violence.

Figure 14.3 shows specific forms of violence ever committed or committed in the past 12 months. Over half of ever-married men have ever slapped their wives. The next most common form of physical violence men report is pushing, shaking, or throwing something at their wives (28 percent).

Figure 14.3 Forms of Spousal Violence Committed by Ever-Married Men



Note: Violence in the past 12 months is restricted to currently married men.

BDHS 2007

The proportion of men who report ever committing physical violence against their wives is higher than the proportion of women who report ever having been abused physically by their husbands (58 percent in Table 14.5 compared with 49 percent in Table 14.1). Although men are more likely than women to report physical acts of violence that are less severe, such as slapping, they are much less likely than women to report more severe acts of physical violence, such as punching, kicking, choking, burning, or use of a weapon. In addition, men are half as likely to report ever having physically forced their wives to have sex as women are to report that their husbands forced sex on them (9 percent compared with 18 percent).

Men are less likely to report violence in the past year than women. Sixteen percent of currently married men report physical violence against their wives in the past 12 months, compared with 18 percent of women. The comparable figures for sexual violence are 4 percent and 11 percent, respectively. Eighteen percent of men reported that they have committed either physical or sexual violence against their wives sometime during the past 12 months. This figure compares with 24 percent of women who report experiencing physical or sexual violence in the past 12 months.

Table 14.5 Forms of spousal violence perpetrated by men

Percentage of ever-married men age 15-49 who committed various forms of spousal violence against their wife, ever and in the 12 months preceding the survey, Bangladesh 2007

		In the past 12 months[1]		
	Ever	Often	Sometimes	Often or sometimes
Physical violence				
Any	58.1	0.8	15.4	16.3
Pushed her, shook her, or threw something at her	28.4	0.2	7.2	7.4
Slapped her	54.5	0.6	14.2	14.8
Twisted her arm or pulled her hair	6.5	0.0	1.3	1.4
Punched her with his fist or with something that could hurt her	9.0	0.1	2.8	2.9
Kicked her, dragged her, or beat her up	6.0	0.1	2.1	2.1
Tried to choke her or burn her on purpose	0.6	0.0	0.2	0.2
Threatened her or attacked her with a knife, gun, or any other weapon	0.2	0.0	0.0	0.0
Sexual violence				
Physically forced her to have sexual intercourse with him even when she did not want to	9.4	0.6	3.7	4.3
Any form of physical and/or sexual violence	60.0	1.1	17.2	18.2
Both physical and sexual violence	7.5	0.4	1.8	2.2
Number of ever-married men 15-49	2,896	2,875	2,875	2,875
Any form of physical and/or sexual violence, men 15-54	59.6	1.0	15.7	16.7
Number of ever-married men 15-54	3,374	3,341	3,341	3,341

Note: Wife refers to the current husband for currently married men and the most recent wife for divorced, separated or widowed men.
[1] Restricted to currently married men

14.6.2 Spousal Violence by Background Characteristics

Table 14.6 presents data on men's reports of spousal violence by background characteristics. Similar to the pattern for women, the proportion of men who report ever committing physical violence increases with men's age, while the proportion ever committing sexual violence decreases with age.

The data also show that as marital duration increases, so does the prevalence of physical violence. The same pattern was observed for women. Men who have been married more than once are more likely than men married only once to have ever committed physical violence. In contrast, there is no clear relationship between marital duration and sexual violence. Rural men are slightly more likely than urban men to report ever committing physical or sexual violence.

Table 14.6 Spousal violence committed by men by background characteristics

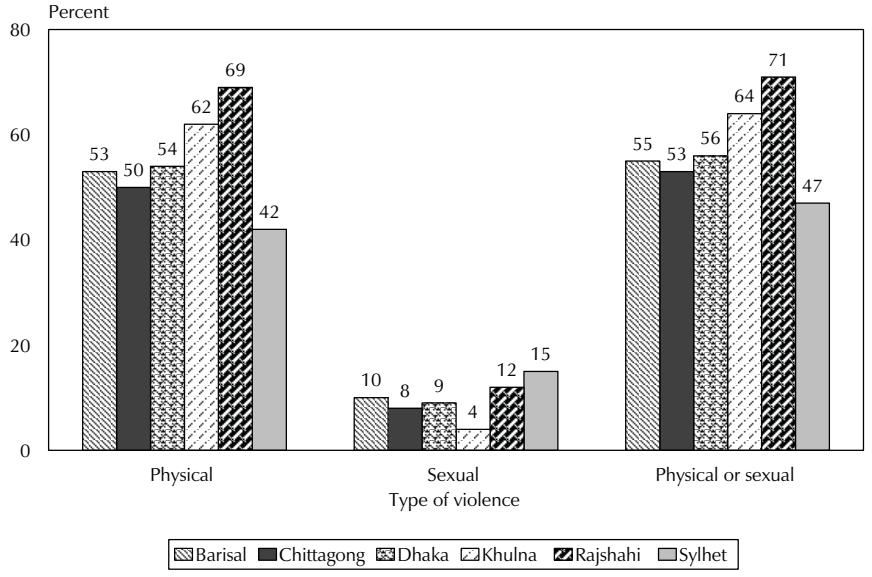
Percentage of ever-married men age 15-49 who have ever committed physical or sexual violence against their wife, by background characteristics, Bangladesh 2007

Background characteristic	Physical violence	Sexual violence	Physical or sexual violence	Number of men
Age				
15-19	*	*	*	13
20-24	49.2	11.3	50.6	259
25-29	51.8	10.9	54.3	566
30-39	58.8	8.7	60.4	1,028
40-49	63.3	8.4	65.2	1,030
Employed (last 12 months)				
Yes	58.3	9.5	60.2	2,870
No	*	*	*	25
Marital status and duration				
Currently married men	58.2	9.4	60.1	2,875
Married only once	56.8	9.2	58.8	2,614
0-4 years	38.5	8.9	41.5	629
5-9 years	57.9	9.9	59.9	596
10+ years	64.5	9.1	66.3	1,388
Married more than once	72.2	11.6	72.6	261
Divorced/separated	*	*	*	21
Residence				
Urban	52.1	7.4	53.5	667
Rural	59.9	10.0	61.9	2,228
Division				
Barisal	53.0	10.0	54.5	170
Chittagong	50.3	8.3	53.1	484
Dhaka	54.4	8.7	55.5	876
Khulna	62.3	4.1	63.5	392
Rajshahi	69.1	12.1	71.2	806
Sylhet	42.3	14.7	46.9	168
Education				
No education	66.8	9.8	67.7	859
Primary incomplete	65.9	11.0	68.2	781
Primary complete[1]	58.7	3.4	58.9	190
Secondary incomplete	54.9	10.9	57.4	536
Secondary complete or higher[2]	35.4	7.1	38.4	530
Wealth quintile				
Lowest	65.6	10.0	67.2	528
Second	65.5	9.0	66.3	594
Middle	60.9	9.6	62.5	603
Fourth	56.8	10.8	59.0	577
Highest	42.4	7.7	45.7	594
Whether father beat mother				
Yes	75.1	15.4	77.1	791
No	49.3	6.5	51.2	1,819
Don't know	67.1	10.9	68.9	286
Total 15-49	58.1	9.4	60.0	2,896
50-54	56.4	6.1	57.6	478
Total 15-54	57.8	8.9	59.6	3,374

Note: Wife refers to the current husband for currently married men and the most recent wife for divorced, separated or widowed men. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

Similar to findings based on women's reports, men from Sylhet report committing less physical violence, but more sexual violence, than men in other divisions (Figure 14.4). With the exception of men from Sylhet, more than half of all ever-married men in all divisions have committed either physical or sexual violence.

Figure 14.4 **Forms of Spousal Violence Committed by Ever-Married Men by Division**



BDHS 2007

As expected, men's education is strongly associated with men's reports of physical violence. With increasing education, men tend to commit less physical violence against their wives. However, there is no clear relationship between education and sexual violence. A similar inverse relationship is observed between physical violence and household wealth: the occurrence of physical violence decreases as household wealth increases. However, there is no clear relationship between sexual violence and wealth.

As is the case for women, a family history of domestic violence is strongly associated with men's reports of violence against their wives. Three-fourths of men who reported seeing their father beat their mother have committed physical violence against their wives, compared with 49 percent of men who did not witness such violence. The relationship also holds true for sexual violence. This indicates that men who have seen violence committed by their fathers are more likely to commit violent acts themselves as adults.

14.6.3 Spousal Violence by Empowerment Indicators

Table 14.7 shows the relationship between men's reports of spousal violence, men's perceptions of their wives' participation in household decisionmaking, and men's agreement with reasons justifying wife beating.

It is assumed that women who participate in household decisionmaking are more empowered and thus would be less subject to violence. Contrary to this expectation, however, there appears to be a negative relationship between physical violence and men's reports of their wife's participation in household decisionmaking. The proportion of men who report ever physically abusing their wives increases as the number of decisions in which they perceive their wives to participate increases. No clear

pattern is observed between men's perception of their wives' participation in decisionmaking and their reports of sexual violence. However, those men who say that their wives participate in all five household decisions are also those who are most likely to report having committed sexual violence against their wives.

Men who agree with fewer reasons justifying wife beating are less likely to report either physical violence or sexual violence. This relationship is the same as that observed for women.

Table 14.7 Spousal violence reported by men by empowerment indicators

Percentage of ever-married men age 15-49 who have ever committed physical or sexual violence, according to men's report on indicators of women's empowerment, Bangladesh 2007

	Physical violence	Sexual violence	Physical or sexual violence	Number of men
Men's report on the number of decisions in which women participate[1]				
0	46.7	9.8	50.0	597
1-2	57.7	8.4	59.4	726
3-4	62.4	9.4	63.8	1,304
5	65.0	11.9	66.9	247
Total 15-49	58.2	9.4	60.1	2,875
Men's report on the number of reasons for which wife beating is justified[2]				
0	50.7	6.6	52.4	1,868
1-2	68.4	14.5	71.3	641
3-4	76.1	11.2	77.0	311
5	78.2	27.9	83.1	75
Total 15-49	58.1	9.4	60.0	2,896

Note: Wife refers to the current wife for currently married men and the most recent wife for divorced, separated, or widowed men.
[1] Restricted to currently married men. See Table 13.5.2 for the list of decisions.
[2] See Table 13.6.2 for the list of reasons.

14.7 REASONS FOR SPOUSAL VIOLENCE

When currently married women reported experiencing physical violence in the 12 months preceding the survey, interviewers asked them: "Why did your husband hurt you in the last 12 months?" Currently married men who reported perpetrating physical violence against their wife in the 12 months before the survey were asked: "What is the reason for you to hurt your wife in the last 12 months?" Table 14.8 shows the responses given by women and men. The percentages sum to more than 100 percent because respondents may cite multiple reasons. Three in ten women said that they were physically abused for no reason; 27 percent of women cited a financial crisis; and one in five women mentioned neglecting household chores as a precipitating factor. Around 15 percent of women mentioned disobeying her husband; equal proportions cited refusing sex and neglecting the children as reasons for spousal violence. In addition, one in ten women reported dowry issues or seeking financial resources from her family as a reason for spousal violence.

Table 14.8 Reasons for spousal violence

Among currently married women who report experiencing physical violence and men who report perpetrating physical violence in the past 12 months, the percentage who give various reasons for the violence, Bangladesh 2007

Reason	Women	Men
Without any reason	31.1	7.1
Financial crisis	27.1	12.3
Wife neglected household chores	20.7	23.6
Wife disobeyed husband	15.7	46.9
Wife refused sex	15.3	2.6
Wife neglected children	14.4	8.7
Dowry issue	11.5	1.2
Envy or malice	7.4	14.0
Food crisis	5.5	2.5
Wife went out without permission	4.9	5.8
Husband unemployed	4.6	0.6
Other	11.6	10.7
Total	771	468

Men emphasize somewhat different reasons than women as precipitating factors for their perpetration of physical abuse in the 12 months preceding the survey (Table 14.8). The leading reason, cited by almost half (47 percent) of currently married men, was that their wives disobeyed them. Nearly one in four men reported neglecting household chores as a reason. Another 14 percent mentioned envy or malice, 12 percent cited a financial crisis, and 9 percent pointed to their wife neglecting the children as a reason for abuse.

14.8 Discussing Experience of Domestic Violence with Others and Assistance Received

Although more than half of ever-married women in Bangladesh have experienced some form of physical and sexual violence, few women disclose this experience to others. The 2007 BDHS asked currently married women who reported physical violence in the past 12 months a series of questions about seeking help. First, interviewers asked if they had told anyone about the violence and, if they had, whom they had told. In a separate question, interviewers also asked this same group of women whether they received any assistance to protect themselves from being hurt by their husband, regardless of whether they had ever disclosed their experience of violence to anyone.

Table 14.9 shows the percent distribution of currently married women who experienced physical violence in the past 12 months by whether they told anyone or received any assistance. Just over one in four abused women had ever told someone about their experience of spousal violence. At the same time, almost half of women who had experienced violence received assistance from someone. It is surprising that the proportion of women who received assistance is higher than the proportion who told anyone about the violence. One possible explanation is that others may have become aware of the violence without the woman directly telling them.

Table 14.9 Help seeking behaviors to stop violence

Among currently married women age 15-49 who have experienced physical violence in the past 12 months, percentage who told anyone about the violence and percentage who received assistance, by background characteristics, Bangladesh 2007

Background characteristic	Percentage who told someone	Percentage who received assistance	Number of women
Age			
15-19	29.4	45.3	157
20-24	25.8	40.1	198
25-29	30.4	59.0	165
30-39	33.7	50.3	174
40-49	13.3	36.1	76
Employed (last 12 months)			
Not employed	24.4	41.7	492
Employed for cash	35.7	57.4	241
Employed not for cash	(28.6)	(51.3)	37
Number of living children			
0	31.8	39.6	75
1-2	30.1	47.2	414
3-4	26.5	51.0	212
5+	17.5	42.7	70
Marital duration			
Married only once	26.7	46.5	711
0-4 years	29.8	35.0	158
5-9 years	22.3	47.9	189
10+ years	27.7	50.9	364
Married more than once	44.4	54.0	59
Residence			
Urban	28.5	42.2	157
Rural	28.0	48.4	614
Division			
Barisal	32.4	49.9	62
Chittagong	26.8	41.5	138
Dhaka	30.1	50.2	236
Khulna	23.7	40.5	98
Rajshahi	28.6	50.8	204
Sylhet	21.6	40.3	34
Education			
No education	29.0	53.2	270
Primary incomplete	27.5	51.2	187
Primary complete[1]	29.6	47.7	75
Secondary incomplete	25.2	36.2	171
Secondary complete or higher[2]	32.2	38.8	67
Wealth quintile			
Lowest	30.6	49.7	200
Second	28.7	48.2	187
Middle	32.2	49.3	159
Fourth	21.2	42.8	158
Highest	25.7	41.3	67
Total	28.1	47.1	771

Note: Figures in parentheses are based on 25-49 unweighted cases. Total includes 1 woman with information missing on educational attainment

[1] Primary complete is defined as completing grade 5.

[2] Secondary complete is defined as completing grade 10.

There is no clear relationship between help-seeking behavior and age. Women who work for cash are more likely to disclose violence and to receive assistance than women who are not employed or women who are employed but not for cash. As parity increases, women are less likely to disclose spousal violence, but there is no clear pattern between parity and receiving help. Women married more than once are considerably more likely than other women to have told someone about the violence and to have received help. In addition, among women married only once, the likelihood of receiving help increases with the duration of marriage.

Although there is no difference in disclosing domestic violence between women in urban and rural areas, rural women are somewhat more likely to report receiving help. Among administrative divisions, women in Barisal, Dhaka, and Rajshahi are more likely to have spoken to someone about their experience with domestic violence and to have received assistance than women in Chittagong, Khulna, and Sylhet. The likelihood of receiving help increases with education, but there is no clear relationship between education and disclosure of violence. The relationship between seeking help and household wealth is not strong, but women in the top two wealth quintiles are somewhat less likely to disclose violence and to receive assistance than their counterparts in the lower three wealth quintiles.

Among women who received assistance, the vast majority said their neighbors helped them. Very few women received help from the police or the court system (data not shown).

Table 14.10 shows who the women confided in. Half of women who told someone about their experience of violence disclosed their experience to their own family members, while 16 percent told members of their husband's family. About one-third told other relatives, while slightly more than that spoke to neighbors.

Table 14.10 Persons told about violence

Among currently married women age 15-49 who have told someone about their experience of violence, the percentage who have told different types of persons, Bangladesh 2007

Type of person	Total
Woman's family	51.2
Husband's family	16.3
Other relative	34.0
Neighbor	35.8
Other	10.2
Number of women	217

POLICY IMPLICATIONS 15

Peter Kim Streatfield, Shams El Arifeen, and Ahmed Al-Sabir

15.1 NATIONAL POLICY ENVIRONMENT

The last decade has brought notable changes to the way health, nutrition and population activities are conducted in Bangladesh. In 1998 the national program evolved from a project-based approach (the Fourth Population and Health Project—FPHP, 1992-1997) to a sector-wide approach (SWAp) with the Health and Population Sector Program (HPSP, 1998-2003). This brought many aspects of the health and population sector under a coordinated mechanism for funding, service delivery, and monitoring. The current SWAp, the Health, Nutrition and Population Sector Program (HNPSP 2005-2010), has brought nutrition, HIV/AIDS, and urban health under the same broad mechanism.

This period has also seen many developments in the policy arena. The National Health Policy was finalized in 2000. The National Maternal Health Strategy was finalized in 2001. The Bangladesh Population Policy was completed in October 2004. The HIV/STD Strategy was finalized in 1996. These policies are being revised.

Consistent with these policies, the HNPSP reinforced the need to ensure that health, nutrition and population services are fully accessible to the poor. This has had implications for the design of service delivery systems, and has highlighted the need not only to target services in new ways, especially to the poor and those in low-performing areas, but also to recognize that resources are simply not sufficient for the government sector alone to be expected to deliver all services to the entire population.

Key Messages

- *The fertility decline has resumed after a plateau, but is still half a child above the replacement fertility level of about 2.2 children per woman. Fertility patterns are still uneven, with high levels among the poor, and on east side of Bangladesh.*
- *Reaching and stabilizing at replacement fertility only will not insure that final population will stabilize below 250 million. Bangladesh needs to bring fertility to half a child below replacement as soon as possible, if population increase is to stop at around 210 million.*
- *Bangladesh is exceptional for persistent early marriage and early childbearing. More emphasis is needed on female secondary schooling, and increasing rural employment opportunities.*
- *The national Family Planning program needs reinvigoration, with service delivery focusing outreach more in the east (Sylhet and Chittagong), on the poor, and on newly married couples. The GOB is focusing more on policy and regulation, and sharing service delivery with the NGO and private sectors so that higher performing groups can use the NGO and private sectors for supplies.*

It has long been known that the majority of household health expenditure is out of pocket in the private sector, rather than public expenditure. This indicates that demand for health services is high, but also that public services are not able to satisfy the entire demand. Contracting mechanisms have been created where the NGO and private sectors could assist the government in delivery of selected services. This shift of government towards taking a stronger role in policy and regulation, and delegating some of the service delivery to other sectors is being reflected in the implementation of the HNPSP.

Finally, another major influence has been the emergence of the Millennium Development Goals (MDGs), which has highlighted even more strongly the links between poverty, nutrition and some of the specific areas of MDG concern such as maternal health and child health. It also places attention onto the importance of slowing population growth if the poverty alleviation and nutrition MDGs are to be met.

15.2 FERTILITY

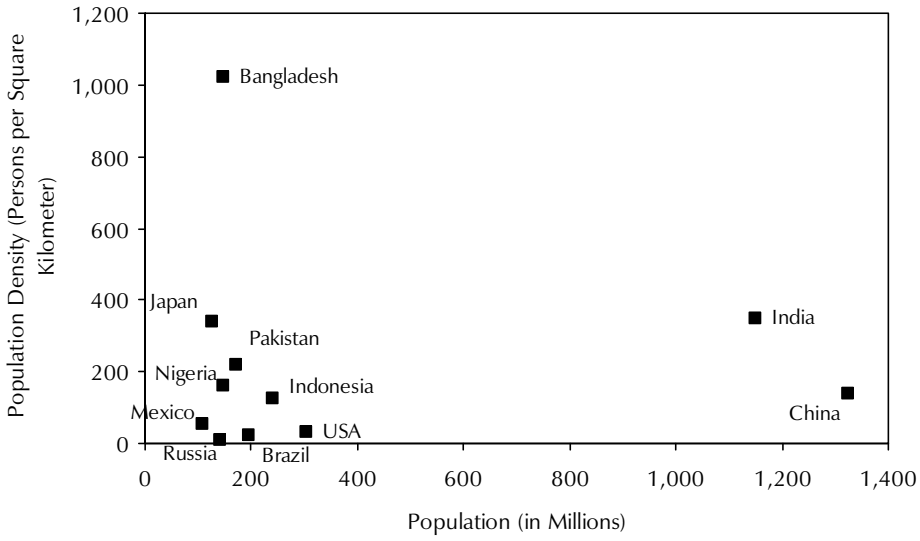
The prospects of rapidly reducing population growth looked very promising with the 50 percent decline in fertility in the 1970s and 1980s, but the 1990s brought a plateau which lasted a decade at a total fertility rate (TFR) of 3.3 children per woman. It was difficult to predict if and when fertility would resume its decline, although the continuing fall in parity progression ratios through the 1990s hinted that it would resume soon. The 2004 BDHS showed an encouraging decline to 3.0 from the 1999-2000 BDHS level, and the present survey shows a further decline in TFR to 2.7.

The fertility levels are rather uneven, with large socio-economic and geographic differences. The TFR for rural women is 0.4 children higher than for urban women. For uneducated women it is 0.7 children higher than for women with complete secondary school or higher. The poorest quintile has on average 1.0 child more than the richest. But the largest differential is across divisions, with higher fertility in the east side than the west side of the country—women in Sylhet have 1.7 more children than women in Khulna, and women in Chittagong have 1.2 more.

The current national fertility level is still half a child above replacement level, and equates to a population doubling time of 40-50 years. Because of the fertility plateau, many organizations produced pessimistic population projections for mid century, 2050-51, of between 233 million (US Bureau of Census, 2009) and 254 million (United Nations Population Division, 2007). With the recent decline, these are being revised down to 218.6 million by the Bangladesh Bureau of Statistics (BBS, 2007) and 215.1 million by the Population Reference Bureau (PRB, 2008), but the lower projections still indicate that population stabilization is a long way off, and will probably be closer to 100 million more than the present population.

The underlying importance of population to all aspects of health, nutrition, and economic development in Bangladesh should not be underestimated. Bangladesh is exceptional in having a population density many times higher than any other "mega" country (i.e., a country with a population exceeding 100 million): the population density in Bangladesh is three to four times higher than in India and Pakistan, six to eight times higher than in Nigeria, China and Indonesia, and 100 times higher than in Russia (see Figure 15.1).

Figure 15.1 **Population Density in "Mega" Countries with Population Exceeding 100 Million**



As a result of the deltaic plane geography of Bangladesh, the rural agricultural land is very fertile and manages to generate food self-sufficiency for now, and for a few more years. But the agricultural workforce is saturated, and future rural population growth will be forced to migrate to the cities (Streatfield and Karar, 2008). After 2025, future population growth of up to 70 million will be entirely urban, mostly moving into slums. At present, the cities are doubling in size every 20 years, and the slums every 10 years. This has major implications for long-term health and economic development.

It is of the utmost importance that population growth is reduced further. The only option is to aim to further reduce fertility to replacement level within five years, but as soon as possible to a total fertility rate of around 1.7, or one child less than at present, which would facilitate the population stabilizing at 210 million rather than continuing up to 250 or 260 million. Reducing fertility only to replacement level (a TFR around 2.2 with current mortality levels) will not limit the final population to much below 250 million. The TFR must be brought down to half a child below replacement as soon as possible.

15.3 Factors Which Can Affect Fertility

The usual prescriptions for lowering fertility would be to focus on increasing age at marriage and thereby delaying first births, and increasing use of family planning (FP) for spacing and limiting births. These strategies assume that desired family size is lowered close to the fertility goal. In Bangladesh, the situation is not so straightforward, and different approaches will be needed for different groups.

15.3.1 Age at Marriage

Bangladesh remains exceptional in having almost the highest proportion globally of girls married as teenagers. Although there are a couple of west African countries (Niger, Mali, Guinea) with similar proportions, nearby countries sharing religious or cultural values with Bangladesh have much lower levels of early marriage and later commencement of childbearing. In Bangladesh, even with substantial investments in female primary and secondary schooling, one in three women are either pregnant or already mothers by age 20, and this proportion is not declining.

As the most recent trends are of interest here, data are presented for young women aged 20-24 years (not 20-49 or 25-49). In the BDHS 2007, the median age at marriage for women age 20-24 is 16.4 years, compared to 16.0 in the previous DHS, suggesting a small upward trend. Nevertheless, this median age at marriage is still one and a half years below the legal minimum age indicating that laws or policies alone do not necessarily guarantee social change.

On the east side of the country, age at marriage is already relatively high—18.3 in Sylhet and 17.4 in Chittagong—about two years later than on the west side—15.7 in Khulna and 15.8 in Rajshahi. But surprisingly, fertility is lower in the western divisions where marriage is early.

Consistent with the geographic marriage patterns, age at marriage is much younger among the poorest quintile (15.0) than the richest quintile (18.4), and the western divisions tend to be poorer than the eastern. But less consistent is the finding that fertility is highest among the poor, but lowest in the western divisions. It seems that other factors such as greater mobility of women in the western divisions might explain some of these apparent inconsistencies between geography, economic status and fertility.

In summary, it appears that the interventions to raise age at marriage may not be the same in different parts of the country. On the western side, where poverty is more common, continued efforts to enroll and retain girls in school are needed to delay persistent early marriage. Increasing numbers of NGOs are making efforts to prevent early dowry marriages, and this must be reinforced. Fertility within

marriage is already quite low, but continued attention must be paid to the FP service delivery system to maintain FP use. On the eastern side of the country, the focus will need to be less on delaying marriage and more on lowering fertility within marriage, and that will be discussed below.

The poor all across the country need to be included in the economic development of the country. Based on global experience, efforts to facilitate female schooling for these families will produce economic benefits, but will also result in later marriage and ultimately, in lower fertility. In the meantime, information and services will need to be specifically targeted to these disadvantaged groups. Entrance for young women into formal sector employment is also associated in many other countries with later marriage and delayed and reduced childbearing, but still only one in six teenage girls in Bangladesh are employed. Further efforts on this front can be expected to contribute to lower fertility over time.

15.3.2 Family Planning

The other major factor which can lower fertility is use of family planning. Levels of FP use have not increased much above half of all couples in this decade, although use is remarkably equitable across most socio-economic groups. The groups where FP use is low include women in Sylhet, and Chittagong to a lesser extent, and newly married women who have not started childbearing.

Key Messages

- *Logistics remain a challenge with numerous stockouts of FP commodities occurring. New, streamlined approaches to procurement, as tested in other countries, can be tried to ensure steady supply of FP commodities.*
- *A modernized BCC approach is needed to overcome negative perceptions about long-term clinical FP methods. This assumes that quality of clinical services is maintained at a high level.*

To explore whether couples in the higher fertility eastern areas simply want more children, ideal family size (IFS) can be examined. Nationally, IFS is 2.3 children per woman (0.4 children less than actual TFR). In Sylhet, IFS is 1.0 child below actual, and IFS is 0.7 children lower than the TFR in Chittagong. The IFS for women aged 15-19 and 20-24, and for women without children, is 2.1 children. This suggests that there is a desire for smaller families in these areas and a strong demand for FP, consistent with a substantial unmet need for FP. Around one in four couples in Sylhet and Chittagong (26 percent and 23 percent, respectively) on the eastern side say they have an unmet need for FP, compared to 17 percent nationally, suggesting a receptive population. Even among teenage mothers nationally, one in five said they wish they had delayed their previous birth, another indicator of significant unmet need for FP.

While IFS for couples with no children is below replacement fertility level, this does not necessarily mean they will be receptive to adopting FP before commencing childbearing, which may be why FP use among this group is very low at one third of the national average for couples of reproductive age. So it appears that there is considerable scope to meet the existing demand for FP and to assist couples to achieve their ideal number of children, which is a little below replacement fertility level.

There are constraints to increasing uptake of FP and thus lowering fertility further, but lack of awareness or knowledge of FP is not among them. Awareness has long been high, with roughly nine in ten women knowing of pills, IUDs, condoms, injectables, and female sterilization. On the other hand, attitudes towards some methods, especially clinical and permanent methods, have long been less than positive.

15.3.3 BCC (Behavior Change Communication)

The national FP Program has not successfully addressed these negative impressions and misinformation about some of the most important methods. There has been relatively little BCC activity in the FP field for a long time. BBC does not just mean advertising of methods like pills and condoms,

but attempting to correct misperceptions or erroneous beliefs about methods. It is well known what these misperceptions are (fear of migration of IUDs into the upper body, long-term inability to work after vasectomy, sterilization is a poor person's method of choice, etc.), but at the national level almost no BCC campaigns have been put in place to counter these obstructive and incorrect beliefs.

If BCC is to be effective, there must be a professional review of the impact of the approaches used previously. In an age of electronic media like television and radio, it may be that the traditional approaches of posters, brochures, etc., will be less effective. Also, approaches may differ, with targeting of one-to-one communication by FP fieldworkers or service providers for certain issues or groups, and larger scale community messaging for general information, where appropriate.

Another example of targeting information and motivation is in the health facilities. As facility deliveries increase, many countries target this period, when couples are most receptive to discussion about birth spacing, to promote postpartum contraception. However, the combined oral pill is not recommended for postpartum FP as it may reduce breast milk production. A progestogen-only minipill, is suitable, but is only currently available through the private sector. The national program needs to consider adopting another such pill. IUDs inserted by well trained staff can also be promoted at this receptive time.

15.3.4 Family Planning Service Provision

This targeted approach of BCC at the household and community levels highlights the issue of service providers, especially for the groups identified as most in need—the low performing areas in the east of the country, the young, and especially the poor.

Overall, the public sector provides supplies to half of all FP users; but for the poorest quintile the public sector is particularly important. Two-thirds of women in the lowest wealth quintile rely on the public sector, compared to only one-quarter of women in the highest quintile. As shown in Table 15.1, government fieldworkers (Family Welfare Assistants) play a particularly important role for the poor. This is especially true for pills (data not shown).

Table 15.1 Source of modern contraception methods by wealth quintile

Percent distribution of users of modern contraceptive methods age 15-49 by most recent source of method, according to wealth quintile, Bangladesh 2007

		Public sector				Private medical sector					
Wealth quintile	Public sector[1]	Government fieldworker	Other public sector	NGO sector[2]	Private medical sector[3]	Pharmacy/ shop	Other private medical sector	Other[4]	Don't know/ missing	Total	Number of women
Lowest	65.4	25.4	40.0	6.4	25.7	24.0	1.7	2.1	0.5	100.0	912
Second	59.3	24.7	34.6	4.1	35.8	33.2	2.6	0.3	0.4	100.0	949
Middle	53.0	19.4	33.6	3.6	41.2	38.7	2.5	1.8	0.4	100.0	951
Fourth	50.4	20.6	29.8	4.9	42.9	40.0	2.9	1.6	0.2	100.0	1,022
Highest	25.9	10.2	15.6	6.7	66.4	62.1	4.3	0.7	0.4	100.0	1,050
Total	50.2	19.8	30.3	5.2	43.0	40.2	2.8	1.3	0.4	100.0	4,884

[1] Includes government hospital, family welfare center, upazila health complex, satellite clinic or EPI outreach site, maternal and child welfare center, government fieldworker, community clinic, and other public sector sources.
[2] Includes static clinic, satellite clinic, depot holder, NGO fieldworker, and other NGO source.
[3] Includes private hospital, qualified and traditional doctors, pharmacy, shop, and other private medical sector sources.
[4] Includes friends, relatives, and other sources.

The large GOB fieldworker forces of the 1980s and 1990s will probably not be available in future. This includes not only Family Welfare Assistants (FWAs), but also Family Welfare Visitors (FWVs), who perform very important FP service delivery and referral roles. Retirement of current fieldworkers as they age and the growth of rural populations will contribute to the decreased presence of government fieldworkers. Indeed, they may not be needed in such large numbers as before, but for some time special populations—the poor, the young, and the low performing areas—will continue to require fieldworkers to provide information, motivation, and FP supplies and referrals.

It is likely that low performing areas like Sylhet have suffered from a chronic shortage of fieldworkers due to long-term unfilled vacant posts. It is time to fill those posts with staff who will be able to access and communicate with local households. It is necessary to reexamine the geographic distribution of fieldworkers, and how to post fieldworkers to effectively target the poor nationwide. Identifying temporary paid volunteers, who would be paid by the number of clients they serve at the local level, may be needed.

15.3.5 Long-Acting and Permanent Methods

The permanent methods continue to play a very minor role – one in ten FP users – half the peak level of two decades ago. There are signs that male sterilization is increasing from a very low level in parts of the country where quality services are being offered. Increasing availability and use of permanent methods involves close cooperation in training, supervision and logistics between donor funded NGO programs working with GOB staff in Upazila Health Complexes, and through "special days" at some upgraded Family Welfare Centers. Sterilizations have increased to several hundred thousand annually. This achievement is not obvious in the BDHS results on current use of female sterilization, although male sterilization is increasing from a very low base. The absence of a notable increase in current use of sterilization may result from a combination of factors. First, with a population the size of Bangladesh, at least 300,000 couples need to adopt a method to show a one percent rise in current use. And second, the cohorts of couples who were sterilized years or decades ago are now ageing out of the reproductive years.

15.3.6 Contraceptive Supply

IUDs are virtually nonexistent (1 in 60 users), and injectables, which should be an excellent method for Bangladesh, have fallen from one in six users in 2004 to one in eight users in 2007, not because they are not popular but because of supply issues. The decline in injectables highlights the important issue of logistics and procurement. The procurement process for FP commodities can take well over 18 months to purchase two years of supplies. In November-December 2006 there were widespread injectable stockouts across the country (the BDHS survey was fielded from March to August 2007), which may account for temporary discontinuation. Implants have also experienced some recent supply problems, though for different reasons, as the government has made the decision to switch from the five rod "Norplant" to the single rod "Implanon." Local production of condoms is underway, but maintaining quality is a major challenge. In addition, Bangladesh has a pharmaceutical export production business, so the local production of hormonal contraceptives like pills may be an option for reducing procurement delays in future.

There is no escaping the fact that procurement of FP commodities is a time consuming process, and ways need to be found to simplify and hasten this critical process. The current international competitive bidding process requires 65 signatures, including three serial approvals from Washington. Other countries using SWAps are exploring alternative mechanisms whereby approvals can be obtained once for five years, then simple purchase orders can be submitted annually for goods. Further investigation of more efficient mechanisms is urgently needed, as there are predicted to be more stockouts coming soon for implants and oral pills.

In summary, the future performance of the FP program will have a major impact on the rate of population growth over coming decades. This will determine where the country's population will ultimately stabilize within a wide range from 210 million to 260 million. Four decades of effort has shown that demand for FP is widespread, and not yet fully met, so fertility can fall further, hopefully to half a child below replacement level within the next decade.

This will require recognition that certain segments of the population probably no longer need special outreach efforts by the public sector, and can utilize the NGO and private sectors to obtain their FP supplies and achieve their childbearing goals. Other sectors—those in the east part of the country, the poor, and young newlyweds—will continue to need encouragement and assistance, and a greater role in the economic development of the country, to both lower and achieve their fertility goals.

The recommendation for more focus on hard to reach and low performing groups is not new, but must be seriously implemented. Finally, the obstacles to the adoption of long-term clinical FP methods for couples who face 20 to 25 years of reproductive life after achieving their desired family size must be confronted. This requires correcting erroneous misperceptions, but more importantly, ensuring clients safe and affordable access to these services.

15.4 Maternal Health

It is often said that maternal mortality in Bangladesh is among the highest in the world. This is not supported by the evidence. At least one-third of the world's countries have a higher maternal mortality ratio (MMR) than Bangladesh. Some, like Afghanistan, are four to five times higher (WHO et al., 2007). Bangladesh has made progress in achieving maternal health goals, including MDG 5, with the MMR of 322 maternal deaths per 100,000 live births in 1998-2001 (NIPORT et al., 2003). The current level of MMR is not known, although the Bangladesh Bureau of Statistics quotes a level of 351 for 2007 from the Sample Vital Registration System (BBS, 2008). A review of various performance measures in maternal health so far indicates that meeting the MDG 5 goal of lowering the MMR to 143 per 100,000 by 2015 will be a huge challenge for Bangladesh.

Key Messages

- *Large investments in EmOC facilities over a decade have not been rewarded with major increases in facility deliveries. New community based approaches like CSBAs do not yet appear to be having major nationwide impact on referrals to facilities.*
- *Manpower issues in the area of safe motherhood are, and will increasingly be, an obstacle to implementation of all approaches to improving facility based, medically assisted safe childbirth.*
- *There are specific interventions for each of the major causes of maternal death, hemorrhage, eclampsia and obstructed labor, which can be promoted more widely and more forcefully in the national maternal health program.*

Behaviors surrounding pregnancy and childbirth need to be viewed somewhat differently from other preventive or curative health behaviors. Even in societies with a relatively high MMR, childbirth is still perceived as a natural process, which only occasionally goes wrong. Finally, on the human resource issue, the Bangladesh Health Watch made a very strong argument that Bangladesh, even if only to maintain a typical developing country ratio of doctors to population, should have at least another 60,000 doctors in addition to the 38,000-40,000 presently working (BHW, 2008). It is relevant to note that right now at least one wealthy Middle Eastern country is negotiating "to recruit several thousand doctors" from Bangladesh to work in their country (The Daily Star, 2009). This is a manifestation of the global crisis in health workforces for developing countries where poor countries lose their investment in training, and there is as yet no mechanism to compensate them (WHO, 2006).

The intention of the safe motherhood activities so far has been that pregnant women should be visited and monitored by suitably trained outreach workers who can identify when complications arise,

and take timely action to refer them to functional Emergency Obstetric Care (EmOC) facilities equipped to deal with emergencies. Many such facilities have been developed, and a large field worker force has been put in place, if not all fully trained.

Although facility deliveries are increasing overall, it is important to note that they are increasing more quickly in NGO and private sector facilities than in public sector facilities. Three percent of all births occurred in private sector facilities in the 2004 BDHS, compared with 8 percent in the 2007 BDHS. Complicated pregnancies are being selectively directed towards these NGO and (more likely) private sector facilities, which are now performing double the number of C-sections as the public sector (roughly 200,000 versus 100,000 annually). Like medically attended births, this procedure is heavily skewed towards the higher educated and economically better off sections of the community. Two questions which need to be asked are: "are all these C-sections really necessary" and "are the women who really need C-sections getting them" under the present arrangement.

The Bangladesh Maternal Health Services and Maternal Mortality Survey (BMMS) 2001 produced the finding that antepartum or postpartum hemorrhage is the leading cause of maternal death in Bangladesh (NIPORT, et al., 2003). One of the approaches to minimizing the unpredictable complication of post-partum hemorrhage is to provide all women at the time of labor with Misoprostol, a prostaglandin which constricts uterine blood vessels and reduces blood loss. This is a promising approach which should be integrated into the national maternal health strategy, but its provision and use will require involvement and monitoring by trained birth attendants if it is to achieve its initial promise.

Another question related to the use of C-sections concerns whether women go to the private or NGO sectors because they are directed by medical staff, or do they choose the private sector because they lack confidence in the public sector to provide quality services and adequate safety at an affordable cost? A separate indicator of the "privatization" of safe motherhood is the extraordinarily rapid increase in use of ultrasound to 35 percent of women in the 2007 BDHS, up from 13 percent three years earlier.

A new approach is currently being tested for motivating pregnant women, particularly poor women, to seek antenatal care and to give birth in a health facility responds to the issue of cost. A demand side financing approach, called the Maternal Health Voucher Scheme (MHVS) has been piloted in 33 upazilas since 2004 (GTZ et al., 2008). The scheme selects women in first or second pregnancies from poor families[1]. The providers receive reimbursement for costs from the scheme.

Key Messages

- *The barrier of possible catastrophic costs associated with facility deliveries is being confronted with demand side financing voucher schemes. This, and other demand side financing (DSF) approaches, must be tested and thoroughly evaluated to ensure the poor make full use of upgraded facilities for safe childbirth.*
- *If the MDG for maternal health is to be achieved, broader socio-economic interventions must be added to the medical interventions promoted for safe motherhood. These include raising the status of women through education, increased employment opportunities, and other approaches.*

The scheme appears to have resulted in a substantial increase in ANC visits. The c-section rate was not excessive, although it is difficult to know if the women who have a C-section are always the women who really need them. The patterns of C-section by economic status and urban-rural residence suggest that many of the C-sections are being done in private urban clinics where costs are high. It is widely known that costs are also high in rural government facilities where such procedures are expected

[1] Poor families are defined as having monthly family income less than Tk. 2,500, and owning less than 0.15 acres of land. The MHVS offers three ANC visits, a safe delivery and one PNC visit free of cost and with transportation allowance (Tk. 100) for each visit. The woman also receives other incentives (Tk. 2,000 for nutritious food, and a Tk. 500 gift box for baby care) (GTZ et al., 2008).

to be free, but charges for medicines and other component services can result in high costs. It may be assumed that awareness of these high costs deters many women who need the procedure from taking it up.

Serious attention is now being focused on the barrier of real or perceived costs associated with facility deliveries, with a variety of approaches to reassure families, especially the poor, that they can go to a facility without fear of catastrophic costs. However, this is not the only obstacle to greater uptake of safe motherhood services. Examples from around the country suggest that by providing women-friendly services, available 24 hours a day, seven days a week, where a family member can accompany the mother through childbirth, the mother can choose the delivery position, and with a guarantee of high quality services, can play a significant role in inducing families to consider facility delivery and use of antenatal and postnatal care.

In summary, it may be time to reflect on the diverse approaches to achieving safe motherhood in Bangladesh. A decade of inputs to create facilities suitable for responding to obstetric emergencies has not resulted in a high level of facility delivery. One approach being tried is to train a large fieldworker force who will attend home deliveries and identify and refer the complicated cases to appropriate facilities. Thus far, this approach is not making a noticeable impact, although there is anecdotal evidence that complicated cases are selectively going to the facilities, which is desirable.

Surely there must be a combination of effective referral and a functioning infrastructure to refer to. But there may be other options not yet discussed. The specific interventions needed are as follows:

- Hemorrhage accounts for about one-third of maternal deaths. If Misoprostol were universally available, many of these postpartum hemorrhage cases could be prevented. Blood transfusion capacity is also important for treating women with hemorrhage.
- General training in active management of third stage of labor (AMTSL) is required for many providers and is another strategy that could reduce the incidence of postpartum hemorrhage.
- Eclampsia accounts for about one-quarter of maternal deaths. Timely treatment with magnesium sulfate can stabilize a convulsing woman to give time to get her to a facility for emergency care.
- Infections account for one in seven maternal deaths, and clean delivery kits could potentially save some of these.
- Obstructed labor is a serious and difficult problem, but use of the Partograph to track the progress of labor and as a tool for clinical decisionmaking could potentially reduce maternal and perinatal deaths due to obstructed labor.
- Abortion related deaths remain a persistent challenge. FP and related services must be readily available to prevent unwanted pregnancies.

15.5 CHILDHOOD HEALTH AND MORTALITY

Is Bangladesh on target for achieving the millennium development goals for child mortality? We had asked this question in the 2004 BDHS report, and we had concluded that Bangladesh is faltering in its effort to achieve MDG 4 of reducing under-five mortality by two-thirds. The findings from the 2007 BDHS present an entirely different scenario. The 2008 report on Tracking Progress in Maternal, Newborn and Child Survival, i.e., the Countdown to 2015 (UNICEF, 2008) documented that of the 68 countries

being tracked,[2] 16 countries were on track to achieve MDG 4. This included Bangladesh and Nepal from South Asia.

The official target for Bangladesh is to reduce under-five mortality from 151 deaths per 1000 live births in 1990 to 50 in 2015.

From 1991 to 1997 (mid-years of the reference periods for the 1993-94 and 1999-2000 BDHS surveys), under-five mortality in Bangladesh declined by over one-quarter, i.e., about 5.6 percent per year, which compares very well with the required annual decline of 4.3 percent needed to achieve the MDG of a two-thirds reduction in under-five mortality by 2015 from 1990 levels. However, between 1997 and 2001 (the mid-year of the 2004 BDHS reference period), the decline was only 1.6 percent per annum. Hence, our conclusion in the 2004 BDHS report that declines in mortality appeared to have slowed down. Figure 15.2 presents the trend in under-5 mortality per 1,000 live births from all five Bangladesh Demographic and Health Surveys, disaggregated by neonatal, post-neonatal and 1-4 year deaths. The figure also shows linear trend lines for the five survey results. The average annual rate of reduction for overall under-5 mortality from 1991 to 2004 (the mid-year of 2007 BDHS reference period) is impressive (5.4 percent, not shown in figure). The rapid rate of decline has returned after the slowing down seen prior to 2001.

We can speculate as to the factors that are contributing to this very rapid decline in under-5 mortality. There have been impressive gains in selected health indicators/coverage of interventions, e.g., use of ORT, vitamin A supplementation and immunization (discussed in greater detail below), though there has been some stagnation in the coverage of most other interventions with an impact on child survival. Studies also show that the use of antibiotics for childhood illness, e.g., for ARI, is high, particularly from the informal private sector. More remarkable has been the almost doubling of per capita gross national income (GNI) between 1991 and 2004 (The World Bank Group, 2007), i.e., from 540 to 1050 (PPP international $).

Key Messages

- *Bangladesh is on track to achieve MDG 4 targets of reducing under-five mortality by two-thirds. Staying on track till 2015 and beyond will require implementation of new initiatives, particularly on neonatal health, while strengthening others.*
- *Almost 60 percent of all under-5 deaths occur in the first month and almost half of these neonatal deaths are due to infections. Community-based management of neonatal infections must be scaled up at high quality and coverage.*
- *Postnatal home visits by skilled community-based workers within 48 hours of birth will be critical in providing the care to substantially reduce neonatal deaths.*
- *Exclusive breastfeeding rates are not improving at all. Progress with this intervention will require that we reach all pregnant and lactating mothers with appropriate counseling support at home. This effort should be combined with the community-based interventions to improve neonatal survival.*
- *Reduction in undernutrition rates appears to be slowing down. The National Nutrition Project provides the best opportunity to achieve improvements in child nutrition in Bangladesh, and attention must be paid to improve program quality and coverage.*

The most rapid rates of decline in mortality during these 13 years were in deaths in 1-4 year age (9.3 percent per year), followed by postneonatal mortality (6.0 percent per year). The slowest decline was in neonatal deaths (2.6 percent per year). If these declines remain at the same pace, then under-five mortality per 1,000 live births in 2015 will be 38, almost a quarter lower than the target. Using this logic, Bangladesh appears to be on track to achieve MDG 4 targets by a fair margin. If current trends in mortality reduction continue, between 2004 (the mid-year of the 2007 BDHS reference period) and 2015, 1-4 year mortality would reduce by almost two-thirds, 1-11 month mortality would reduce by one-half and neonatal mortality by about one-quarter. How likely are we to achieve these reductions?

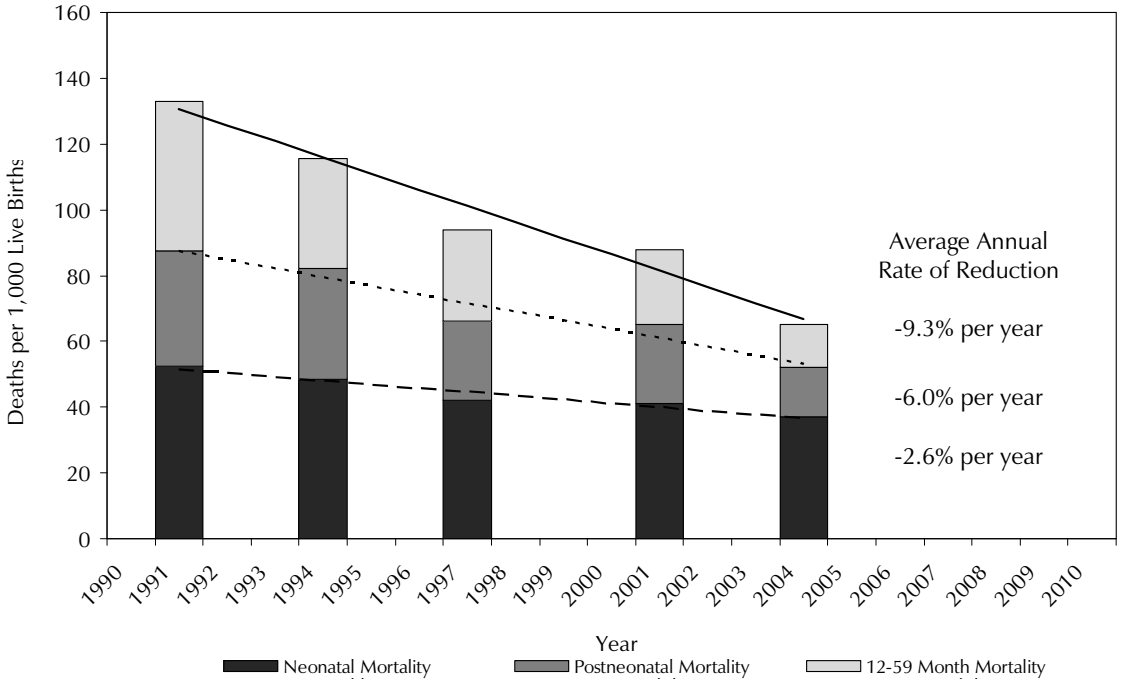
[2] The 68 countries were selected for this tracking based on the following criteria: at least 50,000 child deaths annually; or 90 under-five deaths per 1,000 live births or more; or maternal mortality ratio greater than 550; or maternal mortality ratio greater than 200 and at least 750 maternal deaths annually.

The answers to this question lie to some extent on our knowledge about when and why these children die. We refer to the 2004 BDHS under-five cause of death data for this discussion. About two-thirds of the 1-4 year old deaths were due to infections, including acute respiratory infections and diarrhea, one-fifth were due to drowning (though other data from Bangladesh suggest a much higher contribution of drowning to deaths in this age group), and another 10 percent were directly attributed to malnutrition. Since interventions for drowning are currently in development, and nothing is being implemented at scale or is likely to be in the near future, a two-thirds reduction in 1-4 year deaths between 2004 and 2015 will only be possible if deaths from infections and malnutrition are reduced by almost 85 percent, which does not seem likely. About 90 percent of postneonatal deaths were attributed to infections (mostly acute respiratory infections) and malnutrition. Therefore, postneonatal deaths will need to decline by more than 55 percent to be consistent with the halving of 1-11 month deaths between 2004 and 2015 expected from current trends. This would seem achievable if we are able to achieve high coverage with preventive and treatment interventions effective against infections. It is obvious from this discussion that accelerating reductions in neonatal mortality, which account for about 57 percent of all under-five deaths, will be absolutely critical for Bangladesh to achieve MDG 4 targets.

Key Messages

- *Increased coverage of case management of ARI will require improved access and use of good quality facility-based services as well as community-based strategies, particularly in areas where access to facilities is difficult.*
- *While existing government community-based health workers (CHW) will have a role in the community-based efforts described above, they are unlikely to be adequate. A well designed program should involve the targeted use of CHWs recruited by NGOs, and inclusion of the informal private sector providers that are currently the most widely used care providers for childhood illness.*
- *Future Demographic and Health surveys in Bangladesh should plan to collect data on additional indicators such as under-5 child cause of death, the use of antibiotics for ARI/pneumonia, and a comprehensive range of newborn care indicators possibly including the treatment of neonatal infections based on a period of mother's recall longer than the two-week reference period currently used to increase the number of children about whom treatment for neonatal infection is asked.*

Figure 15.2 **Mortality Trends**



Recent global reviews indicate that almost 60 percent of under-five deaths can be prevented by taking known/existing interventions to scale and high coverage (Jones et al., 2003). Excluding two malaria specific interventions, the review lists 10 interventions that could save four percent or more of child deaths if universal coverage is achieved (Table 15.2). Unfortunately, findings from the 2007 BDHS present a rather depressing situation with regard to current coverage of most of these interventions, and recent progress.

The one bright spot is the coverage of oral rehydration therapy (ORT) for the management of diarrhea. In the 2007 BDHS, the proportion of children with diarrhea who received ORT reached 81 percent, with, remarkably, no urban-rural difference. This is one of the highest ORT coverage rates in the world. In the 1996-97 BDHS survey, when this indicator was first measured, the coverage was 75 percent. Zinc, as therapy for diarrhea along with ORT, was scaled-up in Bangladesh starting in November 2006, but coverage still remains low with only 20 percent of diarrhea episodes treated with zinc and ORT. Zinc supplementation as a prevention intervention is not part of the program in Bangladesh.

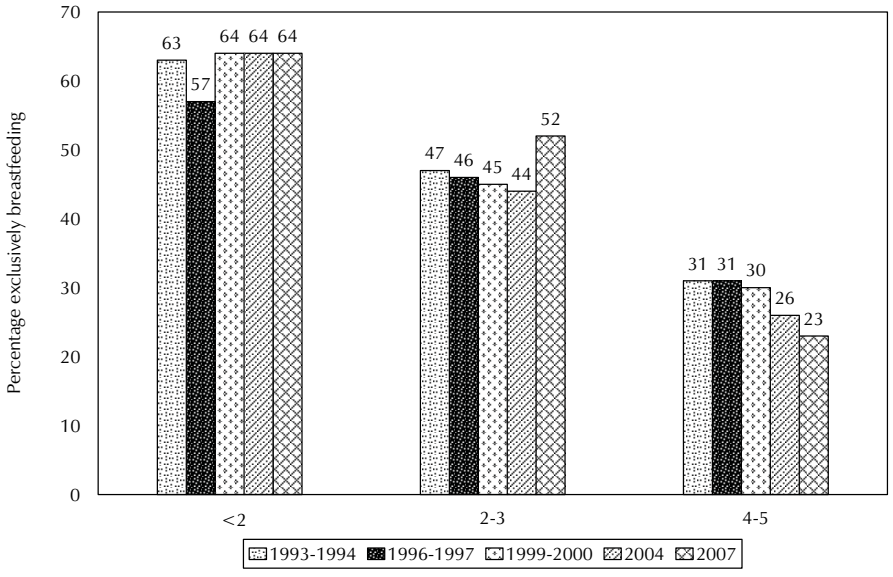
In the 2004 BDHS report, we had remarked on the very similar patterns of exclusive breastfeeding over the previous 10 years and concluded that the various efforts at improving the exclusive breastfeeding practice in Bangladesh had no impact. Results from the 2007 survey show no improvement, except for a very small increase in the second two months of life (Figure 15.3). On the positive side, the percent of newborns started on breast milk within one hour of birth continued the increasing trend seen across all previous surveys, reaching 43 percent in 2007 from 24 percent in 2004. Also, intake of complementary foods during 6-9 months of age increased somewhat in 2007 to 74 percent, from 62 percent in 2004. The median duration of breastfeeding, however, continues to be about 32 months, unchanged across all the surveys.

Table 15.2 Interventions to prevent child deaths

Intervention	Type	Percentage of child deaths prevented
Oral rehydration therapy	Treatment	15
Breastfeeding	Prevention	13
Complementary feeding	Prevention	6
Antibiotics for sepsis	Treatment	6
Antibiotics for pneumonia	Treatment	6
Zinc	Prevention	5
Clean delivery	Prevention	4
Hib vaccine	Prevention	4
Zinc	Treatment	4
Newborn resuscitation	Treatment	4

Source: Jones et al., 2003

Figure 15.3 Trends in Exclusive Breastfeeding



The situation with regard to exclusive breastfeeding in the first six months life is very unfortunate, given the plethora of evidence that the practice of exclusive breastfeeding can be improved with appropriate counseling and support. There is also an emerging body of evidence on the effectiveness of large-scale programs. We refer to the previous report on possible approaches that can be adopted. However, all the evidence suggests that we need to reach each and every mother and her family in Bangladesh, especially those having their first babies, with individualized counseling support. How this can be done is a major challenge. However, we are sure that this will require critical thinking and planning "out of the box" and significant investments. A key consideration will be the workforce needed to reach the families and communities. The very large government community-based work force (Health Assistants and Family Welfare Assistants) would appear to be an automatic choice. However, we encourage the government to systematically assess these cadres of workers in terms competing workload, incentives, competitive advantage in terms of skills, and other barriers to their functioning.

Neonatal health and survival is closely related to the care received by the mother before, during and after delivery and care of the newborn. A key indicator is skilled attendance at delivery, which increased to 18 percent from 13 percent in 2004. Interestingly, almost all of this increase was due to increase in institutional delivery (from 9 percent to 15 percent). This is promising since increasing institutional deliveries provides the best opportunity to address neonatal deaths due to birth asphyxia, as this ensures that early interventions can be undertaken to prevent asphyxia and that skilled and experienced providers in newborn resuscitation are available to manage asphyxia. This is important because birth asphyxia causes one-fifth of neonatal deaths (NIPORT et al., 2005).

A recently concluded community-based cluster-randomized study from Sylhet, Bangladesh reported that a home-care strategy to promote an integrated package of preventive and curative newborn care was effective in reducing neonatal mortality by 34 percent. The focus of the intervention package was on clean delivery, newborn care, and detection and management of neonatal infections (Baqui et al., 2008). The study also demonstrated that a postnatal home visit by skilled community-based workers within 48 hours of birth reduces neonatal deaths substantially. This finding adds to the growing body of evidence that community-based interventions such as health education to improve neonatal care practices, essential newborn care and care for illness are effective in improving neonatal survival. At this time, the Government of Bangladesh is in the final stages of approving a comprehensive national neonatal health strategy. The government and many non-governmental organizations have already initiated efforts to implement some of these interventions aimed at improving neonatal survival, though the strategy, once approved, is expected to provide concrete guidance. Such programs should incorporate effective efforts to identify and treat neonatal infections in the community at high quality and coverage as well as ensure that newborns are visited within 48 hours of birth by skilled health workers who can provide counseling, feeding support and assessment of the baby.

In the 2007 BDHS, 19 percent of the newborns received care from a trained provider within 2 days of birth, a substantial increase (roughly 50 percent) from the 12 percent reported in 2004. The 2007 survey was the first time that specific newborn care indicators were incorporated. The findings provide a glimpse of coverage of key care practices and challenges ahead for the implementation of the national neonatal health strategy. While the use of clean cord cutting instruments was more than 80 percent, only 56 percent of babies had nothing applied to the cord as currently recommended. Drying and wrapping the newborn immediately after delivery and delaying the first bath are recommended to prevent potentially fatal neonatal hypothermia. The 2007 survey reports disappointingly low rates of immediate drying and wrapping, 6 percent for drying and 2 percent for wrapping within 5 minutes of birth. Less than one in five newborns had their first bath delayed beyond 72 hours. Though infections (sepsis, ARI and diarrhea) cause 45 percent of neonatal deaths, the sample in the 2007 survey does not include a sufficient number of children in the first month of life at the time of interview to analyze the prevalence and treatment of infections among neonates.

As we have discussed above, acute respiratory infections ARI/pneumonia is the major cause of childhood deaths after the first month of life. Several interventions have been identified with definitive evidence of effectiveness in preventing deaths from ARI/pneumonia. Hemophilus influenza (Hib) vaccine is one of four prevention interventions. The others are breastfeeding, complementary feeding, and zinc. In the 2004 BDHS report, we had lamented the non-availability of this highly efficacious intervention in the Bangladesh public health system. We are happy to note that since then, the government has successfully approached the Global Alliance for Vaccines and Immunization (GAVI), and the Hib vaccine was introduced in the country in January 2009.

This report of the 2007 BDHS provides information on the prevalence and treatment of ARI. Treatment of ARI is a key intervention for reducing ARI deaths. Two different definitions are used, one being more restrictive and more likely to be a proxy of pneumonia. However, even the less restrictive of the two definitions used in this report differs slightly from those used in previous surveys, making comparison across surveys difficult. Nevertheless, the percentage of children with ARI (using either definition) taken to a facility or health worker is higher than the 20 percent in 2004. With the more restrictive definition, 37 percent were taken to a health facility or provider for treatment. This is a positive trend, but still inadequate, since drug stores and traditional doctors together continue to have the majority share of the ARI treatment market. The evaluation of Integrated Management of Childhood Illness (IMCI) in Matlab has demonstrated that these drug stores and village doctors can continue to hold on to their high share of care-seeking despite improved quality of care and utilization of first-level government facilities and provision of community-based case management of common childhood illness. Further analysis of DHS data is needed to calculate the percentage of ARI cases receiving antibiotics. This information will help to assess the adequacy of treatment received from different sources.

In the previous (2004) report, we had highlighted some of the possible reasons for the persistently low level (though there is now some improvement) of care-seeking for childhood illness, especially ARI, from health facilities and providers in Bangladesh. These included poor quality of care, lack of appreciation of the need for urgent care, and a range of personal and social barriers. We reemphasize again the need for policymakers and program managers to better understand and address these barriers to access to care. Examples of how this can be done and how health utilization for childhood illness can be substantially increased exist in Bangladesh and these experiences and lessons can be scaled up. Not surprisingly, an important lesson learned is the need for sustained supportive supervision. We encourage the government to consider alternative means for ensuring adequate supervision of the public health care system, and to learn from programs that have done this well, like the national immunization program. Systems that depend entirely on line managers at different levels have not been known to work.

The 2007 BDHS shows that stunting is still common among Bangladeshi children. Severe stunting was found in 16 percent of the children and moderate stunting in 27 percent, based on the new WHO growth standards. Almost 12 percent of the under-five children were severely underweight, while another 29 percent were moderately underweight. A halving of the proportion of children who are underweight between 1990 and 2015 is an MDG 1 target. This means that underweight rates will need to decline at an average rate of 3.8 percent per year. In the 10 years since the 1996-97 BDHS when child nutritional status was first measured, the proportion of children who are underweight has only declined at a rate of 1.9 percent per year and only 0.6 percent per year since the 1999-2000 survey. These comparisons are based on the NCHS/CDC/WHO growth reference as it was used in all the previous surveys. These signs of faltering are worrying. The National Nutrition Project (NNP) now covers 109 upazilas (sub-districts), with plans to expand to another 123 upazilas by 2011. The NNP is the only program implemented at scale in Bangladesh with the objective of improving childhood nutrition, and it provides the best opportunity to achieve sustained gains in child nutrition in Bangladesh and progress towards the MDG 1 target. We urge increased attention be given to improve program quality and coverage.

We conclude this section with brief references to two areas where Bangladesh has demonstrated exceptional achievement. The percentage of 12-23-month-old children who received all vaccines increased to 82 percent in 2007 from 73 percent in 2004. Compared to the 2004 survey, the urban-rural difference was narrower, with coverage being 86 percent in urban areas and 81 percent in the rural areas. The goal of immunizing at least 80 percent of children with all vaccines has been achieved; the aim now is to be able to do this by 12 months of age where the current coverage is 76 percent. Bangladesh has also managed to sustain high vitamin A coverage among children age 9-59 months. The coverage is now 88 percent. These achievements highlight what is possible with the right planning, design, investments and systems. For example, several attributes of the immunization program are worth highlighting. These include data- and evidence-based decisionmaking, e.g., the use of independent coverage surveys and data quality audits, the use of supervision and monitoring systems that are outside of and support the line managers, a very strong emphasis on achieving high coverage, and periodic program reviews involving national and international experts. Not least, the Bangladesh immunization program has benefited from the allocation of adequate resources.

15.6 HIV/AIDS-Related Knowledge, Attitudes, and Behaviour

The first case of HIV in Bangladesh was detected two decades ago. Throughout this time the Government of Bangladesh (GOB) has been supporting awareness raising activities, subsequently adding monitoring of prevalence and risk behaviors, and finally, voluntary counseling and testing (VCT) and some support for people living with HIV/AIDS. Initially, the National AIDS Committee (NAC) guided the activities, along with a Technical Committee and smaller subcommittees. There have been several National Strategic Plans (the first for 1997-2002, second for 2004-2010) (Azim et al, 2008). The National AIDS/STD Program (NASP) within the Directorate General of Health Services has been active in defining policy and in coordination.

Substantial funding has been made available from the GOB, the World Bank, DFID, German Technical Cooperation (GTZ), USAID, and others. In recent years the Global Fund for AIDS, Tuberculosis and Malaria (GFATM) has supported two major projects – round 2 for the period 2004-2009 (US$19.7 million) and round 6 for 2007-2012 (US$40 million). These funds tend to be channeled through a large network of NGOs and other agencies, and focus largely on prevention activities, especially behavior change communication among young people.

There are reasons to believe that these activities have been reasonably effective in keeping HIV prevalence at low levels. Among all high risk groups other than Injecting Drug Users (IDUs) prevalence has remained below 1 percent, in spite of high levels of risky behavior, low condom use rates, high STD/STI rates, and high partner rates among commercial sex workers (CSW). However, the IDUs pose a serious threat with the latest sero-surveillance levels around 7 percent (and higher in some areas) (NASP et al., 2005).

There have been needle/syringe programs in recent years (mainly through the NGO, CARE) which seem to have reduced sharing of used needles, but many erroneous beliefs persist on ways to reduce transmission, for example, by sharing only with family members, or shaking the needle between uses. Even when awareness of the risks of needle sharing is known, many IDUs complain that clean, unused needles are not readily available to them. This IDU epidemic is predicted to form the basis of the broader epidemic (as IDUs have contact with CSWs, and many have families), so a focus by the national programs on the IDUs is vital.

Recent research has suggested that migrants returning from overseas employment may form another pocket of individuals at elevated risk, and many of them are more integrated into the community

than the IDUs. It is surprising it has taken so long to recognize this, as the first HIV cases detected in Bangladesh were among returned overseas labor migrants.

The expansion of voluntary counseling and testing (VCT) services has not been paralleled by an effective increase in availability of anti-retroviral therapy (ART) drugs. Although two local pharmaceutical companies are now manufacturing ARTs, these are expensive, and have not been made available though the GOB program. There are alternative options, such as approaching organizations like the Clinton Foundation which, through negotiation of discount drugs and donor contributions, seek to make ARTs available in developing countries at around US$140 per person, vastly lower than market price. They tend to direct their resources to high prevalence countries, so Bangladesh may not qualify.

As previously mentioned, the major focus of the various HIV and STD activities has been towards young people. The 2007 BDHS shows that the highest levels of awareness are among both male and female teenagers, suggesting that the targeting is effective. There have been impressive increases in the understanding that condom use and abstinence can prevent HIV transmission. Other types of awareness remain less promising, with substantial numbers still believing that HIV can be transmitted by mosquitoes, or by sharing food with an HIV-positive person.

It is of concern also, that there is still a sizeable proportion of women (40 percent) who are not aware that transfusion with contaminated blood can cause HIV infection. Although there have been substantial inputs into blood safety across the country, they have had a greater focus on the technical aspects of blood screening and storage than on information. This needs to be seen in the context that the leading cause of maternal death in Bangladesh is antepartum or postpartum hemorrhage, and efforts are being made to facilitate speedy transfusion where needed to save a woman's life.

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SAMPLE DESIGN

Appendix A

A.1 INTRODUCTION

The Bangladesh Demographic and Health Survey 2007 (BDHS 2007) was the fifth DHS following those implemented in 1993-94, 1996-97, 1999-2000, and 2003-04. As with the prior surveys, the main objectives of the BDHS 2007 survey were to provide up-to-date information on fertility and childhood mortality levels; fertility preferences; awareness, approval, and use of family planning methods; maternal and child health; knowledge and attitudes toward HIV/AIDS and other sexually transmitted infections (STI); and community-level data on accessibility and availability of health and family planning services. All ever-married women 15-49 who slept in the selected households the night before the survey were eligible for the survey. The survey was designed to produce representative estimates for most of the indicators for the country as a whole, for the urban and the rural areas separately, and for each of the six divisions.

Apart from the female survey, a male survey was conducted at the same time in a sub-sample consisting of one household in every two selected for the female survey. All ever-married men 15-54 who slept in the selected households the night before the survey were eligible for the male survey. The survey collected information on their basic demographic status; on their use of family planning methods; and on their knowledge and attitudes toward HIV/AIDS and other sexually transmitted infections (STI).

A.2 SAMPLING FRAME

The sampling frame used for BDHS 2007 was the Population Census of the People's Republic of Bangladesh conducted in 2001 (PCPRB 2001), provided by the Bangladesh Bureau of Statistics (BBS). The sampling frame was comprised of 259,532 enumeration areas (EAs) created for the 2001 census. An EA is a geographic area consisting of a convenient number of dwelling units which served as counting unit for the census, with an average size of around 100 households. It contains information about its location, the type of residence, the number of residential households and the number of male and female population. Sketch maps were available for each EA which delimitate the geographic boundaries of the EA.

Administratively, Bangladesh is divided into six Divisions. In turn, each Division is divided into Zilas; each Zila is divided into Thanas; each Thana is divided to Unions; each Union to Wards and each Ward to Villages. An EA is a group of small villages, or a village, or a part of a large village. These divisions allow the country as a whole to be easily separated into rural and urban areas. The urban areas were further classified into three groups, i) Statistical metropolitan areas (SMA), ii) Municipality areas, and iii) Other urban areas. Table A.1 shows the distribution of the residential households by division and by type of residence.

Table A.1 Distribution of residential households by division and by type of residence (PCPRB 2001)

Division	Number of residential households					
	Rural	Urban SMA	Urban municipality	Other urban	Total urban	Total (urban and rural)
Barisal	1,395,841	0	135,202	88,950	224,152	1,619,993
Chittagong	3,272,768	542,554	294,954	246,819	1 084,327	4,357,095
Dakha	5,354,901	1 919,755	495,795	244,578	2 660,128	8,015,029
Khulna	2,454,713	239,745	256,089	117,969	613,803	3,068,516
Rajshahi	5,622,302	131,812	555,184	275,120	962,116	6,584,418
Sylhet	1,196,195	0	104,447	58,523	162,970	1,359,165
Bangladesh	19 296,720	2 833 866	1,841,671	1,031,959	5,707,496	25,004,216

Source: Sampling frame of the 2001 population census

A.3 SAMPLE DESIGN

The sample for BDHS 2007 was a stratified sample selected in two stages from the 2001 census frame. Stratification was achieved by separating each division into urban and rural areas. The urban areas of each division were further stratified into three strata: i) Statistical metropolitan areas (SMA); ii) Municipality areas; and iii) Other urban areas. In total, 22 sampling strata were created since Barisal and Sylhet do not have SMA. Samples were selected independently in each stratum, by a two stages of selection. Implicit stratification and proportional allocation should have been achieved at each of the lower administrative levels by sorting the sampling frame according to administrative units in different levels and by using a probability proportional to size selection at the first stage of sampling.

In the first stage, 361 EAs were selected with probability proportional to the EA size, and with independent selection in each sampling stratum with the sample allocation given in Table A.2. The EA size was the number of residential households residing in the EA during the population census. A household listing operation was carried out in all selected EAs before the main survey, and the resulting lists of households served as the sampling frame for the selection of households in the second stage. Household selection in the second stage was an equal probability systematic selection with 30 households per EA. Some of the selected EAs were found large in size in the household listing operation. In order to minimize the task of household listing, the selected EAs with an estimated number of households greater than 300 were segmented. Only one segment was selected for the survey with probability proportional to the segment size. So a BDHS 2007 cluster is either an EA or a segment of an EA. A spreadsheet was prepared for the household selection with selected household numbers figured for each cluster. Survey interviewers were asked to interview only the pre-selected households. No replacements and no changes of the pre-selected households were allowed in the implementing stages in order to prevent bias. All ever-married women aged 10-49 who slept in the selected household the night before the survey were eligible for the female survey. A sub-sample of one household in every two selected for the female survey was selected for a male survey. All ever-married men aged 15-54 who slept in the selected households the night before the survey were eligible for the male survey.

Table A.2 below shows the sample allocation of clusters according to division and by type of residence; Table A.3 below shows the sample allocation of households according to division and by type of residence; Table A.4 below shows the sample allocation of the expected number of completed women interviews according to division and by type of residence. Because of the tight budget restrictions, the sample allocation was not a proportional allocation since otherwise the small divisions such as Barisal and Sylhet would have received a sample size that would be too small to generate estimates with the

desired precision. In order for the survey precisions to be comparable across divisions, the sample allocations were power allocations between divisions and between different types of residence within each division. Among the 361 clusters selected, 134 clusters were allocated to urban areas, and 227 were allocated to rural areas. Among the expected 11,485 completed women interviews, 4,360 were in urban areas, and 7,125 were in rural areas. The urban areas were over-sampled because of the low proportion of urban population (urban residential households represent 22.8 percent of the total residential households in Bangladesh) and the request of comparable survey precision compared with the rural areas.

Table A.2 Sample allocation of clusters by division and by type of residence

	Number of clusters allocated					
Division	Rural	Urban SMA	Urban municipality	Other urban	Total urban	Subtotal
Barisal	33	0	10	6	16	49
Chittagong	38	12	7	5	24	62
Dakha	42	26	7	3	36	78
Khulna	36	7	9	4	20	56
Rajshahi	46	3	14	6	23	69
Sylhet	32	0	10	5	15	47
Total	227	48	57	29	134	361

Table A.3 Sample allocation of households by division and by type of residence

	Number of clusters allocated					
Division	Rural	Urban SMA	Urban municipality	Other urban	Total urban	Subtotal
Barisal	990	0	300	180	480	1,470
Chittagong	1,140	360	210	150	720	1,860
Dakha	1,260	780	210	90	1,080	2,340
Khulna	1,080	210	270	120	600	1,680
Rajshahi	1,380	90	420	180	690	2,070
Sylhet	960	0	300	150	450	1,410
Total	6,810	1,440	1,710	870	4,020	10,830

Table A.4 Sample allocation of completed women interviews by division and by type of residence

	Number of expected complete women interviews					
Division	Rural	Urban SMA	Urban municipality	Other urban	Total urban	Subtotal
Barisal	1,041	0	325	191	516	1,557
Chittagong	1,199	393	234	174	801	2,000
Dakha	1,287	817	215	101	1,133	2,420
Khulna	1,136	247	302	129	678	1,814
Rajshahi	1,452	107	456	186	749	2,201
Sylhet	1,010	0	317	166	483	1493
Total	7,125	1,564	1,849	947	4,360	11,485

The sample allocations were calculated based on the facts obtained from the BDHS 2004 survey. The average number of ever-married women 10-49 per household in the BDHS 2004 was 1.13 in urban areas and 1.09 in rural areas; the household gross response rate was 96.4 percent in urban areas and 97.5 percent in rural areas; the women's response rate was 98.3 percent in urban areas and 98.8 percent in rural areas. The number of households selected in each cluster was fixed to 30 households.

A.4 SAMPLING PROBABILITIES AND SAMPLING WEIGHTS

Because of the non-proportional allocation of the sample to the different divisions and types of residence, sampling weights will be required to ensure the actual representativeness of the sample at the national level and at the domain level as well. In order to be able to calculate the sampling weights, sampling probabilities were calculated separately for each sampling stage and for each cluster. We use the following notations:

P_{1hi}: first-stage sampling probability of the i^{th} cluster in stratum h

P_{2hi}: second-stage sampling probability within the i^{th} cluster (households)

Let a_h be the number of EAs selected in stratum h, M_{hi} the number of households according to the sampling frame in the i^{th} EA, and $\sum M_{hi}$ the total number of households in the stratum. The probability of selecting the i^{th} EA in the BDHS 2007 sample is calculated as follows:

$$\frac{a_h \; M_{hi}}{\sum M_{hi}}$$

Let b_{hi} be the proportion of households in the selected cluster compared to the total number of households in EA i in stratum h if the EA is segmented, otherwise $b_{hi} = 1$. Then the probability of selecting cluster i in the sample is:

$$P_{1hi} = \frac{a_h \; M_{hi}}{\sum M_{hi}} \times b_{hi}$$

Let L_{hi} be the number of households listed in the household listing operation in cluster i in stratum h, let g_{hi} be the number of households selected in the cluster. The second stage's selection probability for each household in the cluster is calculated as follows:

$$P_{2hi} = \frac{g_{hi}}{L_{hi}}$$

The overall selection probability of each household in cluster i of stratum h is therefore the product of the two stages selection probabilities:

$$P_{hi} = P_{1hi} \times P_{2hi}$$

The sampling weight for each household in cluster i of stratum h is the inverse of its overall selection probability:

$$W_{hi} = 1 / P_{hi}$$

A spreadsheet containing all sampling parameters and selection probabilities was prepared to facilitate the calculation of sampling weights. Sampling weights were subjected to adjustments for household non-response and as well as for individual non-response. Several sets of weights were calculated; one set for the households; one set for female individuals; and one set for male individuals. The final weights were normalized in order to give the total number of un-weighted cases equal to the total number of weighted cases at national level, for both household weights and individual weights.

A.5 SURVEY IMPLEMENTATION

In Tables A.5.1 and A.5.2 below we present the survey implementation results for male and female survey, respectively.

Table A.5 Sample implementation: Women

Percent distribution of households and eligible women by results of the household and individual interviews, and household, eligible women and overall response rates, according to urban-rural residence and region, Bangladesh 2007

	Residence		Division						
Result	Urban	Rural	Barisal	Chittagong	Dhaka	Khulna	Rajshahi	Sylhet	Total
Selected households									
Completed (C)	95.7	96.4	96.3	96.5	95.0	96.1	96.8	96.4	96.1
Household present but no competent respondent at home (HP)	0.5	0.4	0.7	0.4	0.6	0.5	0.1	0.4	0.5
Refused (R)	0.2	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.1
Dwelling not found (DNF)	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.0
Household absent (HA)	2.0	1.8	1.8	1.7	2.4	1.4	1.9	1.8	1.8
Dwelling vacant/address not a dwelling (DV)	1.3	0.9	0.9	0.9	1.5	1.5	0.7	0.8	1.1
Dwelling destroy (DD)	0.2	0.2	0.2	0.3	0.0	0.2	0.1	0.2	0.2
Other (O)	0.2	0.3	0.1	0.1	0.4	0.2	0.3	0.3	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of sampled households	3,993	6,826	1,470	1,860	2,340	1,680	2,070	1,399	10,819
Household response rate (HRR)[1]	99.3	99.5	99.2	99.4	99.2	99.4	99.8	99.4	99.4
Eligible women									
Completed (EWC)	98.1	98.5	98.0	98.0	97.7	99.2	99.2	98.2	98.4
Not at home (EWNH)	1.3	1.1	1.6	1.2	2.0	0.6	0.4	1.2	1.2
Postponed (EWP)	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Refused (EWR)	0.2	0.0	0.0	0.3	0.1	0.0	0.0	0.0	0.1
Partly completed (EWPC)	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.1	0.0
Incapacitated (EWI)	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.5	0.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	4,230	6,948	1,467	1,983	2,396	1,725	2,096	1,511	11,178
Eligible women response rate (EWRR)[2]	98.1	98.5	98.0	98.0	97.7	99.2	99.2	98.2	98.4
Overall response rate (OWRR)[3]	97.4	98.0	97.3	97.4	96.9	98.6	99.0	97.6	97.8

[1] Using the number of households falling into specific response categories, the household response rate (HRR) is calculated as:

$$\frac{100 * C}{C + HP + P + R + DNF}$$

[2] Using the number of eligible women falling into specific response categories, the eligible women response rate (EWRR) is calculated as:

$$\frac{100 * EWC}{EWC + EWNH + EWP + EWR + EWPC + EWI + EWO}$$

[3] The overall women response rate (OWRR) is calculated as:

$$OWRR = HRR * EWRR/100$$

Table A.6 Sample implementation: Men

Percent distribution of households and eligible men by results of the household and individual interviews, and household, eligible men and overall response rates, according to urban-rural residence and region, Bangladesh 2007

	Residence		Division						
Result	Urban	Rural	Barisal	Chittagong	Dhaka	Khulna	Rajshahi	Sylhet	Total
Selected households									
Completed (C)	95.3	96.6	96.1	96.6	94.0	96.0	97.2	97.6	96.1
Household present but no competent respondent at home (HP)	0.5	0.4	0.5	0.5	0.7	0.7	0.0	0.3	0.5
Refused (R)	0.2	0.0	0.0	0.2	0.1	0.1	0.0	0.0	0.1
Dwelling not found (DNF)	0.1	0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.1
Household absent (HA)	2.1	1.7	1.9	2.0	2.7	1.1	1.7	1.1	1.8
Dwelling vacant/address not a dwelling (DV)	1.5	0.8	1.4	0.3	1.9	1.7	0.5	0.6	1.1
Dwelling destroy (DD)	0.1	0.1	0.0	0.3	0.0	0.1	0.3	0.0	0.1
Other (O)	0.3	0.2	0.1	0.0	0.5	0.4	0.2	0.3	0.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of sampled households	1,998	3,416	736	931	1,171	840	1,036	700	5,414
Household response rate (HRR)[1]	99.2	99.5	99.4	99.2	99.1	99.1	99.9	99.6	99.4
Eligible men									
Completed (EMC)	92.6	92.6	94.8	91.7	88.9	93.8	93.8	93.8	92.6
Not at home (EMNH)	6.8	6.9	4.6	7.2	10.9	5.7	5.5	5.6	6.8
Refused (EMR)	0.5	0.0	0.0	0.6	0.1	0.3	0.1	0.0	0.2
Incapacitated (EMI)	0.1	0.4	0.6	0.0	0.1	0.2	0.5	0.6	0.3
Other (EMO)	0.0	0.2	0.0	0.5	0.0	0.0	0.1	0.0	0.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of men	1,559	2,515	518	664	854	665	838	535	4,074
Eligible men response rate (EMRR)[2]	92.6	92.6	94.8	91.7	88.9	93.8	93.8	93.8	92.6
Overall response rate (OMRR)[3]	91.8	92.1	94.3	91.0	88.1	93.0	93.7	93.4	92.0

[1] Using the number of households falling into specific response categories, the household response rate (HRR) is calculated as:

$$\frac{100 * C}{C + HP + P + R + DNF}$$

[2] Using the number of eligible men falling into specific response categories, the eligible men response rate (EWRR) is calculated as:

$$\frac{100 * EMC}{EMC + EMNH + EMP + EWR + EMPC + EMI + EMO}$$

[3] The overall men response rate (OWRR) is calculated as:

$$OMRR = HRR * EMRR/100$$

ESTIMATES OF SAMPLING ERRORS

Appendix B

The estimates from a sample survey are affected by two types of errors: nonsampling errors and sampling errors. Nonsampling errors are the results of mistakes made in implementing data collection and data processing, such as failure to locate and interview the correct household, misunderstanding of the questions on the part of either the interviewer or the respondent, and data entry errors. Although numerous efforts were made during the implementation of the 2007 Bangladesh Demographic and Health Survey (BDHS) to minimize this type of error, nonsampling errors are impossible to avoid and difficult to evaluate statistically.

Sampling errors, on the other hand, can be evaluated statistically. The sample of respondents selected in the 2007 BDHS is only one of many samples that could have been selected from the same population, using the same design and expected size. Each of these samples would yield results that differ somewhat from the results of the actual sample selected. Sampling errors are a measure of the variability between all possible samples. Although the degree of variability is not known exactly, it can be estimated from the survey results.

A sampling error is usually measured in terms of the *standard error* for a particular statistic (mean, percentage, etc.), which is the square root of the variance. The standard error can be used to calculate confidence intervals within which the true value for the population can reasonably be assumed to fall. For example, for any given statistic calculated from a sample survey, the value of that statistic will fall within a range of plus or minus two times the standard error of that statistic in 95 percent of all possible samples of identical size and design.

If the sample of respondents had been selected as a simple random sample, it would have been possible to use straightforward formulas for calculating sampling errors. However, the 2007 BDHS sample is the result of a multi-stage stratified design, and, consequently, it was necessary to use more complex formulae. The computer software used to calculate sampling errors for the 2007 BDHS is a Macro SAS procedure. This module used the Taylor linearization method of variance estimation for survey estimates that are means or proportions. The Jackknife repeated replication method is used for variance estimation of more complex statistics such as fertility and mortality rates.

The Taylor linearization method treats any percentage or average as a ratio estimate, $r = y/x$, where y represents the total sample value for variable y, and x represents the total number of cases in the group or subgroup under consideration. The variance of r is computed using the formula given below, with the standard error being the square root of the variance:

$$SE^2(r) = var(r) = \frac{1-f}{x^2}\sum_{h=1}^{H}\left[\frac{m_h}{m_h-1}\left(\sum_{i=1}^{m_h} z_{hi}^2 - \frac{z_h^2}{m_h}\right)\right]$$

in which

$$z_{hi} = y_{hi} - rx_{hi}\text{, and } \; z_h = y_h - rx_h$$

where h represents the stratum which varies from 1 to H,
m_h is the total number of clusters selected in the h^{th} stratum,
y_{hi} is the sum of the weighted values of variable y in the i^{th} cluster in the h^{th} stratum,
x_{hi} is the sum of the weighted number of cases in the i^{th} cluster in the h^{th} stratum, and
f is the overall sampling fraction, which is so small that it is ignored.

The Jackknife repeated replication method derives estimates of complex rates from each of several replications of the parent sample, and calculates standard errors for these estimates using simple formulae. Each replication considers *all but one* cluster in the calculation of the estimates. Pseudo-independent replications are thus created. In the 2007 BDHS, there were 361 non-empty clusters. Hence, 361 replications were created. The variance of a rate r is calculated as follows:

$$SE^2(r) = var(r) = \frac{1}{k(k-1)} \sum_{i=1}^{k} (r_i - r)^2$$

in which

$$r_i = kr - (k-1)r_{(i)}$$

where r is the estimate computed from the full sample of 361 clusters,
$r_{(i)}$ is the estimate computed from the reduced sample of 360 clusters (i^{th} cluster excluded), and
k is the total number of clusters.

In addition to the standard error, the procedure computes the design effect (DEFT) for each estimate, which is defined as the ratio between the standard error using the given sample design and the standard error that would result if a simple random sample had been used. A DEFT value of 1.0 indicates that the sample design is as efficient as a simple random sample, while a value greater than 1.0 indicates the increase in the sampling error due to the use of a more complex and less statistically efficient design. The procedure also computes the relative error and confidence limits for the estimates.

Sampling errors for the 2007 BDHS are calculated for selected variables considered to be of primary interest for the women's survey and for the men's surveys, respectively. The results are presented in this appendix for the country as a whole, for urban and rural areas, and for each of the 6 divisions of the country. For each variable, the type of statistic (mean, proportion, or rate) and the base population are given in Table B.1. Tables B.2 to B.10 present the value of the statistic (R), its standard error (SE), the number of unweighted (N-UNWE) and weighted (N-WEIG) cases, the design effect (DEFT), the relative standard error (SE/R), and the 95 percent confidence limits (R±2SE), for each variable. The DEFT is considered undefined when the standard error considering simple random sample is zero (when the estimate is close to 0 or 1). In the case of the total fertility rate, the number of unweighted cases is not relevant, as there is no known unweighted value for woman-years of exposure to childbearing.

The confidence interval (e.g., as calculated for *children ever born*) can be interpreted as follows: the overall average from the national sample is 2.331 and its standard error is 0.028. Therefore, to obtain the 95 percent confidence limits, one adds and subtracts twice the standard error to the sample estimate, i.e., 2.331±2×0.028. There is a high probability (95 percent) that the *true* average number of children ever born to all women is between 2.276 and 2.387.

For the total sample, the value of the DEFT, averaged over all variables, is 1.47. This means that, due to multi-stage clustering of the sample, the average standard error is increased by a factor of 1.47 over that in an equivalent simple random sample.

Table B.1 List of selected variables for sampling errors, Bangladesh 2007

Variable	Estimate	Base population
	WOMEN	
Urban residence	Proportion	Ever-married women 15-49
No education	Proportion	Ever-married women 15-49
Secondary education or higher	Proportion	Ever-married women 15-49
Currently married	Proportion	Ever-married women 15-49
Currently pregnant	Proportion	All women 15-49
Children ever born	Mean	All women 15-49
Children surviving	Mean	All women 15-49
Children ever born to women 40-49	Mean	All women 40-49
Ever used any contraceptive method	Proportion	Currently married women 15-49
Currently using any method	Proportion	Currently married women 15-49
Currently using a modern method	Proportion	Currently married women 15-49
Currently using pill	Proportion	Currently married women 15-49
Currently using IUD	Proportion	Currently married women 15-49
Currently using injectables	Proportion	Currently married women 15-49
Currently using female sterilization	Proportion	Currently married women 15-49
Currently using periodic abstinence	Proportion	Currently married women 15-49
Currently using withdrawal	Proportion	Currently married women 15-49
Using public sector source	Proportion	Current users of modern method
Want no more children	Proportion	Currently married women 15-49
Want to delay at least 2 years	Proportion	Currently married women 15-49
Ideal number of children	Mean	Ever-married women 15-49
Mothers protected against tetanus in the last birth	Proportion	Women with a live birth in past five years
Mothers received medical care at birth	Proportion	Births occurring 1-59 months before survey
Had diarrhea in the past 2 weeks	Proportion	Children under 5
Treated with oral rehydration salts (ORS)	Proportion	Children under 5 with diarrhea in past 2 weeks
Sought medical treatment	Proportion	Children under 5 with diarrhea in past 2 weeks
Vaccination card seen	Proportion	Children 12-23 months
Received BCG vaccination	Proportion	Children 12-23 months
Received DPT vaccination (3 doses)	Proportion	Children 12-23 months
Received polio vaccination (3 doses)	Proportion	Children 12-23 months
Received measles vaccination	Proportion	Children 12-23 months
Received all vaccinations	Proportion	Children 12-23 months
Height-for-age (-2SD)	Proportion	Children under 5 who are measured
Weight-for-height (-2SD)	Proportion	Children under 5 who are measured
Weight-for-age (-2SD)	Proportion	Children under 5 who are measured
BMI <18.5	Proportion	Ever-married women 15-49 who were measured
Total fertility rate (3 years)	Rate	Women-years of exposure to childbearing
Neonatal mortality rate[1]	Rate	Children exposed to the risk of mortality
Post-neonatal mortality rate[1]	Rate	Children exposed to the risk of mortality
Infant mortality rate[1]	Rate	Children exposed to the risk of mortality
Child mortality rate[1]	Rate	Children exposed to the risk of mortality
Under-five mortality rate[1]	Rate	Children exposed to the risk of mortality
Has heard of HIV/AIDS	Proportion	Ever-married women 15-49
Knows about condoms to prevent AIDS	Proportion	Ever-married women 15-49
Knows about limiting partners to prevent AIDS	Proportion	Ever-married women 15-49
	MEN	
Urban residence	Proportion	Ever-married men 15-54
No education	Proportion	Ever-married men 15-54
With secondary education or higher	Proportion	Ever-married men 15-54
Never married	Proportion	Ever-married men 15-54
Currently married	Proportion	Ever-married men 15-54
Ideal number of children	Mean	Ever-married men 15-54
Has heard of HIV/AIDS	Proportion	Ever-married men 15-49
Knows about condoms to prevent AIDS	Proportion	Ever-married men 15-49
Knows about limiting partners to prevent AIDS	Proportion	Ever-married men 15-49

[1] The mortality rates are calculated for 5 years and 10 years before the survey for the national sample and the domain samples, respectively.

Table B.2 Sampling errors for National sample, Bangladesh 2007

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits: R-2SE	Confidence limits: R+2SE
WOMEN								
Urban residence	0.226	0.006	10996	10996	1.539	0.027	0.213	0.238
No education	0.341	0.009	10996	10996	1.988	0.026	0.323	0.359
With secondary education or higher	0.363	0.009	10996	10996	1.972	0.025	0.344	0.381
Currently married	0.927	0.003	10996	10996	1.246	0.003	0.921	0.933
Currently pregnant	0.054	0.002	12951	13071	1.220	0.044	0.049	0.059
Children ever born	2.331	0.028	12951	13071	1.294	0.012	2.276	2.387
Children surviving	2.039	0.023	12951	13071	1.276	0.011	1.992	2.086
Children ever born to women age 40-49	4.566	0.061	2294	2254	1.349	0.013	4.444	4.689
Ever used any contraceptive method	0.830	0.007	10146	10192	1.841	0.008	0.817	0.844
Currently using any method	0.558	0.008	10146	10192	1.646	0.015	0.542	0.574
Currently using a modern method	0.475	0.008	10146	10192	1.633	0.017	0.458	0.491
Currently using pill	0.285	0.007	10146	10192	1.577	0.025	0.271	0.299
Currently using IUD	0.009	0.001	10146	10192	1.396	0.144	0.007	0.012
Currently using injectabs	0.070	0.004	10146	10192	1.670	0.060	0.062	0.079
Currently using female sterilization	0.050	0.004	10146	10192	1.681	0.073	0.043	0.057
Currently using periodic abstinence	0.049	0.003	10146	10192	1.262	0.055	0.044	0.054
Currently using withdrawal	0.029	0.002	10146	10192	1.222	0.071	0.025	0.033
Using public sector source	0.502	0.013	4751	4884	1.784	0.026	0.476	0.528
Want no more children	0.625	0.006	10146	10192	1.254	0.010	0.613	0.637
Want to delay at least 2 years	0.210	0.005	10146	10192	1.246	0.024	0.200	0.221
Ideal number of children	2.284	0.013	10756	10804	1.829	0.006	2.258	2.310
Mothers protected against tetanus for the last birth	0.902	0.008	4926	4905	1.843	0.009	0.886	0.918
Mothers received medical care at birth	0.180	0.009	6150	6058	1.685	0.050	0.162	0.198
Had diarrhea in the past 2 weeks	0.098	0.006	5789	5719	1.396	0.059	0.086	0.109
Treated with oral rehydration salts (ORS)	0.766	0.022	560	559	1.187	0.028	0.723	0.810
Sought medical treatment	0.198	0.021	560	559	1.194	0.104	0.157	0.239
Vaccination card seen	0.582	0.018	1161	1146	1.226	0.031	0.546	0.618
Received BCG vaccination	0.968	0.006	1161	1146	1.168	0.006	0.955	0.980
Received DPT vaccination (3 doses)	0.911	0.010	1161	1146	1.185	0.011	0.891	0.931
Received polio vaccination (3 doses)	0.908	0.010	1161	1146	1.213	0.011	0.888	0.929
Received measles vaccination	0.831	0.015	1161	1146	1.380	0.018	0.800	0.861
Received all vaccinations	0.819	0.016	1161	1146	1.365	0.019	0.787	0.850
Height-for-age (below -2SD)	0.432	0.010	5423	5312	1.379	0.023	0.412	0.451
Weight-for-height (below -2SD)	0.174	0.007	5423	5312	1.321	0.040	0.160	0.188
Weight-for-age (below -2SD)	0.410	0.009	5423	5312	1.291	0.022	0.392	0.428
BMI <18.5	0.297	0.007	9997	10021	1.569	0.024	0.282	0.311
Total fertility rate (past 3 years)	2.710	0.061	na	36507	1.313	0.022	2.589	2.832
Neonatal mortality (past 0-4 years)	36.677	3.296	6203	6103	1.218	0.090	30.085	43.270
Post-neonatal mortality (past 0-4 years)	14.826	2.025	6203	6094	1.254	0.137	10.775	18.877
Infant mortality (past 0-4 years)	51.503	3.942	6209	6108	1.259	0.077	43.620	59.386
Child mortality (past 0-4 years)	14.253	1.741	6255	6144	1.135	0.122	10.770	17.736
Under-five mortality (past 0-4 years)	65.022	4.387	6249	6144	1.264	0.067	56.248	73.796
Has heard of HIV/AIDS	0.674	0.011	10996	10996	2.557	0.017	0.651	0.697
Knows about condoms to prevent HIV/AIDS	0.319	0.008	10996	10996	1.893	0.026	0.302	0.336
Knows about limiting partners to prevent HIV/AIDS	0.325	0.009	10996	10996	2.045	0.028	0.307	0.343
MEN								
Urban residence	0.227	0.007	3771	3771	1.040	0.031	0.213	0.242
No education	0.307	0.011	3771	3771	1.462	0.036	0.285	0.329
With secondary education or higher	0.365	0.012	3771	3771	1.495	0.032	0.342	0.389
Currently married	0.990	0.002	3771	3771	1.171	0.002	0.986	0.994
Ideal number of children	2.266	0.019	3624	3626	1.494	0.009	2.227	2.304
Has heard of HIV/AIDS	0.866	0.010	3231	3227	1.729	0.012	0.845	0.887
Knows condom use to prevent HIV/AIDS	0.658	0.012	3231	3227	1.453	0.018	0.634	0.683
Knows limiting partners to prevent HIV/AIDS	0.629	0.013	3231	3227	1.532	0.021	0.603	0.655

na = Not applicable

Table B.3 Sampling errors for Urban sample, Bangladesh 2007

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits: R-2SE	Confidence limits: R+2SE
			WOMEN					
Urban residence	1.000	0.000	4151	2482	na	0.000	1.000	1.000
No education	0.252	0.014	4151	2482	2.014	0.054	0.225	0.279
With secondary education or higher	0.481	0.021	4151	2482	2.642	0.043	0.440	0.522
Currently married	0.920	0.005	4151	2482	1.256	0.006	0.909	0.930
Currently pregnant	0.046	0.003	5218	3136	1.010	0.062	0.040	0.052
Children ever born	1.992	0.043	5218	3136	1.328	0.022	1.906	2.079
Children surviving	1.786	0.038	5218	3136	1.326	0.021	1.710	1.862
Children ever born to women age 40-49	4.067	0.104	877	520	1.572	0.026	3.859	4.274
Ever used any contraceptive method	0.885	0.006	3804	2283	1.164	0.007	0.873	0.897
Currently using any method	0.620	0.012	3804	2283	1.478	0.019	0.596	0.643
Currently using a modern method	0.524	0.011	3804	2283	1.380	0.021	0.502	0.546
Currently using pill	0.297	0.010	3804	2283	1.400	0.035	0.277	0.318
Currently using IUD	0.008	0.001	3804	2283	1.018	0.183	0.005	0.011
Currently using injectabs	0.060	0.006	3804	2283	1.583	0.102	0.048	0.072
Currently using female sterilization	0.049	0.005	3804	2283	1.508	0.107	0.039	0.060
Currently using periodic abstinence	0.060	0.005	3804	2283	1.242	0.080	0.050	0.069
Currently using withdrawal	0.033	0.004	3804	2283	1.221	0.108	0.026	0.040
Using public sector source	0.340	0.022	1964	1206	2.081	0.066	0.295	0.384
Want no more children	0.637	0.011	3804	2283	1.414	0.017	0.615	0.659
Want to delay at least 2 years	0.211	0.010	3804	2283	1.460	0.046	0.192	0.230
Ideal number of children	2.177	0.014	4082	2451	1.365	0.006	2.149	2.205
Mothers protected against tetanus for the last birth	0.923	0.008	1748	1039	1.213	0.008	0.908	0.939
Mothers received medical care at birth	0.367	0.026	2107	1249	2.183	0.070	0.316	0.418
Had diarrhea in the past 2 weeks	0.102	0.010	2004	1196	1.372	0.096	0.082	0.121
Treated with oral rehydration salts (ORS)	0.806	0.036	193	122	1.240	0.044	0.735	0.877
Sought medical treatment	0.274	0.036	193	122	1.126	0.130	0.203	0.346
Vaccination card seen	0.596	0.030	428	274	1.325	0.051	0.535	0.657
Received BCG vaccination	0.973	0.009	428	274	1.170	0.009	0.955	0.991
Received DPT vaccination (3 doses)	0.923	0.016	428	274	1.269	0.017	0.891	0.954
Received polio vaccination (3 doses)	0.920	0.016	428	274	1.248	0.017	0.888	0.951
Received measles vaccination	0.876	0.022	428	274	1.430	0.025	0.832	0.920
Received all vaccinations	0.863	0.024	428	274	1.474	0.027	0.816	0.911
Height-for-age (below -2SD)	0.364	0.020	1892	1109	1.711	0.054	0.324	0.404
Weight-for-height (below -2SD)	0.144	0.010	1892	1109	1.225	0.072	0.123	0.165
Weight-for-age (below -2SD)	0.334	0.021	1892	1109	1.817	0.062	0.293	0.376
BMI <18.5	0.196	0.013	3820	2292	1.966	0.064	0.171	0.221
Total fertility rate (past 3 years)	2.395	0.067	na	8828	1.097	0.028	2.260	2.530
Neonatal mortality (past 0-9 years)	33.242	3.278	4345	2558	1.156	0.099	26.686	39.799
Post-neonatal mortality (past 0-9 years)	17.152	2.388	4362	2566	1.175	0.139	12.377	21.927
Infant mortality (past 0-9 years)	50.394	4.100	4348	2560	1.197	0.081	42.194	58.595
Child mortality (past 0-9 years)	13.218	2.239	4373	2581	1.186	0.169	8.740	17.695
Under-five mortality (past 0-9 years)	62.946	4.679	4361	2566	1.216	0.074	53.587	72.305
Has heard of HIV/AIDS	0.870	0.011	4151	2482	2.148	0.013	0.848	0.893
Knows about condoms to prevent HIV/AIDS	0.462	0.014	4151	2482	1.863	0.031	0.434	0.491
Knows about limiting partners to prevent HIV/AIDS	0.454	0.015	4151	2482	1.903	0.032	0.425	0.484
			MEN					
Urban residence	1.000	0.000	1443	857	0.000	0.000	1.000	1.000
No education	0.234	0.019	1443	857	1.712	0.082	0.196	0.272
With secondary education or higher	0.494	0.026	1443	857	2.010	0.054	0.441	0.547
Currently married (in union)	0.992	0.003	1443	857	1.105	0.003	0.987	0.998
Ideal number of children	2.115	0.023	1399	827	1.353	0.011	2.068	2.162
Has heard of HIV/AIDS	0.951	0.009	1249	742	1.515	0.010	0.933	0.970
Knows condom use to prevent HIV/AIDS	0.764	0.017	1249	742	1.414	0.022	0.730	0.798
Knows limiting partners to prevent HIV/AIDS	0.700	0.020	1249	742	1.546	0.029	0.659	0.740

na = Not applicable

Table B.4 Sampling errors for Rural sample, Bangladesh 2007

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits: R-2SE	Confidence limits: R+2SE
			WOMEN					
Urban residence	0.000	0.000	6845	8514	na	na	0.000	0.000
No education	0.367	0.011	6845	8514	1.866	0.030	0.345	0.388
With secondary education or higher	0.328	0.010	6845	8514	1.771	0.031	0.308	0.348
Currently married	0.929	0.004	6845	8514	1.185	0.004	0.922	0.936
Currently pregnant	0.056	0.003	7981	9950	1.176	0.053	0.050	0.062
Children ever born	2.435	0.033	7981	9950	1.210	0.014	2.368	2.502
Children surviving	2.116	0.028	7981	9950	1.189	0.013	2.060	2.172
Children ever born to women age 40-49	4.717	0.073	1415	1734	1.248	0.016	4.571	4.864
Ever used any contraceptive method	0.815	0.009	6342	7909	1.772	0.011	0.797	0.832
Currently using any method	0.540	0.010	6342	7909	1.582	0.018	0.520	0.560
Currently using a modern method	0.460	0.010	6342	7909	1.584	0.022	0.441	0.480
Currently using pill	0.281	0.009	6342	7909	1.522	0.031	0.264	0.298
Currently using IUD	0.009	0.002	6342	7909	1.355	0.174	0.006	0.013
Currently using injectabs	0.073	0.005	6342	7909	1.579	0.070	0.063	0.084
Currently using female sterilization	0.050	0.004	6342	7909	1.616	0.088	0.041	0.059
Currently using periodic abstinence	0.046	0.003	6342	7909	1.216	0.070	0.039	0.052
Currently using withdrawal	0.028	0.002	6342	7909	1.170	0.087	0.023	0.032
Using public sector source	0.555	0.015	2787	3678	1.645	0.028	0.524	0.586
Want no more children	0.621	0.007	6342	7909	1.162	0.011	0.607	0.635
Want to delay at least 2 years	0.210	0.006	6342	7909	1.147	0.028	0.199	0.222
Ideal number of children	2.316	0.016	6674	8353	1.762	0.007	2.283	2.349
Mothers protected against tetanus for the last birth	0.896	0.010	3178	3866	1.769	0.011	0.877	0.916
Mothers received medical care at birth	0.132	0.009	4043	4809	1.596	0.071	0.113	0.150
Had diarrhea in the past 2 weeks	0.097	0.007	3785	4523	1.324	0.070	0.083	0.110
Treated with oral rehydration salts (ORS)	0.755	0.026	367	437	1.111	0.035	0.703	0.808
Sought medical treatment	0.177	0.024	367	437	1.160	0.136	0.129	0.225
Vaccination card seen	0.578	0.022	733	872	1.150	0.037	0.535	0.621
Received BCG vaccination	0.966	0.008	733	872	1.100	0.008	0.951	0.981
Received DPT vaccination (3 doses)	0.908	0.012	733	872	1.107	0.013	0.883	0.932
Received polio vaccination (3 doses)	0.905	0.013	733	872	1.142	0.014	0.879	0.930
Received measles vaccination	0.816	0.019	733	872	1.287	0.023	0.778	0.854
Received all vaccinations	0.805	0.019	733	872	1.269	0.024	0.766	0.843
Height-for-age (below -2SD)	0.450	0.011	3531	4203	1.263	0.025	0.427	0.472
Weight-for-height (below -2SD)	0.182	0.009	3531	4203	1.259	0.047	0.165	0.199
Weight-for-age (below -2SD)	0.430	0.010	3531	4203	1.151	0.024	0.410	0.450
BMI <18.5	0.326	0.009	6177	7730	1.433	0.026	0.309	0.343
Total fertility rate (past 3 years)	2.805	0.077	na	27728	1.262	0.028	2.650	2.959
Neonatal mortality (past 0-9 years)	40.772	3.098	8415	10057	1.222	0.076	34.576	46.969
Post-neonatal mortality (past 0-9 years)	18.015	1.873	8404	10046	1.139	0.104	14.270	21.761
Infant mortality (past 0-9 years)	58.788	3.688	8421	10062	1.232	0.063	51.412	66.163
Child mortality (past 0-9 years)	18.926	1.732	8553	10258	1.052	0.092	15.462	22.390
Under-five mortality (past 0-9 years)	76.601	4.141	8466	10113	1.249	0.054	68.318	84.883
Has heard of HIV/AIDS	0.616	0.015	6845	8514	2.468	0.024	0.587	0.645
Knows about condoms to prevent HIV/AIDS	0.278	0.010	6845	8514	1.871	0.036	0.257	0.298
Knows about limiting partners to prevent HIV/AIDS	0.287	0.011	6845	8514	2.017	0.038	0.265	0.309
			MEN					
Urban residence	0.000	0.000	2328	2914	na	na	0.000	0.000
No education	0.328	0.013	2328	2914	1.336	0.040	0.302	0.354
With secondary education or higher	0.327	0.013	2328	2914	1.326	0.039	0.301	0.353
Currently married (in union)	0.989	0.002	2328	2914	1.095	0.002	0.984	0.994
Ideal number of children	2.310	0.024	2225	2798	1.390	0.010	2.263	2.358
Has heard of HIV/AIDS	0.840	0.013	1982	2486	1.593	0.016	0.814	0.867
Knows condom use to prevent HIV/AIDS	0.627	0.015	1982	2486	1.363	0.024	0.597	0.657
Knows limiting partners to prevent HIV/AIDS	0.608	0.016	1982	2486	1.439	0.026	0.577	0.640

na = Not applicable

Table B.5 Sampling errors for Barisal sample, Bangladesh 2007

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits: R-2SE	Confidence limits: R+2SE
			WOMEN					
Urban residence	0.159	0.007	1438	662	0.707	0.043	0.146	0.173
No education	0.223	0.024	1438	662	2.175	0.107	0.175	0.271
With secondary education or higher	0.370	0.027	1438	662	2.148	0.074	0.315	0.425
Currently married	0.945	0.007	1438	662	1.215	0.008	0.930	0.959
Currently pregnant	0.058	0.008	1674	777	1.384	0.134	0.042	0.073
Children ever born	2.482	0.081	1674	777	1.281	0.033	2.321	2.643
Children surviving	2.189	0.068	1674	777	1.265	0.031	2.052	2.325
Children ever born to women age 40-49	4.915	0.178	271	128	1.314	0.036	4.559	5.272
Ever used any contraceptive method	0.888	0.014	1357	626	1.577	0.015	0.861	0.915
Currently using any method	0.563	0.019	1357	626	1.428	0.034	0.525	0.601
Currently using a modern method	0.471	0.020	1357	626	1.453	0.042	0.432	0.510
Currently using pill	0.279	0.016	1357	626	1.292	0.056	0.247	0.310
Currently using IUD	0.010	0.003	1357	626	1.237	0.341	0.003	0.016
Currently using injectabs	0.089	0.013	1357	626	1.621	0.141	0.064	0.114
Currently using female sterilization	0.032	0.005	1357	626	1.110	0.165	0.022	0.043
Currently using periodic abstinence	0.049	0.008	1357	626	1.391	0.167	0.033	0.065
Currently using withdrawal	0.037	0.006	1357	626	1.242	0.173	0.024	0.049
Using public sector source	0.552	0.025	661	297	1.314	0.046	0.501	0.603
Want no more children	0.634	0.018	1357	626	1.362	0.028	0.598	0.670
Want to delay at least 2 years	0.203	0.014	1357	626	1.280	0.069	0.175	0.230
Ideal number of children	2.322	0.037	1409	649	1.779	0.016	2.249	2.396
Mothers protected against tetanus for the last birth	0.894	0.015	658	313	1.284	0.017	0.863	0.924
Mothers received medical care at birth	0.134	0.018	791	383	1.487	0.137	0.097	0.171
Had diarrhea in the past 2 weeks	0.092	0.014	749	362	1.305	0.154	0.064	0.121
Treated with oral rehydration salts (ORS)	0.697	0.057	66	33	1.043	0.081	0.584	0.810
Sought medical treatment	0.236	0.064	66	33	1.271	0.273	0.107	0.364
Vaccination card seen	0.560	0.044	144	69	1.075	0.078	0.473	0.648
Received BCG vaccination	0.977	0.013	144	69	1.046	0.013	0.951	1.003
Received DPT vaccination (3 doses)	0.955	0.018	144	69	1.070	0.019	0.918	0.991
Received polio vaccination (3 doses)	0.955	0.018	144	69	1.070	0.019	0.918	0.991
Received measles vaccination	0.902	0.032	144	69	1.307	0.035	0.839	0.966
Received all vaccinations	0.902	0.032	144	69	1.307	0.035	0.839	0.966
Height-for-age (below -2SD)	0.469	0.020	711	340	1.059	0.043	0.429	0.509
Weight-for-height (below -2SD)	0.180	0.019	711	340	1.363	0.108	0.141	0.219
Weight-for-age (below -2SD)	0.456	0.025	711	340	1.314	0.056	0.405	0.507
BMI <18.5	0.339	0.016	1310	601	1.249	0.048	0.307	0.372
Total fertility rate (past 3 years)	2.799	0.143	na	2164	1.203	0.051	2.514	3.084
Neonatal mortality (past 0-9 years)	31.315	3.918	1684	807	0.825	0.125	23.479	39.152
Post-neonatal mortality (past 0-9 years)	18.518	2.868	1686	807	0.893	0.155	12.781	24.255
Infant mortality (past 0-9 years)	49.834	4.682	1686	808	0.840	0.094	40.470	59.197
Child mortality (past 0-9 years)	22.629	3.636	1729	823	1.068	0.161	15.356	29.901
Under-five mortality (past 0-9 years)	71.334	5.725	1694	812	0.890	0.080	59.884	82.785
Has heard of HIV/AIDS	0.617	0.035	1438	662	2.716	0.057	0.547	0.687
Knows about condoms to prevent HIV/AIDS	0.279	0.025	1438	662	2.084	0.089	0.229	0.328
Knows about limiting partners to prevent HIV/AIDS	0.279	0.023	1438	662	1.922	0.082	0.233	0.324
			MEN					
Urban residence	0.164	0.009	491	217	0.557	0.057	0.145	0.183
No education	0.233	0.030	491	217	1.563	0.128	0.173	0.293
With secondary education or higher	0.376	0.036	491	217	1.622	0.095	0.305	0.447
Currently married (in union)	0.995	0.003	491	217	1.051	0.003	0.989	1.002
Ideal number of children	2.298	0.052	477	210	1.309	0.023	2.194	2.402
Has heard of HIV/AIDS	0.831	0.020	421	186	1.086	0.024	0.791	0.870
Knows condom use to prevent HIV/AIDS	0.597	0.028	421	186	1.149	0.046	0.542	0.652
Knows limiting partners to prevent HIV/AIDS	0.607	0.029	421	186	1.232	0.048	0.548	0.666

na = Not applicable

Table B.6 Sampling errors for Chittagong sample, Bangladesh 2007

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits: R-2SE	Confidence limits: R+2SE
			WOMEN					
Urban residence	0.240	0.016	1943	2023	1.633	0.066	0.208	0.272
No education	0.322	0.028	1943	2023	2.596	0.086	0.267	0.377
With secondary education or higher	0.394	0.023	1943	2023	2.099	0.059	0.348	0.441
Currently married	0.928	0.008	1943	2023	1.294	0.008	0.913	0.943
Currently pregnant	0.058	0.006	2423	2520	1.255	0.101	0.046	0.069
Children ever born	2.442	0.076	2423	2520	1.231	0.031	2.290	2.594
Children surviving	2.149	0.064	2423	2520	1.190	0.030	2.021	2.277
Children ever born to women age 40-49	5.207	0.161	394	415	1.453	0.031	4.885	5.529
Ever used any contraceptive method	0.747	0.019	1804	1877	1.832	0.025	0.709	0.784
Currently using any method	0.439	0.017	1804	1877	1.491	0.040	0.404	0.474
Currently using a modern method	0.382	0.017	1804	1877	1.502	0.045	0.348	0.417
Currently using pill	0.240	0.013	1804	1877	1.312	0.055	0.213	0.266
Currently using IUD	0.010	0.003	1804	1877	1.289	0.297	0.004	0.016
Currently using injectabs	0.051	0.009	1804	1877	1.674	0.170	0.034	0.069
Currently using female sterilization	0.041	0.006	1804	1877	1.281	0.146	0.029	0.053
Currently using periodic abstinence	0.032	0.004	1804	1877	0.931	0.120	0.025	0.040
Currently using withdrawal	0.014	0.003	1804	1877	1.184	0.236	0.007	0.020
Using public sector source	0.418	0.027	720	720	1.467	0.065	0.364	0.472
Want no more children	0.596	0.012	1804	1877	1.058	0.021	0.571	0.620
Want to delay at least 2 years	0.220	0.013	1804	1877	1.311	0.058	0.195	0.246
Ideal number of children	2.521	0.037	1899	1978	1.817	0.015	2.447	2.595
Mothers protected against tetanus for the last birth	0.869	0.028	980	1030	2.589	0.032	0.813	0.925
Mothers received medical care at birth	0.185	0.024	1275	1337	1.955	0.130	0.137	0.234
Had diarrhea in the past 2 weeks	0.109	0.012	1201	1254	1.253	0.106	0.086	0.133
Treated with oral rehydration salts (ORS)	0.658	0.040	131	137	0.972	0.061	0.578	0.738
Sought medical treatment	0.189	0.044	131	137	1.281	0.232	0.101	0.277
Vaccination card seen	0.542	0.038	267	278	1.224	0.070	0.466	0.617
Received BCG vaccination	0.950	0.016	267	278	1.193	0.017	0.918	0.982
Received DPT vaccination (3 doses)	0.900	0.025	267	278	1.335	0.027	0.851	0.949
Received polio vaccination (3 doses)	0.886	0.027	267	278	1.390	0.031	0.831	0.940
Received measles vaccination	0.796	0.037	267	278	1.480	0.046	0.722	0.869
Received all vaccinations	0.772	0.036	267	278	1.408	0.047	0.699	0.844
Height-for-age (below -2SD)	0.455	0.019	1117	1153	1.204	0.041	0.417	0.493
Weight-for-height (below -2SD)	0.176	0.012	1117	1153	1.000	0.066	0.153	0.200
Weight-for-age (below -2SD)	0.416	0.016	1117	1153	1.064	0.040	0.383	0.449
BMI <18.5	0.283	0.014	1745	1818	1.300	0.050	0.255	0.311
Total fertility rate (past 3 years)	3.197	0.159	na	6956	1.422	0.050	2.878	3.516
Neonatal mortality (past 0-9 years)	34.005	5.779	2518	2651	1.338	0.170	22.448	45.563
Post-neonatal mortality (past 0-9 years)	19.594	3.107	2516	2651	1.103	0.159	13.380	25.807
Infant mortality (past 0-9 years)	53.599	6.379	2522	2656	1.218	0.119	40.842	66.357
Child mortality (past 0-9 years)	27.264	3.918	2528	2660	1.151	0.144	19.427	35.100
Under-five mortality (past 0-9 years)	79.402	7.141	2539	2674	1.158	0.090	65.119	93.684
Has heard of HIV/AIDS	0.653	0.024	1943	2023	2.265	0.038	0.604	0.702
Knows about condoms to prevent HIV/AIDS	0.276	0.018	1943	2023	1.772	0.065	0.240	0.312
Knows about limiting partners to prevent HIV/AIDS	0.265	0.019	1943	2023	1.888	0.071	0.227	0.302
			MEN					
Urban residence	0.258	0.017	609	620	0.973	0.067	0.224	0.293
No education	0.266	0.030	609	620	1.671	0.113	0.206	0.326
With secondary education or higher	0.398	0.031	609	620	1.565	0.078	0.336	0.460
Currently married (in union)	0.988	0.005	609	620	1.104	0.005	0.978	0.998
Ideal number of children	2.469	0.058	573	576	1.543	0.023	2.354	2.584
Has heard of HIV/AIDS	0.884	0.039	523	531	2.783	0.044	0.806	0.963
Knows condom use to prevent HIV/AIDS	0.653	0.035	523	531	1.669	0.053	0.583	0.723
Knows limiting partners to prevent HIV/AIDS	0.576	0.036	523	531	1.678	0.063	0.503	0.649

na = Not applicable

Table B.7 Sampling errors for Dhaka sample, Bangladesh 2007

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits: R-2SE	Confidence limits: R+2SE
			WOMEN					
Urban residence	0.333	0.013	2340	3431	1.294	0.038	0.308	0.358
No education	0.352	0.019	2340	3431	1.899	0.053	0.315	0.390
With secondary education or higher	0.355	0.020	2340	3431	2.021	0.056	0.315	0.395
Currently married	0.929	0.006	2340	3431	1.165	0.007	0.917	0.942
Currently pregnant	0.049	0.005	2726	4019	1.135	0.094	0.040	0.058
Children ever born	2.386	0.062	2726	4019	1.366	0.026	2.263	2.509
Children surviving	2.070	0.048	2726	4019	1.280	0.023	1.974	2.167
Children ever born to women age 40-49	4.535	0.122	463	674	1.253	0.027	4.291	4.779
Ever used any contraceptive method	0.842	0.013	2174	3189	1.686	0.016	0.815	0.868
Currently using any method	0.564	0.017	2174	3189	1.586	0.030	0.530	0.597
Currently using a modern method	0.475	0.016	2174	3189	1.459	0.033	0.444	0.506
Currently using pill	0.276	0.015	2174	3189	1.532	0.053	0.246	0.305
Currently using IUD	0.009	0.003	2174	3189	1.430	0.331	0.003	0.014
Currently using injectabs	0.075	0.008	2174	3189	1.474	0.111	0.059	0.092
Currently using female sterilization	0.045	0.007	2174	3189	1.618	0.160	0.031	0.059
Currently using periodic abstinence	0.053	0.006	2174	3189	1.184	0.107	0.042	0.065
Currently using withdrawal	0.030	0.004	2174	3189	0.994	0.121	0.023	0.037
Using public sector source	0.493	0.023	1071	1532	1.488	0.046	0.447	0.538
Want no more children	0.625	0.012	2174	3189	1.132	0.019	0.602	0.649
Want to delay at least 2 years	0.219	0.011	2174	3189	1.228	0.050	0.197	0.241
Ideal number of children	2.232	0.024	2318	3396	1.828	0.011	2.184	2.281
Mothers protected against tetanus for the last birth	0.916	0.012	1051	1556	1.368	0.013	0.893	0.940
Mothers received medical care at birth	0.198	0.018	1285	1908	1.539	0.092	0.161	0.234
Had diarrhea in the past 2 weeks	0.106	0.013	1225	1816	1.362	0.118	0.081	0.132
Treated with oral rehydration salts (ORS)	0.836	0.036	129	193	1.101	0.043	0.764	0.908
Sought medical treatment	0.173	0.034	129	193	1.005	0.195	0.106	0.241
Vaccination card seen	0.507	0.037	248	361	1.149	0.073	0.433	0.581
Received BCG vaccination	0.978	0.009	248	361	0.974	0.009	0.960	0.996
Received DPT vaccination (3 doses)	0.911	0.018	248	361	1.010	0.020	0.875	0.948
Received polio vaccination (3 doses)	0.917	0.018	248	361	1.006	0.019	0.881	0.952
Received measles vaccination	0.833	0.026	248	361	1.073	0.031	0.781	0.884
Received all vaccinations	0.824	0.027	248	361	1.094	0.032	0.771	0.877
Height-for-age (below -2SD)	0.440	0.022	1143	1671	1.457	0.050	0.396	0.484
Weight-for-height (below -2SD)	0.154	0.015	1143	1671	1.344	0.098	0.124	0.184
Weight-for-age (below -2SD)	0.399	0.020	1143	1671	1.310	0.050	0.359	0.439
BMI <18.5	0.281	0.016	2151	3156	1.694	0.058	0.248	0.314
Total fertility rate (past 3 years)	2.751	0.095	na	11357	1.070	0.034	2.561	2.940
Neonatal mortality (past 0-9 years)	37.921	4.161	2689	4016	1.074	0.110	29.599	46.244
Post-neonatal mortality (past 0-9 years)	17.556	3.739	2686	4010	1.265	0.213	10.078	25.035
Infant mortality (past 0-9 years)	55.478	5.920	2689	4016	1.249	0.107	43.638	67.318
Child mortality (past 0-9 years)	13.856	2.547	2728	4101	1.095	0.184	8.761	18.951
Under-five mortality (past 0-9 years)	68.565	6.825	2695	4026	1.338	0.100	54.916	82.214
Has heard of HIV/AIDS	0.731	0.023	2340	3431	2.483	0.031	0.685	0.776
Knows about condoms to prevent HIV/AIDS	0.340	0.017	2340	3431	1.740	0.050	0.306	0.374
Knows about limiting partners to prevent HIV/AIDS	0.368	0.019	2340	3431	1.931	0.052	0.329	0.406
			MEN					
Urban residence	0.344	0.016	759	1146	0.955	0.048	0.311	0.377
No education	0.337	0.022	759	1146	1.298	0.066	0.292	0.382
With secondary education or higher	0.348	0.025	759	1146	1.442	0.072	0.298	0.398
Currently married (in union)	0.990	0.004	759	1146	1.053	0.004	0.983	0.998
Ideal number of children	2.270	0.040	725	1098	1.475	0.018	2.190	2.350
Has heard of HIV/AIDS	0.887	0.015	644	977	1.238	0.017	0.856	0.918
Knows condom use to prevent HIV/AIDS	0.671	0.023	644	977	1.216	0.034	0.626	0.716
Knows limiting partners to prevent HIV/AIDS	0.658	0.024	644	977	1.263	0.036	0.611	0.705

na = Not applicable

Table B.8 Sampling errors for Khulna sample, Bangladesh 2007

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits: R-2SE	Confidence limits: R+2SE
			WOMEN					
Urban residence	0.190	0.015	1711	1396	1.532	0.077	0.161	0.219
No education	0.301	0.018	1711	1396	1.640	0.060	0.265	0.337
With secondary education or higher	0.395	0.018	1711	1396	1.538	0.046	0.358	0.431
Currently married	0.918	0.010	1711	1396	1.447	0.010	0.898	0.937
Currently pregnant	0.049	0.005	1935	1587	1.022	0.101	0.039	0.059
Children ever born	2.120	0.040	1935	1587	0.872	0.019	2.040	2.200
Children surviving	1.877	0.039	1935	1587	0.981	0.021	1.799	1.956
Children ever born to women age 40-49	3.978	0.138	381	313	1.339	0.035	3.701	4.254
Ever used any contraceptive method	0.916	0.010	1564	1281	1.445	0.011	0.895	0.936
Currently using any method	0.631	0.018	1564	1281	1.503	0.029	0.594	0.668
Currently using a modern method	0.530	0.019	1564	1281	1.498	0.036	0.492	0.568
Currently using pill	0.307	0.017	1564	1281	1.442	0.055	0.274	0.341
Currently using IUD	0.011	0.003	1564	1281	1.059	0.253	0.005	0.017
Currently using injectabs	0.081	0.013	1564	1281	1.857	0.158	0.056	0.107
Currently using female sterilization	0.062	0.010	1564	1281	1.657	0.163	0.042	0.082
Currently using periodic abstinence	0.053	0.007	1564	1281	1.281	0.137	0.039	0.068
Currently using withdrawal	0.046	0.006	1564	1281	1.223	0.141	0.033	0.059
Using public sector source	0.565	0.028	823	684	1.604	0.049	0.510	0.621
Want no more children	0.637	0.013	1564	1281	1.031	0.020	0.612	0.663
Want to delay at least 2 years	0.200	0.009	1564	1281	0.883	0.045	0.182	0.218
Ideal number of children	2.113	0.024	1689	1379	1.701	0.011	2.065	2.160
Mothers protected against tetanus for the last birth	0.928	0.014	623	503	1.302	0.015	0.900	0.955
Mothers received medical care at birth	0.265	0.025	714	578	1.404	0.094	0.216	0.315
Had diarrhea in the past 2 weeks	0.087	0.010	681	552	0.887	0.115	0.067	0.107
Treated with oral rehydration salts (ORS)	0.839	0.061	58	48	1.149	0.072	0.718	0.961
Sought medical treatment	0.304	0.070	58	48	1.101	0.230	0.164	0.444
Vaccination card seen	0.665	0.056	119	90	1.246	0.084	0.553	0.777
Received BCG vaccination	0.990	0.007	119	90	0.765	0.007	0.976	1.005
Received DPT vaccination (3 doses)	0.946	0.020	119	90	0.932	0.021	0.905	0.986
Received polio vaccination (3 doses)	0.946	0.020	119	90	0.932	0.021	0.905	0.986
Received measles vaccination	0.896	0.030	119	90	1.017	0.033	0.836	0.955
Received all vaccinations	0.889	0.030	119	90	0.999	0.034	0.829	0.949
Height-for-age (below -2SD)	0.346	0.023	644	516	1.182	0.065	0.301	0.391
Weight-for-height (below -2SD)	0.188	0.016	644	516	1.005	0.084	0.156	0.219
Weight-for-age (below -2SD)	0.341	0.018	644	516	0.939	0.052	0.306	0.376
BMI <18.5	0.252	0.011	1578	1287	0.985	0.043	0.230	0.273
Total fertility rate (past 3 years)	1.988	0.084	na	4478	0.874	0.042	1.820	2.156
Neonatal mortality (past 0-9 years)	32.182	5.756	1551	1270	1.247	0.179	20.671	43.693
Post-neonatal mortality (past 0-9 years)	16.447	3.419	1553	1270	0.971	0.208	9.608	23.286
Infant mortality (past 0-9 years)	48.629	6.579	1553	1271	1.169	0.135	35.471	61.787
Child mortality (past 0-9 years)	9.917	2.887	1573	1304	1.172	0.291	4.143	15.692
Under-five mortality (past 0-9 years)	58.064	7.027	1555	1273	1.185	0.121	44.010	72.117
Has heard of HIV/AIDS	0.779	0.018	1711	1396	1.791	0.023	0.743	0.815
Knows about condoms to prevent HIV/AIDS	0.378	0.018	1711	1396	1.538	0.048	0.342	0.414
Knows about limiting partners to prevent HIV/AIDS	0.366	0.018	1711	1396	1.518	0.048	0.331	0.402
			MEN					
Urban residence	0.183	0.014	624	509	0.915	0.077	0.155	0.212
No education	0.311	0.026	624	509	1.380	0.082	0.259	0.362
With secondary education or higher	0.357	0.025	624	509	1.278	0.069	0.308	0.406
Currently married (in union)	0.985	0.005	624	509	1.127	0.006	0.974	0.996
Ideal number of children	2.089	0.029	615	500	1.164	0.014	2.031	2.146
Has heard of HIV/AIDS	0.925	0.015	539	438	1.362	0.017	0.894	0.956
Knows condom use to prevent HIV/AIDS	0.708	0.025	539	438	1.295	0.036	0.657	0.759
Knows limiting partners to prevent HIV/AIDS	0.648	0.026	539	438	1.256	0.040	0.596	0.700

na = Not applicable

Table B.9 Sampling errors for Rajshahi sample, Bangladesh 2007

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits: R-2SE	Confidence limits: R+2SE
			WOMEN					
Urban residence	0.144	0.009	2080	2776	1.153	0.062	0.127	0.162
No education	0.359	0.013	2080	2776	1.281	0.038	0.332	0.386
With secondary education or higher	0.359	0.015	2080	2776	1.389	0.041	0.329	0.388
Currently married	0.931	0.005	2080	2776	0.926	0.006	0.920	0.941
Currently pregnant	0.054	0.005	2403	3224	1.087	0.091	0.044	0.064
Children ever born	2.174	0.046	2403	3224	1.085	0.021	2.081	2.266
Children surviving	1.920	0.043	2403	3224	1.191	0.023	1.833	2.007
Children ever born to women age 40-49	4.108	0.115	433	560	1.246	0.028	3.877	4.339
Ever used any contraceptive method	0.897	0.010	1927	2584	1.432	0.011	0.877	0.917
Currently using any method	0.659	0.015	1927	2584	1.390	0.023	0.629	0.689
Currently using a modern method	0.571	0.017	1927	2584	1.524	0.030	0.536	0.605
Currently using pill	0.357	0.015	1927	2584	1.346	0.041	0.328	0.386
Currently using IUD	0.009	0.003	1927	2584	1.253	0.308	0.003	0.014
Currently using injectabs	0.074	0.009	1927	2584	1.430	0.116	0.057	0.091
Currently using female sterilization	0.066	0.009	1927	2584	1.535	0.131	0.049	0.084
Currently using periodic abstinence	0.054	0.006	1927	2584	1.171	0.112	0.042	0.066
Currently using withdrawal	0.030	0.005	1927	2584	1.267	0.164	0.020	0.040
Using public sector source	0.509	0.030	1109	1493	1.980	0.058	0.450	0.569
Want no more children	0.656	0.013	1927	2584	1.247	0.021	0.629	0.683
Want to delay at least 2 years	0.203	0.009	1927	2584	1.005	0.045	0.184	0.221
Ideal number of children	2.149	0.022	2060	2750	1.703	0.010	2.104	2.193
Mothers protected against tetanus for the last birth	0.930	0.011	829	1118	1.289	0.012	0.908	0.953
Mothers received medical care at birth	0.154	0.016	967	1306	1.280	0.102	0.123	0.185
Had diarrhea in the past 2 weeks	0.076	0.012	917	1237	1.350	0.164	0.051	0.101
Treated with oral rehydration salts (ORS)	0.835	0.056	71	94	1.257	0.068	0.722	0.948
Sought medical treatment	0.173	0.054	71	94	1.190	0.313	0.065	0.281
Vaccination card seen	0.697	0.033	195	253	0.992	0.048	0.631	0.763
Received BCG vaccination	0.977	0.013	195	253	1.199	0.013	0.950	1.003
Received DPT vaccination (3 doses)	0.932	0.019	195	253	1.047	0.021	0.894	0.971
Received polio vaccination (3 doses)	0.932	0.019	195	253	1.047	0.021	0.894	0.971
Received measles vaccination	0.861	0.037	195	253	1.459	0.043	0.787	0.934
Received all vaccinations	0.856	0.037	195	253	1.436	0.043	0.782	0.929
Height-for-age (below -2SD)	0.418	0.018	877	1183	1.055	0.044	0.381	0.455
Weight-for-height (below -2SD)	0.191	0.017	877	1183	1.287	0.090	0.156	0.225
Weight-for-age (below -2SD)	0.433	0.019	877	1183	1.135	0.045	0.394	0.471
BMI <18.5	0.315	0.014	1913	2545	1.349	0.046	0.286	0.344
Total fertility rate (past 3 years)	2.358	0.113	na	8962	1.373	0.048	2.132	2.583
Neonatal mortality (past 0-9 years)	46.131	7.174	2016	2757	1.279	0.156	31.783	60.480
Post-neonatal mortality (past 0-9 years)	11.682	2.396	2021	2763	0.996	0.205	6.889	16.475
Infant mortality (past 0-9 years)	57.813	7.621	2017	2758	1.235	0.132	42.571	73.056
Child mortality (past 0-9 years)	14.001	2.735	2053	2824	0.987	0.195	8.531	19.471
Under-five mortality (past 0-9 years)	71.005	8.342	2029	2776	1.256	0.117	54.321	87.689
Has heard of HIV/AIDS	0.610	0.028	2080	2776	2.573	0.045	0.555	0.665
Knows about condoms to prevent HIV/AIDS	0.322	0.019	2080	2776	1.824	0.058	0.285	0.360
Knows about limiting partners to prevent HIV/AIDS	0.332	0.021	2080	2776	1.997	0.062	0.290	0.373
			MEN					
Urban residence	0.136	0.010	786	1052	0.809	0.073	0.116	0.155
No education	0.303	0.021	786	1052	1.257	0.068	0.262	0.344
With secondary education or higher	0.392	0.020	786	1052	1.156	0.051	0.352	0.433
Currently married (in union)	0.991	0.004	786	1052	1.113	0.004	0.984	0.999
Ideal number of children	2.117	0.030	779	1039	1.296	0.014	2.057	2.177
Has heard of HIV/AIDS	0.831	0.021	687	907	1.453	0.025	0.790	0.873
Knows condom use to prevent HIV/AIDS	0.666	0.024	687	907	1.332	0.036	0.618	0.714
Knows limiting partners to prevent HIV/AIDS	0.652	0.027	687	907	1.475	0.041	0.598	0.705

na = Not applicable

Table B.10 Sampling errors for Sylhet sample, Bangladesh 2007

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits: R-2SE	Confidence limits: R+2SE
			WOMEN					
Urban residence	0.118	0.015	1484	707	1.765	0.126	0.088	0.147
No education	0.454	0.026	1484	707	2.040	0.058	0.401	0.507
With secondary education or higher	0.253	0.032	1484	707	2.835	0.127	0.189	0.317
Currently married	0.898	0.012	1484	707	1.486	0.013	0.874	0.921
Currently pregnant	0.069	0.007	1949	941	1.186	0.098	0.055	0.082
Children ever born	2.580	0.116	1949	941	1.461	0.045	2.349	2.812
Children surviving	2.174	0.095	1949	941	1.429	0.044	1.984	2.364
Children ever born to women age 40-49	5.534	0.194	349	163	1.390	0.035	5.146	5.923
Ever used any contraceptive method	0.518	0.023	1320	635	1.681	0.045	0.472	0.564
Currently using any method	0.315	0.020	1320	635	1.533	0.062	0.276	0.354
Currently using a modern method	0.247	0.020	1320	635	1.710	0.082	0.207	0.288
Currently using pill	0.133	0.016	1320	635	1.679	0.118	0.101	0.164
Currently using IUD	0.007	0.003	1320	635	1.249	0.414	0.001	0.013
Currently using injectabs	0.050	0.015	1320	635	2.547	0.306	0.020	0.081
Currently using female sterilization	0.030	0.009	1320	635	1.847	0.291	0.012	0.047
Currently using periodic abstinence	0.048	0.007	1320	635	1.124	0.137	0.035	0.061
Currently using withdrawal	0.017	0.004	1320	635	1.066	0.223	0.009	0.025
Using public sector source	0.530	0.041	367	158	1.556	0.077	0.449	0.612
Want no more children	0.544	0.019	1320	635	1.381	0.035	0.506	0.582
Want to delay at least 2 years	0.197	0.013	1320	635	1.202	0.067	0.171	0.223
Ideal number of children	2.736	0.054	1381	652	1.814	0.020	2.628	2.844
Mothers protected against tetanus for the last birth	0.824	0.018	785	384	1.306	0.021	0.789	0.859
Mothers received medical care at birth	0.109	0.015	1118	547	1.392	0.134	0.080	0.138
Had diarrhea in the past 2 weeks	0.107	0.012	1016	498	1.173	0.110	0.083	0.131
Treated with oral rehydration salts (ORS)	0.651	0.056	105	53	1.173	0.087	0.538	0.764
Sought medical treatment	0.238	0.048	105	53	1.175	0.202	0.142	0.334
Vaccination card seen	0.616	0.046	188	95	1.334	0.075	0.523	0.709
Received BCG vaccination	0.926	0.027	188	95	1.473	0.030	0.871	0.981
Received DPT vaccination (3 doses)	0.821	0.038	188	95	1.408	0.047	0.744	0.898
Received polio vaccination (3 doses)	0.809	0.041	188	95	1.479	0.051	0.726	0.891
Received measles vaccination	0.731	0.051	188	95	1.605	0.070	0.629	0.832
Received all vaccinations	0.708	0.055	188	95	1.706	0.078	0.598	0.819
Height-for-age (below -2SD)	0.447	0.032	931	448	1.804	0.071	0.383	0.510
Weight-for-height (below -2SD)	0.183	0.016	931	448	1.280	0.090	0.150	0.216
Weight-for-age (below -2SD)	0.421	0.028	931	448	1.628	0.067	0.365	0.477
BMI <18.5	0.393	0.024	1300	614	1.793	0.062	0.345	0.442
Total fertility rate (past 3 years)	3.739	0.189	na	2595	1.423	0.051	3.360	4.118
Neonatal mortality (past 0-9 years)	53.200	7.562	2302	1113	1.448	0.142	38.077	68.323
Post-neonatal mortality (past 0-9 years)	31.075	4.330	2304	1112	1.080	0.139	22.416	39.735
Infant mortality (past 0-9 years)	84.275	10.062	2302	1113	1.571	0.119	64.152	104.399
Child mortality (past 0-9 years)	25.228	4.677	2315	1127	1.251	0.185	15.874	34.582
Under-five mortality (past 0-9 years)	107.377	11.580	2315	1119	1.584	0.108	84.217	130.538
Has heard of HIV/AIDS	0.550	0.032	1484	707	2.460	0.058	0.486	0.613
Knows about condoms to prevent HIV/AIDS	0.250	0.023	1484	707	2.059	0.093	0.204	0.296
Knows about limiting partners to prevent HIV/AIDS	0.224	0.020	1484	707	1.845	0.089	0.184	0.264
			MEN					
Urban residence	0.137	0.018	502	227	1.174	0.132	0.101	0.173
No education	0.345	0.030	502	227	1.391	0.086	0.286	0.404
With secondary education or higher	0.243	0.034	502	227	1.789	0.141	0.175	0.312
Currently married (in union)	0.992	0.003	502	227	0.881	0.003	0.986	0.999
Ideal number of children	2.830	0.070	455	202	1.367	0.025	2.690	2.970
Has heard of HIV/AIDS	0.770	0.041	417	188	1.993	0.054	0.688	0.853
Knows condom use to prevent HIV/AIDS	0.521	0.052	417	188	2.113	0.100	0.417	0.625
Knows limiting partners to prevent HIV/AIDS	0.502	0.054	417	188	2.199	0.108	0.394	0.610

na = Not applicable

DATA QUALITY TABLES

Appendix C

Table C.1 Household age distribution

Single-year age distribution of the de facto household population by sex (weighted), Jordan 2007

	Female		Male	
Age	Number	Percent	Number	Percent
0	579	2.3	570	2.4
1	584	2.3	575	2.4
2	607	2.4	589	2.5
3	570	2.3	588	2.5
4	578	2.3	572	2.4
5	533	2.1	582	2.4
6	596	2.4	633	2.7
7	691	2.8	684	2.9
8	676	2.7	671	2.8
9	547	2.2	568	2.4
10	656	2.6	710	3.0
11	520	2.1	466	2.0
12	609	2.4	682	2.9
13	523	2.1	478	2.0
14	526	2.1	545	2.3
15	614	2.5	476	2.0
16	616	2.5	486	2.0
17	517	2.1	412	1.7
18	734	2.9	530	2.2
19	522	2.1	365	1.5
20	670	2.7	573	2.4
21	482	1.9	251	1.1
22	521	2.1	439	1.8
23	478	1.9	313	1.3
24	419	1.7	266	1.1
25	469	1.9	574	2.4
26	438	1.8	377	1.6
27	393	1.6	325	1.4
28	403	1.6	332	1.4
29	354	1.4	170	0.7
30	390	1.6	535	2.2
31	325	1.3	202	0.9
32	328	1.3	295	1.2
33	349	1.4	229	1.0
34	292	1.2	195	0.8
35	369	1.5	467	2.0
36	414	1.7	387	1.6
37	269	1.1	250	1.0
38	285	1.1	269	1.1
39	262	1.0	189	0.8
40	283	1.1	458	1.9
41	236	0.9	219	0.9
42	253	1.0	295	1.2
43	218	0.9	185	0.8
44	225	0.9	211	0.9
45	195	0.8	394	1.7
46	186	0.7	262	1.1
47	176	0.7	138	0.6
48	247	1.0	243	1.0
49	259	1.0	105	0.4
50	46	0.2	390	1.6
51	152	0.6	192	0.8
52	188	0.8	208	0.9
53	180	0.7	107	0.4
54	167	0.7	160	0.7
55	171	0.7	143	0.6
56	159	0.6	117	0.5
57	116	0.5	60	0.3
58	127	0.5	116	0.5
59	107	0.4	61	0.3
60	188	0.8	271	1.1
61	122	0.5	119	0.5
62	112	0.4	114	0.5
63	57	0.2	40	0.2
64	76	0.3	31	0.1
65	164	0.7	207	0.9
66	39	0.2	78	0.3
67	38	0.2	47	0.2
68	32	0.1	62	0.3
69	23	0.1	22	0.1
70+	700	2.8	903	3.8
Don't know/missing	9	0.0	14	0.1
Total	24,960	100.0	23,789	100.0

Table C.2.1 Age distribution of eligible and interviewed women

De facto household population of women age 10-54, interviewed women age 15-49, and percentage of eligible women who were interviewed (weighted), by five-year age groups, Bangladesh 2007

Age group	Household population of women age 10-54	Ever-married women age 10-54	Interviewed women age 15-49		Percent of women
			Number	Percent	
10-14	2,835	63	na	na	na
15-19	3,004	1,392	1,364	12.5	98.0
20-24	2,571	2,198	2,161	19.8	98.3
25-29	2,056	1,966	1,941	17.8	98.7
30-34	1,684	1,673	1,654	15.2	98.8
25-39	1,599	1,588	1,564	14.3	98.5
40-44	1,214	1,211	1,195	10.9	98.7
45-49	1,063	1,056	1,035	9.5	97.9
50-54	733	733	na	na	na
15-49	13,190	11,084	10,914	100.0	82.7

Note: The de facto population includes all residents and nonresidents who stayed in the household the night before the interview. Weights for both household population of women and interviewed women are household weights. Age is based on the household schedule.
na = Not applicable

Table C.2.2 Age distribution of eligible and interviewed men

De facto household population of men age 10-59, interviewed men age 15-54 and percent of eligible men who were interviewed (weighted), Bangladesh 2007

Age group	Household population of men age 10-59	Ever-married men age 10-59	Interviewed men age 15-54		Percent of men
			Number	Percent	
10-14	1,362	2	na	na	na
15-19	1,091	30	24	0.6	78.9
20-24	932	277	262	7.0	94.8
25-29	879	616	553	14.8	89.8
30-34	696	609	547	14.7	89.9
25-39	756	727	682	18.3	93.8
40-44	653	644	582	15.6	90.5
45-49	575	569	534	14.3	93.8
50-54	584	580	544	14.6	93.8
55-59	211	211	na	na	na
15-49	6,166	4,051	3,728	100.0	92.0

Note: The de facto population includes all residents and nonresidents who stayed in the household the night before the interview. Weights for both household population of women and interviewed women are household weights. Age is based on the household schedule.
na = Not applicable

Table C.3 Completeness of reporting

Percentage of observations missing information for selected demographic and health questions (weighted), Bangladesh 2007

Subject	Reference group	Percentage with information missing	Number of cases
Birth date	Births in last 15 years		
Month only		0.18	18,473
Month and year		0.00	18,473
Age at death	Dead children born in the 15 years preceding the survey	0.00	1,571
Age/date at first union[1]	Ever-married women age 15-49	0.05	10,996
	Ever-married men age 15-54	0.13	3,771
Respondent's education	All women	0.15	10,996
	All men	0.10	3,771
Diarrhea in past 2 weeks	Living children 0-59 months	0.37	5,719
Anthropometry	Living children 0-59 months (from the Household Questionnaire)		
Height		6.17	5,788
Weight		4.30	5,788
Height or weight		6.29	5,788

[1] Both year and age missing

Table C.4 Births by calendar years

Number of births, percentage with complete birth date, sex ratio at birth, and calendar year ratio by calendar year, according to living (L), dead (D), and total (T) children (weighted), Bangladesh 2007

	Number of births			Percentage with complete birth date[1]			Sex ratio at birth[2]			Calendar year ratio[3]		
Calendar year	L	D	T	L	D	T	L	D	T	L	D	T
2007	447	19	466	100.0	100.0	100.0	93.7	111.9	94.4	na	na	na
2006	1,149	42	1,191	100.0	100.0	100.0	108.4	157.9	109.9	na	na	na
2005	1,198	67	1,265	100.0	100.0	100.0	95.1	111.9	95.9	103.2	110.9	103.6
2004	1,173	78	1,251	100.0	100.0	100.0	98.6	127.4	100.2	101.8	99.2	101.6
2003	1,106	91	1,197	100.0	100.0	100.0	88.5	85.2	88.2	96.2	124.0	97.9
2002	1,127	68	1,196	100.0	100.0	100.0	109.9	80.4	107.9	98.8	70.0	96.5
2001	1,175	104	1,280	99.9	96.4	99.7	109.3	94.5	108.0	98.8	125.5	100.6
2000	1,251	98	1,349	99.8	100.0	99.8	101.1	97.2	100.8	102.8	95.5	102.2
1999	1,258	100	1,359	99.8	98.7	99.7	97.9	133.3	100.1	102.7	89.7	101.6
1998	1,199	126	1,326	100.0	99.5	100.0	99.9	98.2	99.7	99.1	108.3	99.9
2003-2007	5,073	298	5,371	100.0	100.0	100.0	97.1	111.7	97.9	na	na	na
1998-2002	6,012	497	6,508	99.9	98.9	99.8	103.3	100.6	103.1	na	na	na
1993-1997	5,328	690	6,018	99.7	99.5	99.7	110.1	115.9	110.8	na	na	na
1988-1992	4,514	750	5,263	99.6	98.5	99.4	98.8	111.0	100.4	na	na	na
< 1988	5,726	1,587	7,313	99.6	98.4	99.3	113.9	104.5	111.8	na	na	na
All	26,652	3,821	30,474	99.8	98.8	99.6	104.8	107.8	105.2	na	na	na

na = Not applicable
[1] Both year and month of birth given
[2] (Bm/Bf)x100, where Bm and Bf are the numbers of male and female births, respectively
[3] [2Bx/(Bx-1+Bx+1)]x100, where Bx is the number of births in calendar year x

Table C.5 Reporting of age at death in days

Distribution of reported deaths under one month of age by age at death in days and the percentage of neonatal deaths reported to occur at ages 0-6 days, for five-year periods of birth preceding the survey (weighted), Bangladesh 2007

Age at death (days)	Number of years preceding the survey				Total
	0-4	5-9	10-14	15-19	0-19
<1	87	73	102	91	352
1	29	50	32	24	134
2	16	20	25	8	69
3	18	29	34	31	111
4	9	2	5	7	23
5	8	18	5	14	44
6	2	5	15	20	42
7	6	11	25	24	66
8	1	1	12	7	22
9	8	5	7	10	30
10	2	0	5	4	12
11	3	3	5	4	16
12	2	1	8	9	20
13	4	5	1	5	15
14	2	2	5	5	15
15	6	7	7	7	28
16	2	2	4	5	13
17	6	1	7	1	15
18	3	2	2	2	10
19	0	2	3	1	5
20	0	4	1	6	11
21	2	6	7	11	25
22	2	5	0	6	13
23	0	1	0	0	1
24	2	0	2	1	6
25	0	2	3	1	6
26	0	4	3	4	10
27	0	3	3	0	6
28	0	0	3	2	5
29	1	2	3	0	5
31+	0	1	0	0	1
Total 0-30	223	267	333	307	1,131
Percent early neonatal[1]	75.6	73.4	65.1	63.0	68.6

[1] ≤6 days / ≤30 days * 100

Table C.6 Reporting of age at death in months

Distribution of reported deaths under two years of age by age at death in months and the percentage of infant deaths reported to occur at age under one month, for five-year periods of birth preceding the survey, Bangladesh 2007

Age at death (months)	Number of years preceding the survey				Total 0-19
	0-4	5-9	10-14	15-19	
<1[a]	223	267	333	307	1,131
1	17	30	51	52	151
2	13	13	18	8	52
3	23	16	17	38	94
4	5	13	17	10	44
5	4	13	14	11	41
6	5	16	16	11	49
7	4	11	18	9	41
8	3	7	10	6	27
9	3	8	5	4	20
10	2	3	12	7	24
11	3	1	4	5	12
12	1	9	5	16	31
13	3	5	5	9	21
14	1	4	4	4	14
15	0	4	3	2	9
16	3	1	2	2	9
17	4	2	5	5	16
18	4	7	20	17	49
19	1	1	3	4	10
20	2	0	1	5	8
21	1	1	3	8	14
22	2	0	2	3	7
23	2	1	2	1	5
24+	0	1	0	0	1
1 year	1	2	4	1	8
Total 0-11	304	399	515	467	1,685
Percent neonatal[1]	73.4	66.8	64.8	65.7	67.1

[a] Includes deaths under one month reported in days
[1] Under one month / under one year * 100

Table D.1 Nutritional status of children in 2007 according to the NCHS/CDC/WHO international reference population

Percentage of children under five years classified as malnourished according to three anthropometric indices of nutritional status: height-for-age, weight-for-height, and weight-for-age, by background characteristics, Bangladesh 2007

Background characteristics	Height-for-age			Weight-for-height				Weight-for-age				Number of children
	Percentage below -3 SD	Percentage below -2 SD[1]	Mean Z-score (SD)	Percentage below -3 SD	Percentage below -2 SD[1]	Percentage above +2 SD	Mean Z-score (SD)	Percentage below -3 SD	Percentage below -2 SD[1]	Percentage above +2 SD	Mean Z-score (SD)	
Age in months												
<6	2.3	9.2	-0.7	0.3	2.6	1.4	-0.3	1.3	7.8	1.3	-0.7	430
6-9	4.0	17.6	-1.0	0.6	6.3	1.2	-0.6	2.6	20.8	0.1	-1.3	416
10-11	1.7	21.9	-1.0	2.1	19.6	0.0	-1.2	9.2	37.6	0.4	-1.7	171
12-23	11.8	38.0	-1.6	2.9	29.1	0.5	-1.5	13.8	55.0	0.3	-2.0	1,077
24-35	13.1	37.2	-1.7	0.9	16.9	0.4	-1.2	15.5	53.6	0.2	-2.0	1,086
36-47	18.4	47.3	-1.9	1.0	13.9	0.5	-1.1	13.5	52.1	0.4	-2.0	1,049
48-59	14.7	42.7	-1.8	0.6	13.5	0.5	-1.2	8.3	51.4	0.4	-2.0	1,057
Sex												
Male	11.2	35.6	-1.5	1.3	16.5	0.7	-1.1	10.0	44.1	0.4	-1.8	2,618
Female	13.2	36.7	-1.6	1.2	16.0	0.5	-1.1	11.9	48.6	0.3	-1.9	2,668
Birth interval in months[2]												
First birth[3]	9.8	32.3	-1.5	1.3	14.6	0.9	-1.1	9.7	43.3	0.5	-1.7	1,709
<24	17.1	44.6	-1.8	0.9	17.1	0.1	-1.2	12.2	55.9	0.0	-2.0	467
24-47	15.0	41.5	-1.7	1.6	18.0	0.3	-1.2	13.4	50.6	0.3	-1.9	1,445
48+	10.2	32.4	-1.4	1.0	16.0	0.7	-1.1	9.7	42.2	0.4	-1.7	1,545
Mother's interview status												
Interviewed	12.0	36.0	-1.6	1.3	16.2	0.6	-1.1	11.0	46.2	0.4	-1.8	5,166
Not interviewed[4]	20.2	42.5	-1.8	0.0	17.1	0.0	-1.1	10.5	54.0	0.0	-2.0	120
Residence												
Urban	9.3	30.5	-1.4	0.8	13.5	1.2	-1.0	7.6	39.7	1.0	-1.6	1,106
Rural	13.0	37.6	-1.6	1.4	16.9	0.4	-1.1	11.8	48.1	0.2	-1.9	4,180
Division												
Barisal	16.0	41.6	-1.7	1.8	16.2	0.6	-1.1	13.2	51.8	0.4	-1.9	341
Chittagong	16.1	39.8	-1.7	1.3	16.8	0.7	-1.1	14.0	47.4	0.5	-1.9	1,145
Dhaka	11.7	36.4	-1.6	1.0	13.9	0.8	-1.0	9.4	44.0	0.5	-1.7	1,658
Khulna	6.8	27.9	-1.3	2.1	17.8	0.3	-1.2	8.7	40.2	0.3	-1.7	516
Rajshahi	9.4	33.2	-1.6	1.1	18.6	0.4	-1.2	9.7	49.4	0.3	-1.9	1,177
Sylhet	15.2	39.1	-1.7	1.0	15.1	0.3	-1.1	13.1	47.1	0.1	-1.9	448
Mother's education[2]												
No education	12.7	37.5	-1.7	1.3	17.8	0.4	-1.1	11.3	46.9	0.4	-1.9	1,816
Primary incomplete	14.7	40.1	-1.7	0.7	14.3	0.6	-1.1	12.2	48.5	0.2	-1.9	1,130
Primary complete[5]	15.7	39.6	-1.7	1.5	18.8	0.8	-1.2	12.8	51.0	0.5	-1.9	466
Secondary incomplete	9.9	34.4	-1.5	1.5	15.6	0.2	-1.1	9.8	46.3	0.1	-1.8	1,229
Secondary complete or higher[6]	7.8	24.9	-1.2	1.2	14.4	1.7	-1.0	7.8	37.0	1.1	-1.6	565
Wealth quintile												
Lowest	17.9	46.2	-1.9	1.4	20.2	0.1	-1.2	15.2	55.5	0.1	-2.1	1,190
Second	16.1	43.0	-1.8	1.2	16.4	0.6	-1.1	14.2	50.6	0.1	-2.0	1,142
Middle	11.1	35.6	-1.6	1.4	15.9	0.2	-1.2	10.5	46.0	0.0	-1.9	1,033
Fourth	8.6	31.0	-1.5	1.5	16.2	0.6	-1.2	8.3	44.6	0.3	-1.8	983
Highest	5.4	21.1	-1.1	0.7	11.3	1.6	-0.9	4.9	31.7	1.6	-1.4	938
Total	12.2	36.2	-1.6	1.2	16.2	0.6	-1.1	10.9	46.3	0.4	-1.8	5,286

Note: Table is based on children who slept in the household the night before the interview. Each of the indices is expressed in standard deviation units (SD) from the median of the NCHS/CDC/WHO International Reference Population. This table is based on children with valid dates of birth (month and year) and valid measurement of both height and weight.

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

[2] Excludes children whose mothers were not interviewed

[3] First-brn twins, triplets, etc. are counted as first births because they do not have a previous birth interval.

[4] Includes children whose mothers are dead

[5] Primary complete is defined as completing grade 5.

[6] Secondary complete or higher is defined as completing grade 10 or higher.

Table D.2 Nutritional status of children in 2004 according to the new WHO Child Growth Standards

Percentage of children under five years classified as malnourished according to three anthropometric indices of nutritional status: height-for-age, weight-for-height, and weight-for-age, by background characteristics, Bangladesh 2004

Background characteristics	Height-for-age			Weight-for-height				Weight-for-age				Number of children
	Percentage below -3 SD	Percentage below -2 SD[1]	Mean Z-score (SD)	Percentage below -3 SD	Percentage below -2 SD[1]	Percentage above +2 SD	Mean Z-score (SD)	Percentage below -3 SD	Percentage below -2 SD[1]	Percentage above +2 SD	Mean Z-score (SD)	
Age in months												
<6	8.0	22.9	-1.1	5.3	15.6	2.5	-0.6	8.5	28.0	0.0	-1.3	608
6-9	11.8	27.5	-1.3	5.4	17.5	2.0	-0.9	11.9	31.8	0.0	-1.5	375
10-11	6.4	32.2	-1.4	6.4	17.2	1.1	-1.0	11.8	34.2	0.5	-1.5	181
12-23	23.6	54.4	-2.1	4.5	19.5	1.2	-1.1	15.2	45.1	0.3	-1.8	1,171
24-35	26.4	59.6	-2.2	3.8	13.5	0.2	-0.9	14.0	45.8	0.0	-1.9	1,219
36-47	27.0	58.5	-2.2	1.4	11.2	0.5	-0.9	15.3	44.6	0.3	-1.9	1,249
48-59	23.9	53.3	-2.1	1.9	12.4	0.4	-1.0	13.2	46.2	0.1	-1.9	1,224
Sex												
Male	23.1	51.3	-2.0	3.6	15.6	0.8	-0.9	13.9	42.5	0.2	-1.8	3,045
Female	21.1	49.8	-2.0	3.2	13.5	1.0	-0.9	13.2	42.5	0.1	-1.8	2,983
Birth interval in months[2]												
First birth[3]	20.0	48.0	-1.9	3.2	14.2	0.9	-0.9	12.3	40.0	0.2	-1.7	1,698
<24	27.2	58.0	-2.2	4.3	14.6	0.7	-1.0	14.6	47.4	0.2	-1.9	650
24-47	26.3	55.2	-2.1	3.3	15.4	1.1	-0.9	16.0	46.7	0.2	-1.9	1,979
48+	16.3	44.2	-1.8	3.0	14.0	0.7	-0.9	11.2	37.7	0.2	-1.7	1,590
Mother's interview status												
Interviewed	21.9	50.5	-2.0	3.3	14.6	0.9	-0.9	13.5	42.4	0.2	-1.8	5,918
Not interviewed	44.3	56.7	-2.7	13.5	16.2	0.0	-1.1	24.2	65.1	0.0	-2.3	21
Not interviewed, and not in the household[4]	32.1	53.4	-2.2	5.7	9.6	0.6	-0.8	17.7	40.8	0.0	-1.9	89
Residence												
Urban	18.4	44.5	-1.8	3.2	13.7	1.4	-0.9	12.4	37.4	0.9	-1.6	1,175
Rural	23.0	52.0	-2.0	3.4	14.7	0.8	-0.9	13.9	43.7	0.0	-1.8	4,852
Division												
Barisal	26.1	55.8	-2.2	1.7	9.1	1.0	-0.7	14.6	41.0	0.0	-1.8	357
Chittagong	25.0	52.7	-2.1	4.4	15.8	1.0	-0.9	15.6	45.3	0.1	-1.9	1,317
Dhaka	24.3	52.8	-2.0	2.9	12.8	1.1	-0.9	14.2	42.2	0.4	-1.8	1,844
Khulna	12.5	40.2	-1.7	3.6	16.0	0.6	-0.9	9.8	34.8	0.0	-1.6	666
Rajshahi	18.8	48.1	-1.9	3.4	16.0	0.7	-1.0	12.2	42.8	0.0	-1.8	1,356
Sylhet	25.4	53.4	-2.1	3.5	15.3	0.8	-0.9	14.1	46.8	0.2	-1.9	488
Mother's education[5]												
No education	28.5	59.0	-2.2	3.8	16.6	0.5	-1.0	17.8	50.8	0.0	-2.0	2,227
Primary incomplete	23.3	52.0	-2.1	2.8	14.6	1.3	-0.9	13.7	43.8	0.1	-1.8	1,299
Primary complete[5]	24.2	55.7	-2.1	4.2	13.8	1.0	-0.9	14.2	41.5	0.0	-1.9	561
Secondary incomplete	14.9	42.6	-1.7	3.4	13.0	0.9	-0.9	9.6	36.2	0.2	-1.6	1,430
Secondary complete or higher	4.6	21.1	-1.0	1.6	11.1	1.4	-0.7	2.8	17.5	1.4	-1.0	422
Wealth quintile												
Lowest	32.6	62.2	-2.3	4.0	17.7	0.7	-1.0	19.5	55.6	0.1	-2.1	1,521
Second	24.5	54.8	-2.1	3.9	15.3	0.6	-1.0	15.7	46.7	0.0	-1.9	1,241
Middle	20.4	49.9	-2.0	3.5	15.3	0.9	-0.9	12.4	38.5	0.0	-1.8	1,183
Fourth	18.0	48.3	-1.9	2.7	11.6	0.8	-0.8	10.6	38.8	0.0	-1.7	1,094
Highest	9.5	30.5	-1.4	2.3	11.1	1.5	-0.8	6.7	25.9	0.9	-1.3	988
Total	22.1	50.6	-2.0	3.4	14.5	0.9	-0.9	13.6	42.5	0.2	-1.8	6,028

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

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

[2] Excludes children whose mothers were not interviewed

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

[4] Includes children whose mothers are deceased

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

PERSONS INVOLVED IN THE 2007 BANGLADESH DEMOGRAPHIC AND HEALTH SURVEY

Appendix E

Technical Review Committee (TRC)

Mr. Nasinul Ghani, Director General, NIPORT	Chairman
Deputy Secretary (Program), Ministry of Health and Family Welfare	Member
Deputy Chief (Health), Ministry of Health and Family Welfare	Member
Deputy Chief (Family Welfare), Ministry of Health and Family Welfare	Member
Deputy Chief, Population Planning Wing, Planning Commission	Member
Director (Planning and Research), Directorate of Health Services	Member
Line Director (MC-RH), Directorate of Family Planning	Member
Director (Planning), Directorate of Family Planning	Member
Director, Census Wing, Bangladesh Bureau of Statistics	Member
Prof. M. Kabir, Department of Statistics, Jahangeernagar University	Member
Prof. Sekandar Hayat Khan, Institute of Statistical Research and Training, Dhaka University	Member
Prof. A.K.M. Nurun Nabi, Department of Population Sciences, Dhaka University	Member
Prof. Nitai Chakraborty, Department of Statistics, University of Dhaka	Member
Representative, WHO, Dhaka	Member
Deputy Representative, UNFPA, Dhaka	Member
Health Manager, DFID, British High Commission, Dhaka	Member
Senior HNP Specialist, World Bank, Dhaka	Member
Health Sector Program Coordinator, GTZ, Dhaka	Member
Representative, JICA, Dhaka	Member
Chief, Health and Nutrition, UNICEF	Member
Dr. Kanta Jamil, Program Coordinator for Research, Population, Health and Nutrition Team, USAID, Dhaka	Member
Chief of Party, NGO Service Delivery Program (NSDP)	Member
Mr. Toslim Uddin Khan, Head, Research and MIS, Social Marketing Company (SMC)	Member
Dr. Abbas Bhuiya, Head, Social and Behavioral Sciences Unit, ICDDR,B	Member
Dr. Peter Kim Streatfield, Head, Population Program and HDS Program, ICDDR,B	Member
Dr. Shams El Arifeen, Head, Child Health Program, ICDDR,B	Member
Dr. A.M.R. Chowdhury, Dean, BRAC University	Member
Representative Macro International, USA	Member
Mr. S.N. Mitra, Executive Director, Mitra and Associates	Member
Mrs. Shahin Sultana, Sr. Research Associate, NIPORT	Member
Mr. Subrata K. Bhadra, Sr. Research Associate, NIPORT	Member
Dr. Ahmed Al-Sabir, Director (Research), NIPORT	Member-Secretary

Technical Task Force (TTF)

Dr. Ahmed Al-Sabir, Director (Research), NIPORT	Chairman
Dr. Abbas Bhuiya, Head, Social and Behavioral Sciences Unit, ICDDR,B	Member
Dr. Peter Kim Streatfield, Head, Population Program and HDS Program, ICDDR,B	Member
Dr. Shams El Arifeen, Head, Child Health Program, ICDDR,B	Member
Dr. A.M.R. Chowdhury, Dean, BRAC University	Member
Dr. Kanta Jamil, Program Coordinator for Research, Population, Health and Nutrition Team, USAID, Dhaka	Member
Representative Macro International, USA	Member
Mr. S.N. Mitra, Executive Director, Mitra and Associates	Member

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Mrs. Shahin Sultana

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Mr. S. N. Mitra

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Mr. Shahidul Islam

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Mr. Dilip Kumar Halder
Mr. Abdul Salam Mia
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Mr. Najim Uddin

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Mr. Faruk Ahmed Khan
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Mr. Abdur Rahim
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Ms. Marjia Begum
Ms. Umme M. Khanam
Ms. Babli Khanam
Ms. Nazma Khanam
Ms. Rashma Ahmed
Ms. Mahamuda Sultana
Ms. Afifa Shams Chuity
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Male Interviewers

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Mr. Tarun Kanti Mandal
Mr. Golam Kazi Rezwan Hossain
Mr. Afzal Hossain
Mr. Abdul Mannaf
Mr. Ebrahim Shaikh
Mr. Kamrul Islam
Mr. Nazmul Islam
Mr. Meshbahul Hoque
Mr. Saidur Rahman
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Erica Nybro

QUESTIONNAIRES

Appendix ***F***

20 March 2007

BANGLADESH DEMOGRAPHIC AND HEALTH SURVEY 2007
HOUSEHOLD QUESTIONNAIRE

NIPORT, MOHFW
Mitra and Associates

IDENTIFICATION

DIVISION	
DISTRICT	
UPAZILA	
UNION/WARD	
VILLAGE/MOHALLA/BLOCK	
CLUSTER NUMBER	
HOUSEHOLD NUMBER	
RURAL=1, MUNICIPALITY=2, OTHER URBAN=3, SMA=4	
HOUSEHOLD IN A SLUM (YES=1, NO=2)	
NAME OF THE SLUM	
NAME OF THE HOUSEHOLD HEAD	
HOUSEHOLD SELECTED FOR MEN'S SURVEY (YES=1, NO=2)	

INTERVIEWER VISITS

	1	2	3	FINAL VISIT
DATE				DAY / MONTH / YEAR 2007
INTERVIEWER'S NAME				INT. NUMBER
RESULT*				RESULT
NEXT VISIT: DATE				TOTAL NUMBER OF VISITS
TIME				

*RESULT CODES:
1 COMPLETED
2 NO HOUSEHOLD MEMBER AT HOME OR NO COMPETENT RESPONDENT AT HOME AT TIME OF VISIT
3 ENTIRE HOUSEHOLD ABSENT FOR EXTENDED PERIOD OF TIME
4 POSTPONED
5 REFUSED
6 DWELLING VACANT OR ADDRESS NOT A DWELLING
7 DWELLING DESTROYED
8 DWELLING NOT FOUND
9 OTHER _____ (SPECIFY)

TOTAL PERSONS IN HOUSEHOLD
TOTAL ELIGIBLE WOMEN
TOTAL ELIGIBLE MEN
LINE NO. OF RESPONDENT TO HOUSEHOLD QUESTIONNAIRE

SUPERVISOR	FIELD EDITOR	OFFICE EDITOR	KEYED BY
NAME	NAME		
DATE	DATE		

Introduction and Consent

Hello. My name is _____ and I am working with Mitra and Associates, a private research organization located in Dhaka. To assist in the implementation of socio-development programs in the country, we conduct different types of surveys. We are now conducting a national survey about the health of women, men and children under the authority of NIPORT of Ministry of Health and Family Welfare. We would very much appreciate your participation in this survey. The survey usually takes between 10 and 15 minutes to complete.

As part of the survey we would first like to ask some questions about your household. All of the answers you give will be confidential. Participation in the survey is completely voluntary. If we should come to any question you don't want to answer, just let me know and I will go on to the next question; or you can stop the interview at any time. However, we hope you will participate in the survey since your views are important.

At this time, do you want to ask me anything about the survey?
May I begin the interview now?

Signature of interviewer: _____ Date: _____

RESPONDENT AGREES TO BE INTERVIEWED . . . 1 RESPONDENT DOES NOT AGREE TO BE INTERVIEWED . . . 2 → END

HOUSEHOLD SCHEDULE

						IF AGE 10 OR OLDER				IF AGE 5 YEARS OR OLDER		IF AGE 5-24 YEARS	IF AGE 8 OR OLDER
LINE NO.	USUAL RESIDENTS AND VISITORS	RELATIONSHIP TO HEAD OF HOUSEHOLD	SEX	RESIDENCE		AGE	MARITAL STATUS	ELIGIBILITY			EVER ATTENDED SCHOOL		CURRENT SCHOOL ATTENDANCE	CURRENT WORK STATUS
	Please give me the names of the persons who usually live in your household and guests of the household who stayed here last night, starting with the head of the household. AFTER LISTING THE NAMES AND RECORDING THE RELATIONSHIP AND SEX FOR EACH PERSON, ASK QUESTIONS 2A-2C TO BE SURE THAT THE LISTING IS THEN ASK APPROPRIATE QUESTIONS IN COLUMNS 5-15 FOR EACH PERSON.	What is the relationship of (NAME) to the head of the household? SEE CODES BELOW.	Is (NAME) male or female?	Does (NAME) usually live here?	Did (NAME) stay here last night?	How old is (NAME)? IF AGE LESS THAN 1 YEAR WRITE 00'.	What is (NAME'S) current marital status? 1 = CURRENTLY MARRIED 2 = DIVORCED/ SEPARATED/ DESERTED/ WIDOWED 3 = NEVER-MARRIED	CIRCLE LINE NUMBER OF ALL EVER-MARRIED WOMEN AGE 10-49 (Q8=1 OR 2) PUT A * FOR THE LINE NO. OF THE WOMAN SELECTED FOR THE DOMESTIC VIOLENCE	CIRCLE LINE NUMBER OF ALL EVER-MARRIED MEN AGE 15-54 (Q8=1 OR 2) PUT A * FOR THE LINE NO. OF THE MAN SELECTED FOR THE DOMESTIC VIOLENCE	CIRCLE LINE NUMBER OF ALL CHILDREN AGE 0-5	Has (NAME) ever attended school?	What is the level of schooling (NAME) has last attended? SEE CODES BELOW. What is the highest class (NAME) completed at that level? SEE CODES BELOW.	Is (NAME) currently attending school?	Is (NAME) currently working?
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
01			M F 1 2	Y N 1 2	Y N 1 2	IN YEARS	1 2 3	01	01	01	Y N 1 2 GO TO 15	LEVEL CLASS	Y N 1 2	Y N 1 2
02			1 2	1 2	1 2		1 2 3	02	02	02	1 2 GO TO 15		1 2	1 2
03			1 2	1 2	1 2		1 2 3	03	03	03	1 2 GO TO 15		1 2	1 2
04			1 2	1 2	1 2		1 2 3	04	04	04	1 2 GO TO 15		1 2	1 2
05			1 2	1 2	1 2		1 2 3	05	05	05	1 2 GO TO 15		1 2	1 2
06			1 2	1 2	1 2		1 2 3	06	06	06	1 2 GO TO 15		1 2	1 2
07			1 2	1 2	1 2		1 2 3	07	07	07	1 2 GO TO 15		1 2	1 2
08			1 2	1 2	1 2		1 2 3	08	08	08	1 2 GO TO 15		1 2	1 2

CODES FOR Q. 3: RELATIONSHIP TO HEAD OF HOUSEHOLD

01 = HEAD
02 = WIFE OR HUSBAND
03 = SON OR DAUGHTER
04 = SON-IN-LAW OR DAUGHTER-IN-LAW
05 = GRANDCHILD
06 = PARENT
07 = PARENT-IN-LAW
08 = BROTHER OR SISTER
09 = OTHER RELATIVE
10 = ADOPTED/FOSTER/STEPCHILD
11 = NOT RELATED
98 = DON'T KNOW

CODES FOR Qs. 13: EDUCATION

LEVEL
1 = PRIMARY
2 = SECONDARY
3 = COLLEGE AND HIGHER

CLASS
00 = LESS THAN 1 YEAR COMPLETED
98 = DON'T KNOW

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
09			1 2	1 2	1 2		1 2 3	09	09	09	1 2 ↓ GO TO 15		1 2	1 2
10			1 2	1 2	1 2		1 2 3	10	10	10	1 2 ↓ GO TO 15		1 2	1 2
11			1 2	1 2	1 2		1 2 3	11	11	11	1 2 ↓ GO TO 15		1 2	1 2
12			1 2	1 2	1 2		1 2 3	12	12	12	1 2 ↓ GO TO 15		1 2	1 2
13			1 2	1 2	1 2		1 2 3	13	13	13	1 2 ↓ GO TO 15		1 2	1 2
14			1 2	1 2	1 2		1 2 3	14	14	14	1 2 ↓ GO TO 15		1 2	1 2
15			1 2	1 2	1 2		1 2 3	15	15	15	1 2 ↓ GO TO 15		1 2	1 2
16			1 2	1 2	1 2		1 2 3	16	16	16	1 2 ↓ GO TO 15		1 2	1 2
17			1 2	1 2	1 2		1 2 3	17	17	17	1 2 ↓ GO TO 15		1 2	1 2
18			1 2	1 2	1 2		1 2 3	18	18	18	1 2 ↓ GO TO 15		1 2	1 2
19			1 2	1 2	1 2		1 2 3	19	19	19	1 2 ↓ GO TO 15		1 2	1 2
20			1 2	1 2	1 2		1 2 3	20	20	20	1 2 ↓ GO TO 15		1 2	1 2

TICK HERE IF CONTINUATION SHEET USED ☐

(2A) Just to make sure that I have a complete listing. Are there any other persons such as small children or infants that we have not listed? YES ☐ → ADD TO TABLE NO ☐

2B) Are there any other people who may not be members of your family, such as domestic servants, lodgers, or friends who usually live here? YES ☐ → ADD TO TABLE NO ☐

2C) Are there any guests or temporary visitors staying here, or anyone else who stayed here last night, who have not been listed? YES ☐ → ADD TO TABLE NO ☐

HOUSEHOLD CHARACTERISTICS

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
101	What is the main source of drinking water for members of your household?	PIPED WATER PIPED INTO DWELLING . . . . . 11 PIPED TO YARD/PLOT . . . . . 12 PUBLIC TAP/STANDPIPE . . . . . 13 TUBE WELL OR BOREHOLE . . . . . 21 DUG WELL PROTECTED WELL . . . . . 31 UNPROTECTED WELL . . . . . 32 WATER FROM SPRING PROTECTED SPRING . . . . . 41 UNPROTECTED SPRING . . . . . 42 RAINWATER . . . . . 51 TANKER TRUCK . . . . . 61 CART WITH SMALL TANK . . . . . 71 SURFACE WATER (RIVER/DAM/ LAKE/POND/STREAM/CANAL/ IRRIGATION CHANNEL) . . . . . 81 BOTTLED WATER . . . . . 91 OTHER _____ 96 (SPECIFY)	→ 104 → 104
102	What is the main source of water used by your household for other purposes such as cooking and handwashing?	PIPED WATER PIPED INTO DWELLING . . . . . 11 PIPED TO YARD/PLOT . . . . . 12 PUBLIC TAP/STANDPIPE . . . . . 13 TUBE WELL OR BOREHOLE . . . . . 21 DUG WELL PROTECTED WELL . . . . . 31 UNPROTECTED WELL . . . . . 32 WATER FROM SPRING PROTECTED SPRING . . . . . 41 UNPROTECTED SPRING . . . . . 42 RAINWATER . . . . . 51 TANKER TRUCK . . . . . 61 CART WITH SMALL TANK . . . . . 71 SURFACE WATER (RIVER/DAM/ LAKE/POND/STREAM/CANAL/ IRRIGATION CHANNEL) . . . . . 81 OTHER _____ 96 (SPECIFY)	
104	Do you do anything to the water to make it safer to drink?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 106
105	What do you usually do to make the water safer to drink? Anything else? RECORD ALL MENTIONED.	BOIL . . . . . A ADD BLEACH/CHLORINE/ USE PURIFY TABLET . . . . . B STRAIN THROUGH A CLOTH . . . . . C USE WATER FILTER (CERAMIC/ SAND/COMPOSITE/ETC.) . . . . . D LET IT STAND AND SETTLE . . . . . E OTHER _____ X (SPECIFY) DON'T KNOW . . . . . Z	
106	What kind of toilet facility do members of your household usually use?	FLUSH OR POUR FLUSH TOILET FLUSH TO PIPED SEWER SYSTEM . . . . . 11 FLUSH TO SEPTIC TANK . . . . . 12 FLUSH TO PIT LATRINE . . . . . 13 FLUSH TO SOMEWHERE ELSE . . . 14 FLUSH, DON'T KNOW WHERE . . . 15 PIT LATRINE PIT LATRINE WITH SLAB . . . . . 22 PIT LATRINE WITHOUT SLAB/ OPEN PIT . . . . . 23 BUCKET TOILET . . . . . 31 HANGING TOILET/HANGING LATRINE . . . . . 41 NO FACILITY/BUSH/FIELD . . . . . 51 OTHER _____ 96 (SPECIFY)	→ 109
107	Do you share this toilet facility with other households?	YES . . . . . 1 NO 2	→ 109

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
108	How many households use this toilet facility?	NO. OF HOUSEHOLDS IF LESS THAN 10 . . . . . [0] 10 OR MORE HOUSEHOLDS . . . . . 95 DON'T KNOW 98	
109	Does your household have:		
	Electricity?	ELECTRICITY . . . . . YES 1 NO 2	
	A radio?	RADIO 1 2	
	A television?	TELEVISION 1 2	
	A mobile telephone?	MOBILE TELEPHONE 1 2	
	A non-mobile telephone?	NON-MOBILE TELEPHONE . 1 2	
	A refrigerator?	REFRIGERATOR 1 2	
	An almirah or wardrobe?	ALMIRAH 1 2	
	A table?	TABLE 1 2	
	A chair?	CHAIR 1 2	
	A watch?	WATCH 1 2	
	A bicycle?	BICYCLE 1 2	
	A motorcycle or motor scooter or tempo?	MOTORCYCLE 1 2	
	An animal-drawn cart?	ANIMAL-DRAWN CART . . . 1 2	
	A car or truck?	CAR/TRUCK 1 2	
	A boat with a motor?	BOAT WITH MOTOR 1 2	
	A ricksha/van?	RICKSHA/VAN 1 2	
110	What type of fuel does your household mainly use for cooking?	ELECTRICITY . . . . . 01 LPG . . . . . 02 NATURAL GAS . . . . . 03 BIOGAS . . . . . 04 KEROSENE . . . . . 05 COAL, LIGNITE . . . . . 06 CHARCOAL . . . . . 07 WOOD . . . . . 08 STRAW/SHRUBS/GRASS . . . . . 09 AGRICULTURAL CROP . . . . . 10 ANIMAL DUNG . . . . . 11 OTHER _____ 96 (SPECIFY)	
111	What type of cooking stove is mainly used in your house?	KEROSENE STOVE . . . . . 1 GAS STOVE . . . . . 2 OPEN FIRE . . . . . 3 OPEN FIRE OR STOVE WITH CHIMNEY OR HOOD . . . . . 4 CLOSED STOVE WITH CHIMNEY . . . . . 5 OTHER _____ 6 (SPECIFY)	
113	Where is cooking usually done?	IN A ROOM USED FOR LIVING OR SLEEPING . . . . . 1 IN A SEPARATE ROOM IN SAME BUILDING USED AS KITCHEN . . . . . 2 IN A SEPARATE BUILDING USED AS KITCHEN . . . . . 3 OUTDOORS . . . . . 4 OTHER _____ 6 (SPECIFY)	
115	MAIN MATERIAL OF THE FLOOR. RECORD OBSERVATION.	NATURAL FLOOR EARTH/SAND . . . . . 11 RUDIMENTARY FLOOR WOOD PLANKS . . . . . 21 PALM/BAMBOO . . . . . 22 FINISHED FLOOR PARQUET OR POLISHED WOOD . . . . . 31 CERAMIC TILES . . . . . 33 CEMENT . . . . . 34 CARPET . . . . . 35 OTHER _____ 96 (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
116	MAIN MATERIAL OF THE ROOF. RECORD OBSERVATION.	NATURAL ROOFING NO ROOF . . . . . 11 THATCH/PALM LEAF . . . . . 12 RUDIMENTARY ROOFING BAMBOO . . . . . 23 WOOD PLANKS . . . . . 24 CARDBOARD . . . . . 25 FINISHED ROOFING TIN . . . . . 31 WOOD . . . . . 32 CERAMIC TILES . . . . . 33 CEMENT . . . . . 34 ROOFING SHINGLES . . . . . 35 OTHER _____ 96 (SPECIFY)	
117	MAIN MATERIAL OF THE EXTERIOR WALLS. RECORD OBSERVATION.	NATURAL WALLS NO WALLS . . . . . 11 CANE/PALM/TRUNKS . . . . . 12 DIRT . . . . . 13 RUDIMENTARY WALLS BAMBOO WITH MUD . . . . . 22 STONE WITH MUD . . . . . 23 PLYWOOD . . . . . 24 CARDBOARD . . . . . 25 FINISHED WALLS TIN . . . . . 31 CEMENT . . . . . 32 STONE WITH LIME/CEMENT . . . . . 33 BRICKS . . . . . 34 WOOD PLANKS/SHINGLES . . . . . 35 OTHER _____ 96 (SPECIFY)	
118	How many rooms in this household are used for sleeping?	ROOMS . . . . . ☐☐	
119	Does this household own any livestock, herds, other farm animals, or poultry?	YES . . . . . 1 NO 2	→ 121
120	How many of the following animals does this household own? IF NONE, ENTER '00'. IF MORE THAN 95, ENTER '95'. IF UNKNOWN, ENTER '98'. Cows or bulls or buffalos? Goats or sheep? Chickens or ducks?	COWS/BULLS/BUFFALOS . . . . . ☐☐ GOATS/SHEEP . . . . . ☐☐ CHICKENS/DUCKS . . . . . ☐☐	
121	Does your household own any homestead? IF 'NO' PROBE: Does your household own homestead in any other places?	YES . . . . . 1 NO 2	
122	Does your household own any land (other than the homestead land)?	YES . . . . . 1 NO 2	→ 501
123	How much land does your household own (other than the homestead land)? AMOUNT _____ SPECIFY UNIT _____	ACRES DECIMALS ☐☐ . ☐☐	

WEIGHT AND HEIGHT MEASUREMENT FOR CHILDREN AGE 0-5

501	CHECK COLUMN 11. RECORD THE LINE NUMBER AND AGE FOR ALL ELIGIBLE CHILDREN 0-5 YEARS IN QUESTION 502. IF MORE THAN SIX CHILDREN, USE ADDITIONAL QUESTIONNAIRE(S). A FINAL OUTCOME MUST BE RECORDED FOR THE WEIGHT AND HEIGHT MEASUREMENT IN 508.			
		CHILD 1	CHILD 2	CHILD 3
502	LINE NUMBER FROM COLUMN 11 NAME FROM COLUMN 2	LINE NUMBER . . . ☐☐ NAME _____	LINE NUMBER . . . ☐☐ NAME _____	LINE NUMBER . . . ☐☐ NAME _____
503	IF MOTHER INTERVIEWED, COPY MONTH AND YEAR FROM BIRTH HISTORY AND ASK DAY; IF MOTHER NOT INTERVIEWED, ASK: What is (NAME'S) birth date?	DAY . . . . . ☐☐ MONTH . . . . . ☐☐ YEAR ☐☐☐☐	DAY . . . . . ☐☐ MONTH . . . . . ☐☐ YEAR ☐☐☐☐	DAY . . . . . ☐☐ MONTH . . . . . ☐☐ YEAR ☐☐☐☐
504	CHECK 503: CHILD BORN IN JANUARY 2002 OR LATER?	YES . . . . . 1 NO . . . . . 2 (GO TO 503 FOR NEXT CHILD OR, IF NO MORE, GO TO 509)	YES . . . . . 1 NO . . . . . 2 (GO TO 503 FOR NEXT CHILD OR, IF NO MORE, GO TO 509)	YES . . . . . 1 NO . . . . . 2 (GO TO 503 FOR NEXT CHILD OR, IF NO MORE, GO TO 509)
505	WEIGHT IN KILOGRAMS	KG. . . . ☐☐.☐	KG. . . . ☐☐.☐	KG. . . . ☐☐.☐
506	HEIGHT IN CENTIMETERS	CM. ☐☐☐.☐	CM. ☐☐☐.☐	CM. ☐☐☐.☐
507	MEASURED LYING DOWN OR STANDING UP?	LYING DOWN . . . . . 1 STANDING UP 2	LYING DOWN . . . . . 1 STANDING UP 2	LYING DOWN . . . . . 1 STANDING UP 2
508	RESULT OF WEIGHT AND HEIGHT MEASUREMENT	MEASURED . . . . . 1 NOT PRESENT . . . . . 2 REFUSED . . . . . 3 OTHER 6	MEASURED . . . . . 1 NOT PRESENT . . . . . 2 REFUSED . . . . . 3 OTHER 6	MEASURED . . . . . 1 NOT PRESENT . . . . . 2 REFUSED . . . . . 3 OTHER 6
		CHILD 4	CHILD 5	CHILD 6
502	LINE NUMBER FROM COLUMN 11 NAME FROM COLUMN 2	LINE NUMBER . . . ☐☐ NAME _____	LINE NUMBER . . . ☐☐ NAME _____	LINE NUMBER . . . ☐☐ NAME _____
503	IF MOTHER INTERVIEWED, COPY MONTH AND YEAR FROM BIRTH HISTORY AND ASK DAY; IF MOTHER NOT INTERVIEWED, ASK: What is (NAME'S) birth date?	DAY . . . . . ☐☐ MONTH . . . . . ☐☐ YEAR ☐☐☐☐	DAY . . . . . ☐☐ MONTH . . . . . ☐☐ YEAR ☐☐☐☐	DAY . . . . . ☐☐ MONTH . . . . . ☐☐ YEAR ☐☐☐☐
504	CHECK 503: CHILD BORN IN JANUARY 2002 OR LATER	YES . . . . . 1 NO . . . . . 2 (GO TO 503 FOR NEXT CHILD OR, IF NO MORE, GO TO 509)	YES . . . . . 1 NO . . . . . 2 (GO TO 503 FOR NEXT CHILD OR, IF NO MORE, GO TO 509)	YES . . . . . 1 NO . . . . . 2 (GO TO 503 FOR NEXT CHILD OR, IF NO MORE, GO TO 509)
505	WEIGHT IN KILOGRAMS	KG. . . . ☐☐.☐	KG. . . . ☐☐.☐	KG. . . . ☐☐.☐
506	HEIGHT IN CENTIMETERS	CM. ☐☐☐.☐	CM. ☐☐☐.☐	CM. ☐☐☐.☐
507	MEASURED LYING DOWN OR STANDING UP?	LYING DOWN . . . . . 1 STANDING UP 2	LYING DOWN . . . . . 1 STANDING UP 2	LYING DOWN . . . . . 1 STANDING UP 2
508	RESULT OF WEIGHT AND HEIGHT MEASUREMENT	MEASURED . . . . . 1 NOT PRESENT . . . . . 2 REFUSED . . . . . 3 OTHER 6	MEASURED . . . . . 1 NOT PRESENT . . . . . 2 REFUSED . . . . . 3 OTHER 6	MEASURED . . . . . 1 NOT PRESENT . . . . . 2 REFUSED . . . . . 3 OTHER 6

WEIGHT AND HEIGHT MEASUREMENT FOR EVER-MARRIED WOMEN AGE 10-49

509	CHECK COLUMN 9. RECORD THE LINE NUMBER AND NAME FOR ALL ELIGIBLE WOMEN IN 510. IF THERE ARE MORE THAN THREE WOMEN, USE ADDITIONAL QUESTIONNAIRE(S). A FINAL OUTCOME MUST BE RECORDED FOR THE WEIGHT AND HEIGHT MEASUREMENT IN 513			
		WOMAN 1	WOMAN 2	WOMAN 3
510	LINE NUMBER (COLUMN 9) NAME (COLUMN 2)	LINE NUMBER . . . . . ☐☐ NAME _____	LINE NUMBER . . . . . ☐☐ NAME _____	LINE NUMBER . . . . . ☐☐ NAME _____
511	WEIGHT IN KILOGRAMS	KG. . . . . ☐☐☐.☐	KG. . . . . ☐☐☐.☐	KG. . . . . ☐☐☐.☐
512	HEIGHT IN CENTIMETERS	CM. . . . . ☐☐☐.☐	CM. . . . . ☐☐☐.☐	CM. . . . . ☐☐☐.☐
513	RESULT OF WEIGHT AND HEIGHT MEASUREMENT	MEASURED . . . . . 1 NOT PRESENT . . . . . 2 REFUSED . . . . . 3 OTHER 6	MEASURED . . . . . 1 NOT PRESENT . . . . . 2 REFUSED . . . . . 3 OTHER 6	MEASURED . . . . . 1 NOT PRESENT . . . . . 2 REFUSED . . . . . 3 OTHER 6
		WOMAN 4	WOMAN 5	WOMAN 6
510	LINE NUMBER (COLUMN 9) NAME (COLUMN 2)	LINE NUMBER . . . . . ☐☐ NAME _____	LINE NUMBER . . . . . ☐☐ NAME _____	LINE NUMBER . . . . . ☐☐ NAME _____
511	WEIGHT IN KILOGRAMS	KG. . . . . ☐☐☐.☐	KG. . . . . ☐☐☐.☐	KG. . . . . ☐☐☐.☐
512	HEIGHT IN CENTIMETERS	CM. . . . . ☐☐☐.☐	CM. . . . . ☐☐☐.☐	CM. . . . . ☐☐☐.☐
513	RESULT OF WEIGHT AND HEIGHT MEASUREMENT	MEASURED . . . . . 1 NOT PRESENT . . . . . 2 REFUSED . . . . . 3 OTHER 6	MEASURED . . . . . 1 NOT PRESENT . . . . . 2 REFUSED . . . . . 3 OTHER 6	MEASURED . . . . . 1 NOT PRESENT . . . . . 2 REFUSED . . . . . 3 OTHER 6

TABLE FOR SELECTION OF RESPONDENTS FOR SECTION ON DOMESTIC VIOLENCE

LOOK AT THE LAST DIGIT OF THE HOUSEHOLD NUMBER ON THE COVER PAGE. THIS IS THE ROW NUMBER YOU SHOULD GO TO. CHECK THE TOTAL NUMBER OF ELIGIBLE FEMALE AND MALE RESPONDENTS ON THE COVER SHEET OF THE HOUSEHOLD QUESTIONNAIRE. FOR EACH NON-ZERO NUMBER, THIS IS THE COLUMN YOU SHOULD GO TO. THE CELL WHERE THE ROW AND THE COLUMN MEET IS THE NUMBER OF THE SELECTED WOMAN OR MAN FOR THE DOMESTIC VIOLENCE MODULE.

FOR EXAMPLE, IF THE HOUSEHOLD NUMBER IS '216', GO TO ROW '6'. IF THERE ARE THREE ELIGIBLE WOMEN AGE 10-49 IN THE HOUSEHOLD, GO TO COLUMN '3'. FOLLOW THE ROW AND COLUMN AND FIND THE NUMBER IN THE BOX ('2'). NOW GO TO THE HOUSEHOLD SCHEDULE AND FIND THE SECOND WOMAN WHO IS ELIGIBLE FOR THE WOMAN'S INTERVIEW. WRITE HER LINE NUMBER BELOW IN THE BOXES INDICATED. DO THE SAME FOR THE MEN.

LAST DIGIT OF THE HOUSEHOLD NUMBER	TOTAL NUMBER OF ELIGIBLE WOMEN 10-49/MEN 15-54 IN THE HOUSEHOLD							
	1	2	3	4	5	6	7	8
0	1	2	2	4	3	6	5	4
1	1	1	3	1	4	1	6	5
2	1	2	1	2	5	2	7	6
3	1	1	2	3	1	3	1	7
4	1	2	3	4	2	4	2	8
5	1	1	1	1	3	5	3	1
6	1	2	2	2	4	6	4	2
7	1	1	3	3	5	1	5	3
8	1	2	1	4	1	2	6	4
9	1	1	2	1	2	3	7	5

Line number from household schedule of **woman** selected for domestic violence module ☐☐

Line number from household schedule of **man** selected for domestic violence module ☐☐

20 March 2007

BANGLADESH DEMOGRAPHIC AND HEALTH SURVEY 2007
WOMAN'S QUESTIONNAIRE

NIPORT, MOHFW
Mitra and Associates

IDENTIFICATION

CLUSTER NUMBER	
HOUSEHOLD NUMBER	
NAME OF THE HOUSEHOLD HEAD _____	
NAME AND LINE NUMBER OF WOMAN _____	
WOMAN SELECTED FOR DOMESTIC VIOLENCE MODULE (YES=1, NO=2) _____	

INTERVIEWER VISITS

	1	2	3	FINAL VISIT
DATE				DAY / MONTH / YEAR (2007)
INTERVIEWER'S NAME				INT. NUMBER
RESULT*				RESULT
NEXT VISIT: DATE				TOTAL NUMBER OF VISITS
TIME				

*RESULT CODES:

1	COMPLETED	4	REFUSED		
2	NOT AT HOME	5	PARTLY COMPLETED	7	OTHER _____ (SPECIFY)
3	POSTPONED	6	INCAPACITATED		

SUPERVISOR	FIELD EDITOR	OFFICE EDITOR	KEYED BY
NAME _____	NAME _____		
DATE _____	DATE _____		

SECTION 1. RESPONDENT'S BACKGROUND

INTRODUCTION AND CONSENT

INFORMED CONSENT

Hello. My name is _____ and I am working with Mitra and Associates, a private research organization located in Dhaka. To assist in the implementation of socio-development programs in the country, we conduct different types of surveys. We are now conducting a national survey about the health of women, men and children under the authority of NIPORT of Ministry of Health and Family Welfare. We would very much appreciate your participation in this survey. I would like to ask you about your health and the health of your children. This information will help the government to plan health services.
The survey usually takes between 20 and 45 minutes to complete. Whatever information you provide will be kept strictly confidential and will not be shown to other persons.

Participation in the survey is completely voluntary. If we should come to any question you don't want to answer, just let me know and I will go on to the next question; or you can stop the interview at any time. However, we hope you will participate in the survey since your views are important.

At this time, do you want to ask me anything about the survey?
May I begin the interview now?

Signature of interviewer: _____ Date: _____

RESPONDENT AGREES TO BE INTERVIEWED . . . . . 1 ↓ RESPONDENT DOES NOT AGREE TO BE INTERVIEWED . . . 2 → END

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
101	RECORD THE TIME.	HOUR . . . . . ☐☐ MINUTES . . . . . ☐☐	
102	How long have you been living continuously in (NAME OF CURRENT PLACE OF RESIDENCE)? IF LESS THAN ONE YEAR, RECORD '00' YEARS.	YEARS . . . . . ☐☐ ALWAYS . . . . . 95 VISITOR 96	→ 104
103	Just before you moved here, did you live in a city, in a town, or in the village?	CITY . . . . . 1 TOWN . . . . . 2 VILLAGE 3	
104	In what month and year were you born?	MONTH . . . . . ☐☐ DON'T KNOW MONTH . . . . . 98 YEAR . . . . . ☐☐☐☐ DON'T KNOW YEAR 9998	
105	How old were you at your last birthday? COMPARE AND CORRECT 104 AND/OR 105 IF INCONSISTENT.	AGE IN COMPLETED YEARS ☐☐	
105A	Are you now married, separated, deserted, widowed, divorced or have you never been married?	CURRENTLY MARRIED . . . . . 1 SEPARATED . . . . . 2 DESERTED . . . . . 3 DIVORCED . . . . . 4 WIDOWED . . . . . 5 NEVER MARRIED 6	→ END
106	Have you ever attended school/madrasha?	YES, SCHOOL . . . . . 1 YES, MADRASHA . . . . . 2 YES, BOTH . . . . . 3 NO 4	→ 107 → 110
106A	What type of school have you last attended?	SCHOOL . . . . . 1 MADRASHA 2	
107	What is the highest level of school you attended: primary, secondary, or college and higher?	PRIMARY . . . . . 1 SECONDARY . . . . . 2 COLLEGE AND HIGHER 3	
108	What is the highest class you completed at that level?	CLASS . . . . . ☐☐	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
109	CHECK 107: PRIMARY ☐ SECONDARY OR HIGHER ☐ → 112		
110	Now I would like you to read this sentence to me. SHOW CARD TO RESPONDENT. IF RESPONDENT CANNOT READ WHOLE SENTENCE, PROBE: Can you read any part of the sentence to me?	CANNOT READ AT ALL . . . . . 1 ABLE TO READ ONLY PARTS OF SENTENCE . . . . . 2 ABLE TO READ WHOLE SENTENCE. . 3 NO CARD WITH REQUIRED LANGUAGE _____ 4 (SPECIFY LANGUAGE) BLIND/VISUALLY IMPAIRE| 5	
111	CHECK 110: CODE '2', '3' OR '4' CIRCLED ☐ CODE '1' OR '5' CIRCLED ☐ → 113		
112	Do you read a newspaper or magazine?	YES . . . . . 1 NO 2	→ 113
112A	How often do you read a newspaper or magazine almost every day, at least once a week, or less than once a week?	ALMOST EVERY DAY . . . . . 1 AT LEAST ONCE A WEEK . . . . . 2 LESS THAN ONCE A WEEK 3	
113	Do you listen to the radio?	YES . . . . . 1 NO 2	→ 114
113A	Do you listen to the radio almost every day, at least once a week, or less than once a week?	ALMOST EVERY DAY . . . . . 1 AT LEAST ONCE A WEEK . . . . . 2 LESS THAN ONCE A WEEK 3	
114	Do you watch television?	YES . . . . . 1 NO 2	→ 115
114A	Do you watch television almost every day, at least once a week, or less than once a week?	ALMOST EVERY DAY . . . . . 1 AT LEAST ONCE A WEEK . . . . . 2 LESS THAN ONCE A WEEK 3	
115	What is your religion?	ISLAM . . . . . 1 HINDUISM . . . . . 2 BUDDHISM . . . . . 3 CHRISTIANITY . . . . . 4 OTHER _____ 6 (SPECIFY)	
116	Do you belong to any of the following organizations? Grameen Bank? BRAC? BRDB? ASHA? PROSHIKA? Mother's Club? Any other organization (such as micro credit)?	YES NO GRAMEEN BANK . . . . . 1 2 BRAC . . . . . 1 2 BRDB . . . . . 1 2 ASHA . . . . . 1 2 PROSHIKA . . . . . 1 2 MOTHER'S CLUB . . . . . 1 2 OTHER _____ 1 2 (SPECIFY)	

SECTION 2. REPRODUCTION

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
201	Now I would like to ask about all the births you have had during your life. Have you ever given birth?	YES . . . . . 1 NO 2	→ 206
202	Do you have any sons or daughters to whom you have given birth who are now living with you?	YES . . . . . 1 NO 2	→ 204
203	How many sons live with you? And how many daughters live with you? IF NONE, RECORD '00'.	SONS AT HOME . . . . . ☐☐ DAUGHTERS AT HOME . . . . . ☐☐	
204	Do you have any sons or daughters to whom you have given birth who are alive but do not live with you?	YES . . . . . 1 NO 2	→ 206
205	How many sons are alive but do not live with you? And how many daughters are alive but do not live with you? IF NONE, RECORD '00'.	SONS ELSEWHERE . . . . . ☐☐ DAUGHTERS ELSEWHERE . ☐☐	
206	Have you ever given birth to a boy or girl who was born alive but later died? IF NO, PROBE: Any baby who cried or showed signs of life but did not survive?	YES . . . . . 1 NO 2	→ 208
207	How many boys have died? And how many girls have died? IF NONE, RECORD '00'.	BOYS DEAD . . . . . ☐☐ GIRLS DEAD . . . . . ☐☐	
208	SUM ANSWERS TO 203, 205, AND 207, AND ENTER TOTAL. IF NONE, RECORD '00'.	TOTAL . . . . . ☐☐	
209	CHECK 208: Just to make sure that I have this right: you have had in TOTAL _____ births during your life. Is that correct? YES ☐ ↓ NO ☐ → PROBE AND CORRECT 201-208 AS NECESSARY.		
210	CHECK 208: ONE OR MORE BIRTHS ☐ ↓ NO BIRTHS ☐ →		226

211 Now I would like to record the names of all your births, whether still alive or not, starting with the first one you had.
RECORD NAMES OF ALL THE BIRTHS IN 212. RECORD TWINS AND TRIPLETS ON SEPARATE LINES.
(IF THERE ARE MORE THAN 12 BIRTHS, USE AN ADDITIONAL QUESTIONNAIRE, STARTING WITH THE SECOND ROW).

212 What name was given to your (first/next) baby? (NAME)	213 Were any of these births twins?	214 Is (NAME) a boy or a girl?	215 In what month and year was (NAME) born? PROBE: What is his/her birthday?	216 Is (NAME) still alive?	217 IF ALIVE: How old was (NAME) at his/her last birthday? RECORD AGE IN COM-PLETED YEARS.	218 IF ALIVE: Is (NAME) living with you?	219 IF ALIVE: RECORD HOUSE-HOLD LINE NUMBER OF CHILD (RECORD '00' IF CHILD NOT LISTED IN HOUSE-HOLD).	220 IF DEAD: How old was (NAME) when he/she died? IF '1 YR', PROBE: How many months old was (NAME)? RECORD DAYS IF LESS THAN 1 MONTH; MONTHS IF LESS THAN TWO YEARS; OR YEARS.	221 Were there any other live births between (NAME OF PREVIOUS BIRTH) and (NAME), including any children who died after birth?
01	SING 1 MULT 2	BOY 1 GIRL 2	MONTH ☐☐ YEAR ☐☐☐☐	YES . . 1 NO . . . 2 → 220	AGE IN YEARS ☐☐	YES . . . 1 NO 2	LINE NUMBER ☐☐ (NEXT BIRTH)	DAYS . . . 1 ☐☐ MONTHS 2 ☐☐ YEARS . . 3 ☐☐	
02	SING 1 MULT 2	BOY 1 GIRL 2	MONTH ☐☐ YEAR ☐☐☐☐	YES . . 1 NO . . . 2 → 220	AGE IN YEARS ☐☐	YES . . . 1 NO 2	LINE NUMBER ☐☐ (GO TO 221)	DAYS . . . 1 ☐☐ MONTHS 2 ☐☐ YEARS . . 3 ☐☐	YES . . . . 1 ADD BIRTH NO . . . . . 2 NEXT BIRTH
03	SING 1 MULT 2	BOY 1 GIRL 2	MONTH ☐☐ YEAR ☐☐☐☐	YES . . 1 NO . . . 2 → 220	AGE IN YEARS ☐☐	YES . . . 1 NO 2	LINE NUMBER ☐☐ (GO TO 221)	DAYS . . . 1 ☐☐ MONTHS 2 ☐☐ YEARS . . 3 ☐☐	YES . . . . 1 ADD BIRTH NO . . . . . 2 NEXT BIRTH
04	SING 1 MULT 2	BOY 1 GIRL 2	MONTH ☐☐ YEAR ☐☐☐☐	YES . . 1 NO . . . 2 → 220	AGE IN YEARS ☐☐	YES . . . 1 NO 2	LINE NUMBER ☐☐ (GO TO 221)	DAYS . . . 1 ☐☐ MONTHS 2 ☐☐ YEARS . . 3 ☐☐	YES . . . . 1 ADD BIRTH NO . . . . . 2 NEXT BIRTH
05	SING 1 MULT 2	BOY 1 GIRL 2	MONTH ☐☐ YEAR ☐☐☐☐	YES . . 1 NO . . . 2 → 220	AGE IN YEARS ☐☐	YES . . . 1 NO 2	LINE NUMBER ☐☐ (GO TO 221)	DAYS . . . 1 ☐☐ MONTHS 2 ☐☐ YEARS . . 3 ☐☐	YES . . . . 1 ADD BIRTH NO . . . . . 2 NEXT BIRTH
06	SING 1 MULT 2	BOY 1 GIRL 2	MONTH ☐☐ YEAR ☐☐☐☐	YES . . 1 NO . . . 2 → 220	AGE IN YEARS ☐☐	YES . . . 1 NO 2	LINE NUMBER ☐☐ (GO TO 221)	DAYS . . . 1 ☐☐ MONTHS 2 ☐☐ YEARS . . 3 ☐☐	YES . . . . 1 ADD BIRTH NO . . . . . 2 NEXT BIRTH
07	SING 1 MULT 2	BOY 1 GIRL 2	MONTH ☐☐ YEAR ☐☐☐☐	YES . . 1 NO . . . 2 → 220	AGE IN YEARS ☐☐	YES . . . 1 NO 2	LINE NUMBER ☐☐ (GO TO 221)	DAYS . . . 1 ☐☐ MONTHS 2 ☐☐ YEARS . . 3 ☐☐	YES . . . . 1 ADD BIRTH NO . . . . . 2 NEXT BIRTH

212 What name was given to your next baby? (NAME)	213 Were any of these births twins?	214 Is (NAME) a boy or a girl?	215 In what month and year was (NAME) born? PROBE: What is his/her birthday?	216 Is (NAME) still alive?	217 IF ALIVE: How old was (NAME) at his/her last birthday? RECORD AGE IN COM-PLETED YEARS.	218 IF ALIVE: Is (NAME) living with you?	219 IF ALIVE: RECORD HOUSE-HOLD LINE NUMBER OF CHILD (RECORD '00' IF CHILD NOT LISTED IN HOUSE-HOLD).	220 IF DEAD: How old was (NAME) when he/she died? IF '1 YR', PROBE: How many months old was (NAME)? RECORD DAYS IF LESS THAN 1 MONTH; MONTHS IF LESS THAN TWO YEARS; OR YEARS.	221 Were there any other live births between (NAME OF PREVIOUS BIRTH) and (NAME), including any children who died after birth?
08	SING 1 MULT 2	BOY 1 GIRL 2	MONTH ☐☐ YEAR ☐☐☐☐	YES . . 1 NO . . . 2 → 220	AGE IN YEARS ☐☐	YES . . . 1 NO 2	LINE NUMBER ☐☐ → (GO TO 221)	DAYS . . . 1 ☐☐ MONTHS 2 ☐☐ YEARS . . 3 ☐☐	YES . . . . 1 ADD BIRTH ↵ NO . . . . . 2 NEXT BIRTH ↵
09	SING 1 MULT 2	BOY 1 GIRL 2	MONTH ☐☐ YEAR ☐☐☐☐	YES . . 1 NO . . . 2 → 220	AGE IN YEARS ☐☐	YES . . . 1 NO 2	LINE NUMBER ☐☐ → (GO TO 221)	DAYS . . . 1 ☐☐ MONTHS 2 ☐☐ YEARS . . 3 ☐☐	YES . . . . 1 ADD BIRTH ↵ NO . . . . . 2 NEXT BIRTH ↵
10	SING 1 MULT 2	BOY 1 GIRL 2	MONTH ☐☐ YEAR ☐☐☐☐	YES . . 1 NO . . . 2 → 220	AGE IN YEARS ☐☐	YES . . . 1 NO 2	LINE NUMBER ☐☐ → (GO TO 221)	DAYS . . . 1 ☐☐ MONTHS 2 ☐☐ YEARS . . 3 ☐☐	YES . . . . 1 ADD BIRTH ↵ NO . . . . . 2 NEXT BIRTH ↵
11	SING 1 MULT 2	BOY 1 GIRL 2	MONTH ☐☐ YEAR ☐☐☐☐	YES . . 1 NO . . . 2 → 220	AGE IN YEARS ☐☐	YES . . . 1 NO 2	LINE NUMBER ☐☐ → (GO TO 221)	DAYS . . . 1 ☐☐ MONTHS 2 ☐☐ YEARS . . 3 ☐☐	YES . . . . 1 ADD BIRTH ↵ NO . . . . . 2 NEXT BIRTH ↵
12	SING 1 MULT 2	BOY 1 GIRL 2	MONTH ☐☐ YEAR ☐☐☐☐	YES . . 1 NO . . . 2 → 220	AGE IN YEARS ☐☐	YES . . . 1 NO 2	LINE NUMBER ☐☐ → (GO TO 221)	DAYS . . . 1 ☐☐ MONTHS 2 ☐☐ YEARS . . 3 ☐☐	YES . . . . 1 ADD BIRTH ↵ NO . . . . . 2 NEXT BIRTH ↵

222	Have you had any live births since the birth of (NAME OF LAST BIRTH)? IF YES, RECORD BIRTH(S) IN TABLE.	YES . . . . . 1 NO 2

223 COMPARE 208 WITH NUMBER OF BIRTHS IN HISTORY ABOVE AND MARK:

NUMBERS ARE SAME ☐↓ NUMBERS ARE DIFFERENT ☐→ (PROBE AND RECONCILE)

CHECK: FOR EACH BIRTH: YEAR OF BIRTH IS RECORDED. ☐

FOR EACH BIRTH SINCE JANUARY 2002: MONTH AND YEAR OF BIRTH ARE RECORDED. ☐

FOR EACH LIVING CHILD: CURRENT AGE IS RECORDED. ☐

FOR EACH DEAD CHILD: AGE AT DEATH IS RECORDED. ☐

FOR AGE AT DEATH 12 MONTHS OR 1 YEAR: PROBE TO DETERMINE EXACT NUMBER OF MONTHS. ☐

224 CHECK 215 AND ENTER THE NUMBER OF BIRTHS IN 2002 OR LATER.
IF NONE, RECORD '0'. ☐

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
225	FOR EACH BIRTH SINCE JANUARY 2002, ENTER 'B' IN THE MONTH OF BIRTH IN THE CALENDAR. WRITE THE NAME OF THE CHILD TO THE LEFT OF THE 'B' CODE. FOR EACH BIRTH, ASK THE NUMBER OF MONTHS THE PREGNANCY LASTED AND RECORD 'P' IN EACH OF THE PRECEDING MONTHS ACCORDING TO THE DURATION OF PREGNANCY. (NOTE: THE NUMBER OF 'P's MUST BE ONE LESS THAN THE NUMBER OF MONTHS THAT THE PREGNANCY LASTED.)		
226	Are you pregnant now?	YES . . . . . 1 NO . . . . . 2 UNSURE 8	→ 228A
227	How many months pregnant are you? RECORD NUMBER OF COMPLETED MONTHS. ENTER 'P's IN THE CALENDAR, BEGINNING WITH THE MONTH OF INTERVIEW AND FOR THE TOTAL NUMBER OF COMPLETED MONTHS.	MONTHS . . . . . ☐☐	
228	At the time you became pregnant, did you want to become pregnant then, did you want to wait until later, or did you not want to have any (more) children at all?	THEN . . . . . 1 LATER . . . . . 2 NOT AT ALL 3	
228A	Have you ever heard of menstrual regulation (MR)? MR means when a woman's menstrual period does not come on time, she can go to a health centre or to the FWV or to another provider and have a tube put in her for a short while to regulate her periods.	YES . . . . . 1 NO 2	→ 229
228B	Have you ever used MR (menstrual regulation)?	YES . . . . . 1 NO 2	
229	Have you ever had a pregnancy that miscarried, was aborted, or ended in a stillbirth?	YES . . . . . 1 NO 2	
229A	CHECK 228B AND 229: YES TO 228B OR YES TO 229 ☐ ↓ NO TO 228B AND NO TO 229 ☐		→ 237
230	When did the last such pregnancy/menstrual interruption occur?	MONTH . . . . . ☐☐ YEAR . . . . . ☐☐☐☐	
231	CHECK 230: LAST PREGNANCY ENDED IN JAN. 2002 OR LATER ☐ ↓ LAST PREGNANCY ENDED BEFORE JAN. 2002 ☐		→ 237
231A	Was that a stillbirth, a miscarriage, a menstrual regulation, or an abortion?	STILLBIRTH . . . . . 1 MISCARRIAGE . . . . . 2 MENSTRUAL REGULATION . . . . . 3 ABORTION 4	
232	How many months pregnant were you when the last such pregnancy ended? RECORD NUMBER OF COMPLETED MONTHS. ENTER 'T' IN THE CALENDAR IN THE MONTH THAT THE PREGNANCY TERMINATED AND 'P' FOR THE REMAINING NUMBER OF COMPLETED MONTHS.	MONTHS . . . . . ☐☐	
233	Since January 2002, have you had any other pregnancies that did not result in a live birth?	YES . . . . . 1 NO 2	→ 235
234	ASK THE DATE AND THE DURATION OF PREGNANCY FOR EACH EARLIER NON-LIVE BIRTH PREGNANCY BACK TO JANUARY 2002. ENTER 'T' IN THE CALENDAR IN THE MONTH THAT EACH PREGNANCY TERMINATED AND 'P' FOR THE REMAINING NUMBER OF COMPLETED MONTHS.		
235	Did you have any miscarriages, abortions, stillbirths or MR that ended before 2002?	YES . . . . . 1 NO 2	→ 237
236	When did the last such pregnancy that terminated before 2002 end?	MONTH . . . . . ☐☐ YEAR . . . . . ☐☐☐☐	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
237	When did your last menstrual period start? _____ (DATE, IF GIVEN)	DAYS AGO . . . . . 1 __ WEEKS AGO . . . . . 2 __ MONTHS AGO . . . . . 3 __ YEARS AGO . . . . . 4 __ IN MENOPAUSE/ HAS HAD HYSTERECTOMY . . . 994 BEFORE LAST BIRTH. . . . . 995 NEVER MENSTRUATED 996	

SECTION 3. CONTRACEPTION

301	Now I would like to talk about family planning - the various ways or methods that a couple can use to delay or avoid a pregnancy. Which ways or methods have you heard about? FOR METHODS NOT MENTIONED SPONTANEOUSLY, ASK: Have you ever heard of (METHOD)? CIRCLE CODE 1 IN 301 FOR EACH METHOD MENTIONED SPONTANEOUSLY. THEN PROCEED DOWN COLUMN 301, READING THE NAME AND DESCRIPTION OF EACH METHOD NOT MENTIONED SPONTANEOUSLY. CIRCLE CODE 1 IF METHOD IS RECOGNIZED, AND CODE 2 IF NOT RECOGNIZED. THEN, FOR EACH METHOD WITH CODE 1 CIRCLED IN 301, ASK 302.		302 Have you ever used (METHOD)?
01	FEMALE STERILIZATION Women can have an operation to avoid having any more children.	YES . . . . . 1 NO 2	Have you ever had an operation to avoid having any more children? YES . . . . . 1 NO 2
02	MALE STERILIZATION Men can have an operation to avoid having any more children.	YES . . . . . 1 NO 2	Have you ever had a partner who had an operation to avoid having any more children? YES . . . . . 1 NO 2
03	PILL Women can take a pill every day to avoid becoming pregnant.	YES . . . . . 1 NO 2	YES . . . . . 1 NO 2
04	IUD Women can have a loop or coil placed inside them by a doctor o a nurse/FWV.	YES . . . . . 1 NO 2	YES . . . . . 1 NO 2
05	INJECTABLES Women can have an injection by a doctor or nurse/FWV which stops them from becoming pregnant for several months.	YES . . . . . 1 NO 2	YES . . . . . 1 NO 2
06	IMPLANTS/NORPLANT Women can have several small rods placed in their upper arm by a doctor or nurse/FWV which can prevent pregnancy for several years.	YES . . . . . 1 NO 2	YES . . . . . 1 NO 2
07	CONDOM Men can put a rubber sheath on their penis before sexua intercourse.	YES . . . . . 1 NO 2	YES . . . . . 1 NO 2
08	SAFE PERIOD (COUNTING DAYS, CALENDAR, RHYTHM METHOD) Couples can avoid having sexual intercourse on certain days of the month when the woman is more likely to get pregnan	YES . . . . . 1 NO 2	YES . . . . . 1 NO 2
09	WITHDRAWAL Men can be careful and pull out before climax	YES . . . . . 1 NO 2	YES . . . . . 1 NO 2
10	Have you heard of any other ways or methods that women or men car use to avoid pregnancy?	YES . . . . . 1 _____ (SPECIFY) _____ (SPECIFY) NO 2	YES . . . . . 1 NO . . . . . 2 YES . . . . . 1 NO 2
303	CHECK 302: NOT A SINGLE "YES" (NEVER USED) →	AT LEAST ONE "YES" (EVER USED) → 307	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
304	Have you ever used anything or tried in any way to delay or avoid getting pregnant?	YES . . . . . 1 NO 2	→ 306
305	ENTER '0' IN THE CALENDAR IN EACH BLANK MONTH.		→ 322
306	What have you used or done? CORRECT 302 AND 303 (AND 301 IF NECESSARY).		
307	Now I would like to ask you about the first time that you did something or used a method to avoid getting pregnant. How many living children did you have at that time, if any? IF NONE, RECORD '00'.	NUMBER OF CHILDREN . . . . . ☐☐	
308	CHECK 302 (01): WOMAN NOT STERILIZED ☐ ↓ WOMAN STERILIZED ☐ →		311A
308A	CHECK 105A: CURRENTLY MARRIED ☐ ↓ SEPARATED/ DESERTED/ DIVORCED/WIDOWED ☐ →		319
309	CHECK 226: NOT PREGNANT OR UNSURE ☐ ↓ PREGNANT ☐ →		319
310	Are you currently doing something or using any method to delay or avoid getting pregnant?	YES . . . . . 1 NO 2	→ 319
311 311A	Which method are you using? CIRCLE ALL MENTIONED. IF MORE THAN ONE METHOD MENTIONED, FOLLOW SKIP INSTRUCTION FOR HIGHEST METHOD IN LIST. CIRCLE 'A' FOR FEMALE STERILIZATION.	FEMALE STERILIZATION . . . . . A MALE STERILIZATION . . . . . B PILL . . . . . C IUD . . . . . D INJECTABLES . . . . . E IMPLANTS . . . . . F CONDOM . . . . . G SAFE PERIOD . . . . . H WITHDRAWAL . . . . . I OTHER _____ X (SPECIFY)	→ 314 → 316A → 316A
312	RECORD IF CODE 'C' FOR PILL IS CIRCLED IN 311. YES (USING PILL) ☐ ↓ May I see the package of pills you are using? NO (USING CONDOM BUT NOT PILL) ☐ ↓ May I see the package of condoms you are using? RECORD NAME OF BRAND IF PACKAGE SEEN.	PACKAGE SEEN . . . . . 1 ↓ BRAND NAME _____ ☐☐ (SPECIFY) PACKAGE NOT SEEN 2	→ 313A
313	PLEASE SHOW THE BRAND CHART FOR PILLS AND CONDOMS Do you know the brand name of the (pills/condoms) you are using? RECORD NAME OF BRAND.	BRAND NAME _____ ☐☐ (SPECIFY) DON'T KNOW 98	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
313A	Who obtained the (pills/condoms) the last time you got them?	RESPONDENT . . . . . 1 HUSBAND . . . . . 2 SON/DAUGHTER . . . . . 3 OTHER RELATIVE . . . . . 4 OTHER _____ 6 (SPECIFY)	→ 316A
314	Where did the sterilization take place? PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE. IF UNABLE TO DETERMINE IF HOSPITAL, HEALTH CENTER OR CLINIC IS PUBLIC OR PRIVATE MEDICAL, WRITE THE NAME OF THE PLACE. _____ (NAME OF PLACE)	PUBLIC SECTOR HOSPITAL/MEDICAL COLLEGE . . . 11 FAMILY WELFARE CENTRE (FWC . 12 THANA HEALTH COMPLEX . . . 13 SATELLITE CLINIC/ EPI OUTREACH CENTER . . . . . 14 MATERNAL AND CHILD WELFARE CENTER (MCWC) . . . . . 15 OTHER _____ 16 (SPECIFY) NGO SECTOR NGO STATIC CLINIC . . . . . 21 NGO SATELLITE CLINIC . . . . . 22 OTHER _____ 26 (SPECIFY) PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC . . . 31 QUALIFIED DOCTOR . . . . . 32 OTHER PRIVATE MEDICAL _____ 36 (SPECIFY) OTHER _____ 96 (SPECIFY) DON'T KNOW 98	
315	CHECK 311/311A: CODE 'A' CIRCLED → Before your sterilization operation, were you told that you would not be able to have any (more) children because of the operation? CODE 'A' NOT CIRCLED → Before the sterilization operation, was your husband/partner told that he would not be able to have any (more) children because of the operation?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
316	In what month and year was the sterilization performed?		
316A	Since what month and year have you been using (CURRENT METHOD) without stopping? PROBE: For how long have you been using (CURRENT METHOD) now without stopping?	MONTH . . . . . ☐☐ YEAR . . . . . ☐☐☐☐	
317	CHECK 316/316A, 215 AND 230: ANY BIRTH OR PREGNANCY TERMINATION AFTER MONTH AND YEAR OF START OF USE OF CONTRACEPTION IN 316/316A — YES → GO BACK TO 316/316A, PROBE AND RECORD MONTH AND YEAR AT START OF CONTINUOUS USE OF CURRENT METHOD (MUST BE AFTER LAST BIRTH OR PREGNANCY TERMINATION). — NO		
318	CHECK 316/316A: YEAR IS 2002 OR LATER → ENTER CODE FOR METHOD USED IN MONTH OF INTERVIEW IN THE CALENDAR AND IN EACH MONTH BACK TO THE DATE STARTED USING. YEAR IS 2001 OR EARLIER → ENTER CODE FOR METHOD USED IN MONTH OF INTERVIEW IN THE CALENDAR AND EACH MONTH BACK TO JANUARY 2002. THEN SKIP TO → 320		

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
319	I would like to ask you some questions about the times you or your partner may have used a method to avoid getting pregnant during the last few years. USE CALENDAR TO PROBE FOR EARLIER PERIODS OF USE AND NONUSE, STARTING WITH MOST RECENT USE, BACK TO JANUARY 2002. USE NAMES OF CHILDREN, DATES OF BIRTH, AND PERIODS OF PREGNANCY AS REFERENCE POINTS. ENTER METHOD USE CODE OR '0' FOR NONUSE IN EACH BLANK MONTH. ILLUSTRATIVE QUESTIONS: * When was the last time you used a method? Which method was that? * When did you start using that method? How long after the birth of (NAME)? * How long did you use the method then?		
320	CHECK 311/311A: CIRCLE METHOD CODE: IF MORE THAN ONE METHOD CODE CIRCLED IN 311/311A, CIRCLE CODE FOR HIGHEST METHOD IN LIST.	NO CODE CIRCLED . . . . . 00 FEMALE STERILIZATION . . . . . 01 MALE STERILIZATION . . . . . 02 PILL . . . . . 03 IUD . . . . . 04 INJECTABLES . . . . . 05 IMPLANTS . . . . . 06 CONDOM . . . . . 07 SAFE PERIOD . . . . . 08 WITHDRAWAL . . . . . 09 OTHER METHOD 96	→ 322 → 324 → 324
321	Where did you obtain (CURRENT METHOD) the last time? PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE. IF UNABLE TO DETERMINE IF HOSPITAL, HEALTH CENTER OR CLINIC IS PUBLIC OR PRIVATE MEDICAL, WRITE THE NAME OF THE PLACE. _____ (NAME OF PLACE)	PUBLIC SECTOR HOSPITAL/MEDICAL COLLEGE . . . 11 FAMILY WELFARE CENTRE . . . . . 12 UPAZILA HEALTH COMPLEX . . . 13 SATELLITE CLINIC/ EPI OUTREACH . . . . . 14 MATERNAL AND CHILD WELFARE CENTRE (MCWC) . . . 15 GOVT. FIELD WORKER (FWA) . . . 16 COMMUNITY CLINIC . . . . . 17 OTHER _____ 18 (SPECIFY) NGO SECTOR NGO STATIC CLINIC . . . . . 21 NGO SATELLITE CLINIC . . . . . 22 NGO DEPOT HOLDER . . . . . 23 NGO FIELD WORKER (FWA) . . . . . 24 OTHER _____ 26 (SPECIFY) PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC . . . 31 QUALIFIED DOCTOR . . . . . 32 TRADITIONAL DOCTOR . . . . . 33 PHARMACY . . . . . 34 OTHER PRIVATE MEDICAL _____ 36 (SPECIFY) OTHER SOURCE SHOP . . . . . 41 FRIEND/RELATIVE . . . . . 42 OTHER _____ 96 (SPECIFY)	→ 324
322	Do you know of a place where you can obtain a method of family planning?	YES . . . . . 1 NO 2	→ 324

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
323	Where is that? Any other place? PROBE TO IDENTIFY EACH TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE(S). IF UNABLE TO DETERMINE IF HOSPITAL, HEALTH CENTER OR CLINIC IS PUBLIC OR PRIVATE MEDICAL, WRITE THE NAME OF THE PLACE. _____ (NAME OF PLACE(S))	PUBLIC SECTOR HOSPITAL/MEDICAL COLLEGE . A FAMILY WELFARE CENTRE . . . B UPAZILA HEALTH COMPLEX . . . C SATELLITE CLINIC/ EPI OUTREACH . . . . . D MATERNAL AND CHILD WELFARE CENTRE (MCWC) . . . E GOVT. FIELD WORKER (FWA) . . . F COMMUNITY CLINIC . . . . . G OTHER _____ H (SPECIFY) NGO SECTOR NGO STATIC CLINIC . . . . . I NGO SATELLITE CLINIC . . . . . J NGO DEPOT HOLDER . . . . . K NGO FIELD WORKER (FWA) . . . . . L OTHER _____ M (SPECIFY) PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC . . . N QUALIFIED DOCTOR . . . . . O TRADITIONAL DOCTOR . . . . . P PHARMACY . . . . . Q OTHER PRIVATE MEDICAL_____ R (SPECIFY) OTHER SOURCE SHOP . . . . . S FRIEND/RELATIVE . . . . . T OTHER _____ X (SPECIFY)	
324	In some places, there is a clinic set up for a day or part of a day in someone's house or in a school. During the past three months, was there any such clinic in this village or mohalla?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 327
325	Did you visit such a temporary health clinic in the last 3 months?	YES . . . . . 1 NO 2	→ 327
326	What services did you receive?	FAMILY PLANNING METHODS . . . . . A IMMUNIZATIONS . . . . . B CHILD GROWTH MONITORING . . . . . C TETANUS TOXOID INJECTION . . . . . D ANTENATAL CARE . . . . . E VITAMIN A FOR CHILDREN . . . . . F OTHER _____ X (SPECIFY) DON'T KNOW . . . . . Z	
327	During the last six months has anyone visited you in your house to talk to you about family planning or to give you any family planning method?	YES . . . . . 1 NO 2	→ 401
328	Who visited you to talk about family planning or to give you family planning methods? Anyone else? _____ NAME WRITE THE NAME OF THE FIELDWORKER Anyone else? _____ NAME WRITE THE NAME OF THE FIELDWORKER	GOVT. FP WORKER . . . . . A GOVT. HEALTH WORKER . . . . . B NGO WORKER . . . . . C OTHER _____ X (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
329	During the last six months, how many times did a worker or workers visit you to talk about family planning or to give you family planning methods?	NUMBER OF TIMES . . . . . ☐☐ DON'T KNOW 98	
330	When was the last time you were visited by a fieldworker who talked to you about family planning? IF MORE THAN ONE WORKER VISITED: When did the last worker visit you? IF LESS THAN ONE MONTH AGO WRITE '0'	MONTHS AGO . . . . . ☐ DON'T KNOW 8	

SECTION 4. PREGNANCY AND POSTNATAL CARE

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
401	CHECK 224: ONE OR MORE BIRTHS IN 2002 OR LATER ☐ ↓ NO BIRTHS IN 2002 OR LATER ☐ →		601
402	CHECK 215: ENTER IN THE TABLE THE LINE NUMBER, NAME, AND SURVIVAL STATUS OF EACH BIRTH IN 2002 OR LATER. ASK THE QUESTIONS ABOUT ALL OF THESE BIRTHS. BEGIN WITH THE LAST BIRTH. (IF THERE ARE MORE THAN 3 BIRTHS, USE LAST 2 COLUMNS OF ADDITIONAL QUESTIONNAIRES). Now I would like to ask you some questions about the health of all your children born in the last five years. (We will talk about each separately.)		

		LAST BIRTH	NEXT-TO-LAST BIRTH	SECOND-FROM-LAST BIRTH
403	LINE NUMBER FROM 212	LINE NO. ☐☐	LINE NO. ☐☐	LINE NO. ☐☐
404	FROM 212 AND 216	NAME _____ LIVING ☐ DEAD ☐	NAME _____ LIVING ☐ DEAD ☐	NAME _____ LIVING ☐ DEAD ☐
405	At the time you became pregnant with (NAME), did you want to become pregnant then, did you want to wait until later, or did you not want to have any (more) children at all?	THEN . . . . . 1 (SKIP TO 407) LATER . . . . . 2 NOT AT ALL . . . . . 3 (SKIP TO 407)	THEN . . . . . 1 (SKIP TO 423) LATER . . . . . 2 NOT AT ALL . . . . . 3 (SKIP TO 423)	THEN . . . . . 1 (SKIP TO 423) LATER . . . . . 2 NOT AT ALL . . . . . 3 (SKIP TO 423)
406	How much longer would you have liked to wait?	MONTHS . .1 ☐☐ YEARS . .2 ☐☐ DON'T KNOW . . . 998	MONTHS . .1 ☐☐ YEARS . .2 ☐☐ DON'T KNOW . . . 998	MONTHS . .1 ☐☐ YEARS . .2 ☐☐ DON'T KNOW . . . 998
407	When you were pregnant with (NAME), did you see anyone for a medical checkup? IF YES: Whom did you see? Anyone else? PROBE TO IDENTIFY EACH TYPE OF PERSON AND RECORD ALL MENTIONED. IF CODE `D' CIRCLED: _____ (WRITE NAME OF CSBA) _____ (WRITE NAME OF CSBA)	HEALTH PERSONNEL QUAL. DOCTOR ... A NURSE/MIDWIFE/ PARAMEDIC ... B FAMILY WELFARE VISITOR ..... C COMMUNITY SKILLED BIRTH ATTENDANT ... D MA/SACMO ..... E HEALTH ASST. ... F FAMILY WELFARE ASSISTANT ..... G OTHER PERSON TRAINED TBA ..... H UNTRAINED TBA ... I UNQUALIFIED DOCTOR . . . . . J OTHER_____ X (SPECIFY) NO ONE . . . . . Y (SKIP TO 413A)		

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
408	Where did you receive antenatal care for this pregnancy? Anywhere else? PROBE TO IDENTIFY TYPE(S) OF SOURCE(S) AND CIRCLE THE APPROPRIATE CODE(S). IF UNABLE TO DETERMINE IF A HOSPITAL, HEALTH CENTER, OR CLINIC IS PUBLIC OR PRIVATE MEDICAL, WRITE THE THE NAME OF THE PLACE. _____ (NAME OF PLACE(S))	HOME OWN HOME . . . A OTHER HOME . . . B PUBLIC SECTOR HOSP./MEDICAL COLLEGE ... C FAMILY WELFARE CENTRE ..... D THANA HEALTH COMPLEX ..... E SAT. CLINIC/EPI OUTREACH ... F MAT. AND CHILD WELFARE CENTER ..... G COMM. CLINIC . H OTHER_____ I (SPECIFY) NGO SECTOR NGO STATIC CLINIC ..... J NGO SAT CLINIC . K OTHER_____ L (SPECIFY) PRIVATE MED. SECTOR PVT. HOSPITAL/ CLINIC . . . . . M QUAL.DOCTOR . N TRAD. DOCTOR ... O PHARMACY ..... P OTHER_____ X (SPECIFY)		
409	How many months pregnant were you when you first received antenatal care for this pregnancy?	MONTHS . . . ☐☐ DON'T KNOW 98		
410	How many times did you receive antenatal care during this pregnancy?	NUMBER OF TIMES . ☐☐ DON'T KNOW 98		
411	As part of your antenatal care during this pregnancy, were any of the following done at least once? Were you weighed? Was your blood pressure measured? Did you give a urine sample? Did you give a blood sample? Did you have an ultrasonography?	YES NO WEIGHT . . . 1 2 BP . . . . . 1 2 URINE . . . . . 1 2 BLOOD . . . 1 2 ULTRASON 1 2		
412	During (any of) your antenatal care visit(s), were you told about the signs of pregnancy complications?	YES . . . . . 1 NO . . . . . 2 (SKIP TO 414) DON'T KNOW 8		
413	Were you told where to go if you had any of these complications?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW . . . . . 8 (SKIP TO 414)		

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
413A	Why did you not see anyone for antenatal care?	TOO FAR ..... A INCONVENIENT SERVICE HOUR ... B UNPLEASANT STAFF ..... C LACK OF EXPER. STAFF ..... D LACK OF PRIVACY ... E INADEQUATE DRUG SUPPLY ..... F LONG WAITING TIME G SERVICE TOO EXPENSIVE ..... H RELIGIOUS REASON I NOT NEEDED ..... J DID NOT KNOW OF NEED FOR CARE ... K UNABLE TO GO/ NOT PERMITTED TO LEAVE HOUSE ... L DID NOT KNOW OF OF A PLACE ..... M OTHER_____ X (SPECIFY)		
414	During this pregnancy, were you given an injection in the arm to prevent the baby from getting tetanus, that is, convulsions after birth?	YES . . . . . 1 NO . . . . . 2 (SKIP TO 417) DON'T KNOW 8		
415	During this pregnancy, how many times did you get this tetanus toxoid injection?	TIMES . . . . . [ ] DON'T KNOW . . . 8		
416	CHECK 415:	2 OR MORE TIMES → (SKIP TO 421) OTHER →		
417	At any time before this pregnancy, did you receive any tetanus injections, either to protect yourself or another baby?	YES . . . . . 1 NO . . . . . 2 (SKIP TO 421) DON'T KNOW 8		
418	Before this pregnancy, how many other times did you receive a tetanus injection? IF 7 OR MORE TIMES, RECORD '7'.	TIMES . . . . . [ ] DON'T KNOW . . . 8		
419	In what month and year did you receive the last tetanus injection before this pregnancy?	MONTH . . . [ ][ ] DK MONTH . . . . . 98 YEAR [ ][ ][ ][ ] (SKIP TO 421) DK YEAR 9998		
420	How many years ago did you receive that tetanus injection?	YEARS AGO . . . . . [ ][ ]		

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
421	Did you take any iron tablet or iron syrup during this pregnancy? SHOW TABLETS/SYRUP.	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8		
422A	Around the time of the birth of (NAME), did you have any of the following problems:	YES NO DK		
	a) Long labor, that is, regular contractions that lasted more than 12 hours?	1 2 8		
	b) Excessive bleeding that was so much that you feared it was life threatening?	1 2 8		
	c) A high fever with bad smelling vaginal discharge?	1 2 8		
	d) Convulsions?	1 2 8		
	e) Baby's hands and feet came first during delivery?	1 2 8		
	f) Retained placenta?	1 2 8		
422B	CHECK 422A:	AT LEAST ONE 'YES' → NOT A SINGLE 'YES' → (SKIP TO 423)		
422C	Did you seek assistance for this complication? IF YES: Whom did you see? Anyone else? PROBE TO IDENTIFY EACH TYPE OF PERSON AND RECORD ALL MENTIONED. IF CODE `D' CIRCLED: _____ (WRITE NAME OF CSBA) _____ (WRITE NAME OF CSBA)	HEALTH PERSONNEL QUAL. DOCTOR ... A NURSE/MIDWIFE/ PARAMEDIC ... B FAMILY WELFARE VISITOR ..... C COMMUNITY SKILLED BIRTH ATTENDANT . D MA/SACMO ..... E HEALTH ASST. F FAMILY WELFARE ASSISTANT ... G OTHER PERSON TRAINED TBA ..... H UNTRAINED TBA . I UNQUALIFIED DOCTOR ..... J RELATIVES ..... K NEIGHBORS/ FRIENDS ..... L OTHER_____ X (SPECIFY) NO ONE . . . . . Y (SKIP TO 422G)		

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
422D	Where did you seek assistance for this complication? Anywhere else? PROBE TO IDENTIFY TYPE(S) OF SOURCE(S) AND CIRCLE THE APPROPRIATE CODE(S). IF UNABLE TO DETERMINE IF A HOSPITAL, HEALTH CENTER, OR CLINIC IS PUBLIC OR PRIVATE MEDICAL, WRITE THE THE NAME OF THE PLACE. _____ (NAME OF PLACE(S))	HOME OWN HOME . . . A OTHER HOME . . . B PUBLIC SECTOR HOSP./MEDICAL COLLEGE ..... C FAMILY WELFARE CENTRE ..... D THANA HEALTH COMPLEX ..... E SAT. CLINIC/EPI OUTREACH ..... F MAT. AND CHILD WELFARE CENTER ..... G COMM. CLINIC . H OTHER_____ I (SPECIFY) NGO SECTOR NGO STATIC CLINIC ..... J NGO SAT CLINIC . K OTHER_____ L (SPECIFY) PRIVATE MED. SECTOR PVT. HOSPITAL/ CLINIC . . . . . M QUAL.DOCTOR . N TRAD. DOCTOR ... O PHARMACY ..... P OTHER_____ X (SPECIFY)		
422E	CHECK 422D:	MORE THAN ONE CODE CIRCLED ONLY ONE CODE CIRCLED (SKIP TO 423)		
422F	Where did you first seek assistance for this complication? USE LETTER CODE FROM 422D.	FIRST PLACE . . . ☐ (SKIP TO 423)		

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
422G	Why did you not seek treatment for this complication?	NOT NECESSARY ... A NOT UNDERSTAND THAT SERVICE IS NEEDED ..... B NOT CUSTOMERY ... C COST TOO MUCH ... D LACK OF MONEY ... E TOO FAR ..... F TRANSPORT PROBLEM ..... G NO ONE TO ACCOMPANY ..... H POOR QUALITY SERVICE ..... I FAMILY DID NOT ALLOW ..... J BETTER CARE AT HOME ..... K NOT KNOWN HOW TO GO ..... L NO TIME TO GO ..... M NOT KNOWN WHERE TO GO ..... N NOT WANT SERVICE FROM MALE DOCTOR ..... O DID NOT THINK OF SERIOUSNESS OF COMPLICATION ... P OTHER_____ X (SPECIFY)		
423	Who assisted with the delivery of (NAME)? Anyone else? PROBE FOR THE TYPE(S) OF PERSON(S) AND RECORD ALL MENTIONED. IF RESPONDENT SAYS NO ONE ASSISTED, PROBE TO DETERMINE WHETHER ANY ADULTS WERE PRESENT AT THE DELIVERY. IF CODE `D' CIRCLED: _____ (WRITE NAME OF CSBA) _____ (WRITE NAME OF CSBA)	HEALTH PERSONNEL QUAL. DOCTOR ... A NURSE/MIDWIFE/ PARAMEDIC ... B FAMILY WELFARE VISITOR ..... C COMMUNITY SKILLED BIRTH ATTENDANT . D MA/SACMO ..... E HEALTH ASST. . F FAMILY WELFARE ASSISTANT ..... G OTHER PERSON TRAINED TBA ..... H UNTRAINED TBA ... I UNQUALIFIED DOCTOR ..... J RELATIVES ..... K NEIGHBORS/ FRIENDS ..... L OTHER_____ X (SPECIFY) NO ONE ..... Y	HEALTH PERSONNEL QUAL. DOCTOR ... A NURSE/MIDWIFE/ PARAMEDIC ... B FAMILY WELFARE VISITOR ..... C COMMUNITY SKILLED BIRTH ATTENDANT . D MA/SACMO ..... E HEALTH ASST. . F FAMILY WELFARE ASSISTANT ..... G OTHER PERSON TRAINED TBA ..... H UNTRAINED TBA . I UNQUALIFIED DOCTOR ..... J RELATIVES ..... K NEIGHBORS/ FRIENDS ..... L OTHER_____ X (SPECIFY) NO ONE ..... Y	HEALTH PERSONNEL QUAL. DOCTOR ... A NURSE/MIDWIFE/ PARAMEDIC ... B FAMILY WELFARE VISITOR ..... C COMMUNITY SKILLED BIRTH ATTENDANT . D MA/SACMO ..... E HEALTH ASST. . F FAMILY WELFARE ASSISTANT ..... G OTHER PERSON TRAINED TBA ..... H UNTRAINED TBA . I UNQUALIFIED DOCTOR ..... J RELATIVES ..... K NEIGHBORS/ FRIENDS ..... L OTHER_____ X (SPECIFY) NO ONE ..... Y

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
424	Where did you give birth to (NAME)? PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE. IF UNABLE TO DETERMINE IF A HOSPITAL, HEALTH CENTER, OR CLINIC IS PUBLIC OR PRIVATE MEDICAL, WRITE THE THE NAME OF THE PLACE. _____ (NAME OF PLACE)	HOME YOUR HOME . . . 11 (SKIP TO 430A) OTHER HOME . . . 12 PUBLIC SECTOR GOVT. HOSPITAL 21 UPAZILA HEALTH COMPLE. . . . . 22 MATERNAL AND CHILD WELF. CENTER ..... 23 OTHER _____ 26 (SPECIFY) NGO SECTOR NGO STATIC CLINIC ..... 31 OTHER _____ 36 (SPECIFY) PRIVATE MED. SECTOR PVT. HOSPITAL/ CLINIC . . . . . 41 OTHER PRIVATE MED. _____ 46 (SPECIFY) OTHER _____ 96 (SPECIFY) (SKIP TO 430A)	HOME YOUR HOME . . . 11 (SKIP TO 443) OTHER HOME . . . 12 PUBLIC SECTOR GOVT. HOSPITAL 21 UPAZILA HEALTH COMPLE. . . . . 22 MATERNAL AND CHILD WELF. CENTER ..... 23 OTHER _____ 26 (SPECIFY) NGO SECTOR NGO STATIC CLINIC ..... 31 OTHER _____ 36 (SPECIFY) PRIVATE MED. SECTOR PVT. HOSPITAL/ CLINIC . . . . . 41 OTHER PRIVATE MED. _____ 46 (SPECIFY) OTHER _____ 96 (SPECIFY) (SKIP TO 443)	HOME YOUR HOME . . . 11 (SKIP TO 443) OTHER HOME . . . 12 PUBLIC SECTOR GOVT. HOSPITAL 21 UPAZILA HEALTH COMPLE. . . . . 22 MATERNAL AND CHILD WELF. CENTER ..... 23 OTHER _____ 26 (SPECIFY) NGO SECTOR NGO STATIC CLINIC ..... 31 OTHER _____ 36 (SPECIFY) PRIVATE MED. SECTOR PVT. HOSPITAL/ CLINIC . . . . . 41 OTHER PRIVATE MED. _____ 46 (SPECIFY) OTHER _____ 96 (SPECIFY) (SKIP TO 443)
425	How long after (NAME) was delivered did you stay there? IF LESS THAN ONE DAY, RECORD HOURS. IF LESS THAN ONE WEEK, RECORD DAYS.	HOURS 1 ☐☐ DAYS 2 ☐☐ WEEKS 3 ☐☐ DON'T KNOW . 998	HOURS 1 ☐☐ DAYS 2 ☐☐ WEEKS 3 ☐☐ DON'T KNOW . . . 998	HOURS 1 ☐☐ DAYS 2 ☐☐ WEEKS 3 ☐☐ DON'T KNOW . . . 998
426	Was (NAME) delivered by caesarean section?	YES . . . . . 1 (SKIP TO 432) NO 2	YES . . . . . 1 (SKIP TO 443) NO 2	YES . . . . . 1 (SKIP TO 443) NO 2
430A	CHECK 215	LAST BIRTH IN JAN 2004 OR LATER LAST BIRTH BEFORE 2004 JAN (SKIP TO 432)		

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
	Now I would like to ask you some specific questions about what was done with (NAME) immediately following delivery.			
430B	What was used to cut the cord?	BLADE FROM DELIVERY BAG ..... 1 BLADE FROM OTHER SOURCE ... 2 BAMBOO STRIPS ... 3 SCISSOR ..... 4 OTHER _____ 6 (SPECIFY) CORD WAS NOT CUT 7 (SKIP TO 430G) ← DON'T KNOW 8		
430C	Was the _____ (instrument) boiled before the cord was cut?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8		
430D	Was anything applied to the cord immediately after cutting and tying it?	YES . . . . . 1 NO . . . . . 2 (SKIP TO 430G) ← DON'T KNOW 8		
430E	What was applied to the cord after it was cut and tied? Anything else?	ANTIBIOTICS (POWDER/OINTM ... A ANTISEPTIC (DETOL/SAVLON HEXISOL) ..... B SPIRIT/ALCOHOL ... C MUSTARD OIL WITH GARLIC ..... D CHEWED RICE ..... E TUMERIC JUICE/ POWDER ..... F GINGER JUICE ..... G SHIDUR ..... H BORIC POWDER ..... I GENTIAN VIOLET (BLUE INK) ..... J TALCOM POWDER ... K OTHER _____ X (SPECIFY) DON'T KNOW ..... Z		
430G	How long after (NAME) was born was the body wiped (dried)?	MINUTES ☐☐ NOT WIPED ..... 95 DON'T KNOW 98		
430H	How long after (NAME) was born was the body wrapped?	MINUTES ☐☐ NOT WRAPPED ..... 95 DON'T KNOW 98		
430J	How long after delivery was (NAME) bathed for the first time? IF LESS THAN ONE DAY, RECORD IN HOURS IF LESS THAN ONE WEEK, RECORD IN DAYS	HOURS 1 ☐☐ DAYS 2 ☐☐ WEEKS 3 ☐☐ NOT BATHED ..... 995 DON'T KNOW 998		

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
432	After (NAME) was born, did any medical persons check on your health?	YES . . . . . 1 NO . . . . . 2 (SKIP TO 437)		
433	How long after delivery did the first check take place? IF LESS THAN ONE DAY, RECORD HOURS. IF LESS THAN ONE WEEK, RECORD DAYS.	HOURS 1 DAYS 2 WEEKS 3 DON'T KNOW . . . 998		
434	Who checked on your health at that time? IF CODE `D' CIRCLED: _____ (WRITE NAME OF CSBA) _____ (WRITE NAME OF CSBA)	HEALTH PERSONNEL QUAL. DOCTOR ... A NURSE/MIDWIFE/ PARAMEDIC ... B FAMILY WELFARE VISITOR ..... C COMMUNITY SKILLED BIRTH ATTENDANT ... D MA/SACMO ..... E HEALTH ASST. ... F FAMILY WELFARE ASSISTANT ..... G OTHER PERSON TRAINED TBA ..... H UNTRAINED TBA ... I TRADITIONAL DOCTOR ..... J OTHER_____ X (SPECIFY)		
435	Where did this first check take place? PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE. IF UNABLE TO DETERMINE IF A HOSPITAL, HEALTH CENTER, OR CLINIC IS PUBLIC OR PRIVATE MEDICAL, WRITE THE THE NAME OF THE PLACE. _____ (NAME OF PLACE)	HOME OWN HOME . . . 01 OTHER HOME . . . 02 PUBLIC SECTOR GOVT. HOSPITAL MEDICAL/COLLE 11 FAMILY WELFARE CENTER ..... 12 UPAZILA HEALTH COMPLE . . . . . 13 SATELLITE CLINIC EPI OUTRICH SITE ..... 14 MATERNAL AND CHILD WELF. CENTER ..... 15 COMMUNITY CILINIC ..... 16 OTHER_____ 17 (SPECIFY) NGO SECTOR NGO STATIC CLINIC ..... 21 NGO SATELLITE CLINIC ..... 22 OTHER_____ 26 (SPECIFY) PRIVATE MED. SECTOR PVT. HOSPITAL/ CLINIC . . . . . 31 QUAL. DOCTOR . 32 TRADITIONAL DOC 33 PHARMACY ..... 34 OTHER_____ 36 (SPECIFY) OTHER_____ 96 (SPECIFY)		

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
437	After (NAME was born, did any medical persons check on your baby's health?	YES . . . . . 1 NO . . . . . 2 (SKIP TO 441) ◄ DON'T KNOW 8		
438	How long after delivery did the first check take place? IF LESS THAN ONE DAY, RECORD HOURS. IF LESS THAN ONE WEEK, RECORD DAYS.	HOURS 1 ☐☐ DAYS 2 ☐☐ WEEKS 3 ☐☐ DON'T KNOW . . . 998		
439	Who checked on your baby's health at that time? IF CODE `D' CIRCLED: _____ (WRITE NAME OF CSBA) _____ (WRITE NAME OF CSBA)	HEALTH PERSONNEL QUAL. DOCTOR ... A NURSE/MIDWIFE/ PARAMEDIC ... B FAMILY WELFARE VISITOR ..... C COMMUNITY SKILLED BIRTH ATTENDANT ... D MA/SACMO ..... E HEALTH ASST. . F FAMILY WELFARE ASSISTANT ..... G OTHER PERSON TRAINED TBA ..... H UNTRAINED TBA . I UNQUALIFIED DOCTOR ..... J OTHER_____ X (SPECIFY)		
440	Where did this first check take place? PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE. IF UNABLE TO DETERMINE IF A HOSPITAL, HEALTH CENTER, OR CLINIC IS PUBLIC OR PRIVATE MEDICAL, WRITE THE THE NAME OF THE PLACE. _____ (NAME OF PLACE)	HOME OWN HOME . . . 01 OTHER HOME . . . 02 PUBLIC SECTOR GOVT. HOSPITAL MEDICAL/COLLE 11 FAMILY WELFARE CENTER ..... 12 UPAZILA HEALTH COMPLE . . . . . 13 SATELLITE CLINIC EPI OUTRICH SITE ..... 14 MATERNAL AND CHILD WELF. CENTER ..... 15 COMMUNITY CLINIC ..... 16 OTHER_____ 17 (SPECIFY) NGO SECTOR NGO STATIC CLINIC ..... 21 NGO SATELLITE CLINIC ..... 22 OTHER_____ 26 (SPECIFY) PRIVATE MED. SECTOR PVT. HOSPITAL/ CLINIC . . . . . 31 QUAL. DOCTOR 32 TRADITIONAL DOC 33 PHARMACY ..... 34 OTHER_____ 36 (SPECIFY) OTHER_____ 96 (SPECIFY)		

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
441	In the first two months after delivery, did you take a Vitamin A capsule like this? SHOW CAPSULE	YES . . . . . 1 NO 2		
442	Has your menstrual period returned since the birth of (NAME)?	YES . . . . . 1 (SKIP TO 444) NO . . . . . 2 (SKIP TO 445)		
443	Did your period return between the birth of (NAME) and your next pregnancy?		YES . . . . . 1 NO . . . . . 2 (SKIP TO 447)	YES . . . . . 1 NO . . . . . 2 (SKIP TO 447)
444	For how many months after the birth of (NAME) did you not have a period?	MONTHS . . . ☐☐ DON'T KNOW 98	MONTHS . . . ☐☐ DON'T KNOW 98	MONTHS . . . ☐☐ DON'T KNOW 98
445	CHECK 226: IS RESPONDENT PREGNANT?	NOT PREG-NANT ☐ PREGNANT OR UNSURE ☐ (SKIP TO 447)		
446	Have you begun to have sexual intercourse again since the birth of (NAME)?	YES . . . . . 1 NO . . . . . 2 (SKIP TO 448)		
447	For how many months after the birth of (NAME) did you not have sexual intercourse?	MONTHS . . . ☐☐ DON'T KNOW 98	MONTHS . . . ☐☐ DON'T KNOW 98	MONTHS . . . ☐☐ DON'T KNOW 98
448	Did you ever breastfeed (NAME)?	YES . . . . . 1 NO . . . . . 2 (SKIP TO 455A)	YES . . . . . 1 NO . . . . . 2 (SKIP TO 456)	YES . . . . . 1 NO . . . . . 2 (SKIP TO 456)
449	How long after birth did you first put (NAME) to the breast? IF LESS THAN 1 HOUR, RECORD '00' HOURS. IF LESS THAN 24 HOURS, RECORD HOURS. OTHERWISE, RECORD DAYS.	IMMEDIATELY . . . 000 HOURS 1 ☐☐ DAYS 2 ☐☐		
449A	Was (NAME) given colostrum immediately after his/her birth?	YES . . . . . 1 NO 2	YES . . . . . 1 NO 2	YES . . . . . 1 NO 2
450	In the first three days after delivery, was (NAME) given anything to drink other than breast milk?	YES . . . . . 1 NO . . . . . 2 (SKIP TO 452)		

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
451	What was (NAME) given to drink? Anything else? RECORD ALL LIQUIDS MENTIONED.	MILK (OTHER THAN BREAST MILK) . A PLAIN WATER . . . B SUGAR OR GLUCOSE WATER . . . C GRIPE WATER . . . D SUGAR-SALT-WATER SOLUTION . . . . . E FRUIT JUICE . . . . . F INFANT FORMULA . G TEA/INFUSIONS . . . H HONEY . . . . . I OTHER _____ X (SPECIFY)		
452	CHECK 404: CHILD ALIVE?	ALIVE DEAD ☐ (SKIP TO 454)	ALIVE DEAD ☐ (SKIP TO 454)	ALIVE DEAD ☐ (SKIP TO 454)
453	Are you still breastfeeding (NAME)?	YES . . . . . 1 (SKIP TO 455A) NO 2	YES . . . . . 1 (SKIP TO 456) NO 2	YES . . . . . 1 (SKIP TO 456) NO 2
454	For how many months did you breastfeed (NAME)?	MONTHS . . . ☐☐ DON'T KNOW . . . 98	MONTHS . . . ☐☐ DON'T KNOW . . . 98	MONTHS . . . ☐☐ DON'T KNOW . . . 98
455A	When you were pregnant with (NAME) did you live in a village, or in a town/city?	VILLAGE ..... 1 TOWN/CITY ..... 2 (SKIP TO 455C)		
455B	Did you deliver (NAME) in the same village where you lived, a different village, or in a town/city?	SAME VILLAGE ..... 1 DIFF. VILLAGE ..... 2 TOWN/CITY ..... 3 (SKIP TO 455D)		
455C	Did you deliver (NAME) in town/city where you lived, a different town/city, or in a village?	SAME TOWN/CITY ... 1 DIFF. TOWN/CITY ... 2 VILLAGE 3		
455D	Write down the village/mohalla of the delivery place of (NAME). _____ Village	CLUSTER VILLAGE/MOHALLA ..... 1 OTHER THAN CLUSTER VILL./MOHALLA ... 2		
456		GO BACK TO 405 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 501.	GO BACK TO 405 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 501.	GO BACK TO 405 IN NEXT-TO-LAST COLUMN OF NEW QUESTIONNAIRE; OR, IF NO MORE BIRTHS, GO TO 501.

SECTION 5. CHILD IMMUNIZATION AND HEALTH AND CHILD'S AND WOMAN'S NUTRITION

501 ENTER IN THE TABLE THE LINE NUMBER, NAME, AND SURVIVAL STATUS OF EACH BIRTH IN 2002 OR LATER.
ASK THE QUESTIONS ABOUT ALL OF THESE BIRTHS. BEGIN WITH THE LAST BIRTH.
(IF THERE ARE MORE THAN 3 BIRTHS, USE LAST 2 COLUMNS OF ADDITIONAL QUESTIONNAIRES).

		LAST BIRTH	NEXT-TO-LAST BIRTH	SECOND-FROM-LAST BIRTH
502	LINE NUMBER FROM 212	LINE NUMBER	LINE NUMBER	LINE NUMBER . . . . .
503	FROM 212 AND 216	NAME _____ LIVING / DEAD → (GO TO 503 IN NEXT COLUMN OR, IF NO MORE BIRTHS, GO TO 531)	NAME _____ LIVING / DEAD → (GO TO 503 IN NEXT COLUMN OR, IF NO MORE BIRTHS, GO TO 531)	NAME _____ LIVING / DEAD → (GO TO 503 IN NEXT-TO-LAST COLUMN OF NEW QUESTIONNAIRE, OR IF NO MORE BIRTHS, GO TO 531)
504	Do you have a card where (NAME'S) vaccinations are written down? IF YES: May I see it please?	YES, SEEN . . . . . 1 (SKIP TO 506) YES, NOT SEEN . . . . . 2 (SKIP TO 508) NO CARD 3	YES, SEEN . . . . . 1 (SKIP TO 506) YES, NOT SEEN . . . . . 2 (SKIP TO 508) NO CARD 3	YES, SEEN . . . . . 1 (SKIP TO 506) YES, NOT SEEN . . . . . 2 (SKIP TO 508) NO CARD 3
505	Did you ever have a vaccination card for (NAME)?	YES . . . . . 1 (SKIP TO 508) NO 2	YES . . . . . 1 (SKIP TO 508) NO 2	YES . . . . . 1 (SKIP TO 508) NO 2

506 (1) COPY VACCINATION DATE FOR EACH VACCINE FROM THE CARD.
(2) WRITE '44' IN 'DAY' COLUMN IF CARD SHOWS THAT A VACCINATION WAS GIVEN, BUT NO DATE IS RECORDED.

506A (3) COPY DATE OF BIRTH IF WRITTEN ON CARD

	LAST BIRTH DAY MONTH YEAR		NEXT-TO-LAST BIRTH DAY MONTH YEAR		SECOND-FROM-LAST BIRTH DAY MONTH YEAR	
BCG		BCG		BCG		
POLIO 0 (POLIO GIVEN AT BIRTH)		P0		P0		
POLIO 1		P1		P1		
POLIO 2		P2		P2		
POLIO 3		P3		P3		
DPT 1		D1		D1		
DPT 2		D2		D2		
DPT 3		D3		D3		
MEASLES		MEA		MEA		
HEPATITIS B1		HB1		HB1		
HEPATITIS B2		HB2		HB2		
HEPATITIS B3		HB3		HB3		

506B	CHECK 506:	BCG TO HEPATITIS ALL RECORDED → (GO TO 510) / OTHER	BCG TO HEPATITIS ALL RECORDED → (GO TO 510) / OTHER	BCG TO HEPATITIS ALL RECORDED → (GO TO 510) / OTHER

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME ________	NEXT-TO-LAST BIRTH NAME ________	SECOND-FROM-LAST BIRTH NAME ________
507	Has (NAME) received any vaccinations that are not recorded on this card? RECORD 'YES' ONLY IF RESPONDENT MENTIONS BCG, POLIO 0-3, DPT 1-3, MEASLES, AND/OR HEP B VACCINES.	YES . . . . 1 (PROBE FOR VACCINATIONS AND WRITE '66' IN THE CORRESPONDING DAY COLUMN IN 506) (SKIP TO 510) NO . . . . 2 (SKIP TO 510) DON'T KNOW 8	YES . . . . 1 (PROBE FOR VACCINATIONS AND WRITE '66' IN THE CORRESPONDING DAY COLUMN IN 506) (SKIP TO 510) NO . . . . 2 (SKIP TO 510) DON'T KNOW 8	YES . . . . 1 (PROBE FOR VACCINATIONS AND WRITE '66' IN THE CORRESPONDING DAY COLUMN IN 506) (SKIP TO 510) NO . . . . 2 (SKIP TO 510) DON'T KNOW 8
508	Did (NAME) ever receive any vaccinations to prevent him/her from getting diseases, including vaccinations received in a national immunization campaign?	YES . . . . 1 NO . . . . 2 (SKIP TO 511) DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 511) DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 511) DON'T KNOW 8
509	Please tell me if (NAME) received any of the following vaccinations:			
509A	A BCG vaccination against tuberculosis, that is, an injection in the left shoulder that usually causes a scar?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8
509B	Polio vaccine, that is, drops in the mouth?	YES . . . . 1 NO . . . . 2 (SKIP TO 509E) DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 509E) DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 509E) DON'T KNOW 8
509C	Was the first polio vaccine received in the first two weeks after birth or later?	FIRST 2 WEEKS . . . 1 LATER 2	FIRST 2 WEEKS . . . 1 LATER 2	FIRST 2 WEEKS . . . 1 LATER 2
509D	How many times was the polio vaccine received?	NUMBER OF TIMES . . . . . ☐	NUMBER OF TIMES . . . . . ☐	NUMBER OF TIMES . . . . . ☐
509E	A DPT vaccination, that is, an injection given in the thigh or buttocks, sometimes at the same time as polio drops?	YES . . . . 1 NO . . . . 2 (SKIP TO 509G) DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 509G) DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 509G) DON'T KNOW 8
509F	How many times was a DPT vaccination received?	NUMBER OF TIMES . . . . . ☐	NUMBER OF TIMES . . . . . ☐	NUMBER OF TIMES . . . . . ☐
509G	A measles injection or an MMR injection - that is, a shot in the arm at the age of 9 months or older - to prevent him/her from getting measles?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8
509H	A HEP.B vaccination, that is, an injection given in the right thigh, sometimes given at the same time as DPT?	YES . . . . 1 NO . . . . 2 (SKIP TO 510) DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 510) DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 510) DON'T KNOW 8
509J	How many times was a HEP B vaccination received?	NUMBER OF TIMES . . . . . ☐ DON'T KNOW 8	NUMBER OF TIMES . . . . . ☐ DON'T KNOW 8	NUMBER OF TIMES . . . . . ☐ DON'T KNOW 8

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME ________________	NEXT-TO-LAST BIRTH NAME ________________	SECOND-FROM-LAST BIRTH NAME ________________
510	Did (NAME) receive any polio vaccine from the National Immunization Days (NID) on March 3, 2007	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8
511	Did (NAME) receive a vitamin A dose (like this/any of these) within the last six months? SHOW COMMON TYPES OF CAPSULES.	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8
512	Has (NAME) had diarrhea in the last 2 weeks?	YES . . . . 1 NO . . . . 2 (SKIP TO 521) DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 521) DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 521) DON'T KNOW 8
513	Now I would like to know how much (NAME) was given to drink during the diarrhea (including breastmilk). Was he/she given less than usual to drink, about the same amount, or more than usual to drink? IF LESS, PROBE: Was he/she given much less than usual to drink or somewhat less?	MUCH LESS . . . . . 1 SOMEWHAT LESS . 2 ABOUT THE SAME . 3 MORE . . . . 4 NOTHING TO DRINK 5 DON'T KNOW 8	MUCH LESS . . . . . 1 SOMEWHAT LESS . 2 ABOUT THE SAME . 3 MORE . . . . 4 NOTHING TO DRINK 5 DON'T KNOW 8	MUCH LESS . . . . . 1 SOMEWHAT LESS . 2 ABOUT THE SAME . 3 MORE . . . . 4 NOTHING TO DRINK 5 DON'T KNOW 8
514	When (NAME) had diarrhea, was he/she given less than usual to eat, about the same amount, more than usual, or nothing to eat? IF LESS, PROBE: Was he/she given much less than usual to eat or somewhat less?	MUCH LESS . . . . . 1 SOMEWHAT LESS . 2 ABOUT THE SAME . 3 MORE . . . . 4 STOPPED FOOD . 5 NEVER GAVE FOOD 6 DON'T KNOW 8	MUCH LESS . . . . . 1 SOMEWHAT LESS . 2 ABOUT THE SAME . 3 MORE . . . . 4 STOPPED FOOD . 5 NEVER GAVE FOOD 6 DON'T KNOW 8	MUCH LESS . . . . . 1 SOMEWHAT LESS . 2 ABOUT THE SAME . 3 MORE . . . . 4 STOPPED FOOD . 5 NEVER GAVE FOOD 6 DON'T KNOW 8
515	Did you seek advice or treatment for the diarrhea from any source?	YES . . . . 1 NO . . . . 2 (SKIP TO 517)	YES . . . . 1 NO . . . . 2 (SKIP TO 517)	YES . . . . 1 NO . . . . 2 (SKIP TO 517)

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
516	Where did you seek advice or treatment? Anywhere else? PROBE TO IDENTIFY EACH TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE(S). IF UNABLE TO DETERMINE IF A HOSPITAL, HEALTH CENTER, OR CLINIC IS PUBLIC OR PRIVATE MEDICAL, WRITE THE THE NAME OF THE PLACE. _____ (NAME OF PLACE(S))	PUBLIC SECTOR HOSP./MED. COLLEGE ..... A FAMILY WELFARE CENTER (FWC) B UPAZILA HEALTH COMPL..... C SAT. CLINIC/EPI . OUTREACH ..... D MATERNAL AND CHILD WELFARE CENTER ..... E GOVT. FIELD WORKER (FWA) F COMM. CLINIC ..... G OTHER _____ (SPECIFY) H NGO SECTOR NGO STATIC CLINIC ..... I NGO SATELITE CLINIC ..... J NGO FIELDWKR . K OTHER _____ (SPECIFY) L PRIVATE MEDICAL SECTOR PVT. HOSPITAL/ CLINIC..... M QUAL. DOCTOR ... N TRAD. DOCTC... O PHARMACY ..... P OTHER PRIVATE MED. _____ (SPECIFY) Q OTHER SOURCE SHOP ..... R TRADITIONAL PRACTITIONER S OTHER _____ (SPECIFY) X	PUBLIC SECTOR HOSP./MED. COLLEGE ..... A FAMILY WELFARE CENTER (FWC) B UPAZILA HEALTH COMPL..... C SAT. CLINIC/EPI . OUTREACH . D MATERNAL AND CHILD WELFARE CENTER ..... E GOVT. FIELD WORKER (FWA) F COMM. CLINIC ..... G OTHER _____ (SPECIFY) H NGO SECTOR NGO STATIC CLINIC ..... I NGO SATELITE CLINIC ..... J NGO FIELDWKR . K OTHER _____ (SPECIFY) L PRIVATE MEDICAL SECTOR PVT. HOSPITAL/ CLINIC..... M QUAL. DOCTOR ... N TRAD. DOCTC... O PHARMACY ..... P OTHER PRIVATE MED. _____ (SPECIFY) Q OTHER SOURCE SHOP ..... R TRADITIONAL PRACTITIONER S OTHER _____ (SPECIFY) X	PUBLIC SECTOR HOSP./MED. COLLEGE ..... A FAMILY WELFARE CENTER (FWC) B UPAZILA HEALTH COMPL..... C SAT. CLINIC/EPI . OUTREACH . D MATERNAL AND CHILD WELFARE CENTER ..... E GOVT. FIELD WORKER (FWA) F COMM. CLINIC ..... G OTHER _____ (SPECIFY) H NGO SECTOR NGO STATIC CLINIC ..... I NGO SATELITE CLINIC ..... J NGO FIELDWKR . K OTHER _____ (SPECIFY) L PRIVATE MEDICAL SECTOR PVT. HOSPITAL/ CLINIC..... M QUAL. DOCTOR ... N TRAD. DOCTC... O PHARMACY ..... P OTHER PRIVATE MED. _____ (SPECIFY) Q OTHER SOURCE SHOP ..... R TRADITIONAL PRACTITIONER S OTHER _____ (SPECIFY) X
517	Does (NAME) still have diarrhea?	YES ..... 1 NO ..... 2 DON'T KNOW 8	YES ..... 1 NO ..... 2 DON'T KNOW 8	YES ..... 1 NO ..... 2 DON'T KNOW 8
518	Was he/she given any of the following to drink at any time since he/she started having the diarrhea:	YES NO DK	YES NO DK	YES NO DK
	a) A fluid made from a special saline packet	FLUID FROM ORS PKT . . 1 2 8	FLUID FROM ORS PKT . . 1 2 8	FLUID FROM ORS PKT . . 1 2 8
	b) Homemade sugar-salt-water solution (laban gur)?	LABAN GUR 1 2 8	LABAN GUR 1 2 8	LABAN GUR 1 2 8
	c) Zinc Syrup?	ZINC SYRUP 1 2 8	ZINC SYRUI 1 2 8	ZINC SYRUI 1 2 8
	d) Zinc tablets?	ZINC 1 2 8	ZINC 1 2 8	ZINC 1 2 8

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME ________	NEXT-TO-LAST BIRTH NAME ________	SECOND-FROM-LAST BIRTH NAME ________
519	Was anything (else) given to treat the diarrhea?	YES . . . . 1 NO . . . . 2 (SKIP TO 521) DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 521) DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 521) DON'T KNOW 8
520	What (else) was given to treat the diarrhea? Anything else? RECORD ALL TREATMENTS GIVEN.	PILL OR SYRUP ANTIBIOTIC . . . . . A ANTIMOTILITY . B OTHER (NOT ANTIBIOTIC, ANTIMOTILITY, OR ZINC) . . . . C UNKNOWN PILL OR SYRUP . . . D INJECTION ANTIBIOTIC . . . . . E NON-ANTIBIOTIC . F UNKNOWN INJECTION . . . G (IV) INTRAVENOUS . H HOME REMEDY/ HERBAL MEDICINE . . . . I OTHER ________ X (SPECIFY)	PILL OR SYRUP ANTIBIOTIC . . . . . A ANTIMOTILITY . B OTHER (NOT ANTIBIOTIC, ANTIMOTILITY, OR ZINC) . . . . C UNKNOWN PILL OR SYRUP . . . D INJECTION ANTIBIOTIC . . . . . E NON-ANTIBIOTIC . F UNKNOWN INJECTION . . . G (IV) INTRAVENOUS . H HOME REMEDY/ HERBAL MEDICINE . . . . I OTHER ________ X (SPECIFY)	PILL OR SYRUP ANTIBIOTIC . . . . . A ANTIMOTILITY . B OTHER (NOT ANTIBIOTIC, ANTIMOTILITY, OR ZINC) . . . . C UNKNOWN PILL OR SYRUP . . . D INJECTION ANTIBIOTIC . . . . . E NON-ANTIBIOTIC . F UNKNOWN INJECTION . . . G (IV) INTRAVENOUS . H HOME REMEDY/ HERBAL MEDICINE . . . . I OTHER ________ X (SPECIFY)
521	Has (NAME) been ill with a fever at any time in the last 2 weeks?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8
522	Has (NAME) had an illness with a cough at any time in the last 2 weeks?	YES . . . . 1 (SKIP TO 523) NO . . . . 2 DON'T KNOW 8	YES . . . . 1 (SKIP TO 523) NO . . . . 2 DON'T KNOW 8	YES . . . . 1 (SKIP TO 523) NO . . . . 2 DON'T KNOW 8
522A	CHECK 521 HAD FEVER?	YES → GO TO 525 NO OR DK → (GO BACK TO 503 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 531)	YES → GO TO 525 NO OR DK → (GO BACK TO 503 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 531)	YES → 525 NO OR DK → (GO TO 503 IN NEXT-TO-LAST COLUMN OF NEW QUESTIONNAIRE; OR, IF NO MORE BIRTHS, TO 531)
523	When (NAME) had an illness with a cough, did he/she breathe faster than usual with short, rapid breaths or have difficulty breathing?	YES . . . . 1 NO . . . . 2 (SKIP TO 525) DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 525) DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 525) DON'T KNOW 8
524	Was the fast or difficult breathing due to a problem in the chest or to a blocked or runny nose?	CHEST ONLY . . . 1 NOSE ONLY . . . . . 2 BOTH . . . . 3 OTHER ________ 6 (SPECIFY) DON'T KNOW 8	CHEST ONLY . . . 1 NOSE ONLY . . . . . 2 BOTH . . . . 3 OTHER ________ 6 (SPECIFY) DON'T KNOW 8	CHEST ONLY . . . 1 NOSE ONLY . . . . . 2 BOTH . . . . 3 OTHER ________ 6 (SPECIFY) DON'T KNOW 8
525	Did you seek advice or treatment for the illness from any source?	YES . . . . 1 NO . . . . 2 (SKIP TO 527)	YES . . . . 1 NO . . . . 2 (SKIP TO 527)	YES . . . . 1 NO . . . . 2 (SKIP TO 527)

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME ________________	NEXT-TO-LAST BIRTH NAME ________________	SECOND-FROM-LAST BIRTH NAME ________________
526	Where did you seek advice or treatment? Anywhere else? PROBE TO IDENTIFY EACH TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE(S). IF UNABLE TO DETERMINE IF A HOSPITAL, HEALTH CENTER, OR CLINIC IS PUBLIC OR PRIVATE MEDICAL, WRITE THE THE NAME OF THE PLACE. ________________________ (NAME OF PLACE(S))	PUBLIC SECTOR HOSP./MED. COLLEGE .... A FAMILY WELFARE CENTER (FWC) B UPAZILA HEALTH COMPI . . . . C SAT. CLINIC/EPI . OUTREACH . D MATERNAL AND CHILD WELF. CENTER .... E GOVT. FIELD WORKER (FWA) F COMM. CLINIC . G OTHER ______________ H (SPECIFY) NGO SECTOR NGO STATIC CLINIC .... I NGO SATELITE CLINIC .... J NGO FIELDWKR K OTHER ______________ L (SPECIFY) PRIVATE MEDICAL SECTOR PVT. HOSPITAL/ CLINIC . . . . M QUAL. DOCTOR N TRAD. DOCTC . . . O PHARMACY . P OTHER PRIVATE MED. __________ Q (SPECIFY) OTHER SOURCE SHOP . . . . R TRADITIONAL PRACTITIONER S OTHER __________ X (SPECIFY)	PUBLIC SECTOR HOSP./MED. COLLEGE .... A FAMILY WELFARE CENTER (FWC) B UPAZILA HEALTH COMPI . . . . C SAT. CLINIC/EPI . OUTREACH . D MATERNAL AND CHILD WELF. CENTER .... E GOVT. FIELD WORKER (FWA) F COMM. CLINIC . G OTHER ______________ H (SPECIFY) NGO SECTOR NGO STATIC CLINIC .... I NGO SATELITE CLINIC .... J NGO FIELDWKR K OTHER ______________ L (SPECIFY) PRIVATE MEDICAL SECTOR PVT. HOSPITAL/ CLINIC . . . . M QUAL. DOCTOR N TRAD. DOCTC . . . O PHARMACY . P OTHER PRIVATE MED. __________ Q (SPECIFY) OTHER SOURCE SHOP . . . . R TRADITIONAL PRACTITIONER S OTHER __________ X (SPECIFY)	PUBLIC SECTOR HOSP./MED. COLLEGE .... A FAMILY WELFARE CENTER (FWC) B UPAZILA HEALTH COMPI . . . . C SAT. CLINIC/EPI . OUTREACH . D MATERNAL AND CHILD WELF. CENTER .... E GOVT. FIELD WORKER (FWA) F COMM. CLINIC . G OTHER ______________ H (SPECIFY) NGO SECTOR NGO STATIC CLINIC .... I NGO SATELITE CLINIC .... J NGO FIELDWKR K OTHER ______________ L (SPECIFY) PRIVATE MEDICAL SECTOR PVT. HOSPITAL/ CLINIC . . . . M QUAL. DOCTOR N TRAD. DOCTC . . . O PHARMACY . P OTHER PRIVATE MED. __________ Q (SPECIFY) OTHER SOURCE SHOP . . . . R TRADITIONAL PRACTITIONER S OTHER __________ X (SPECIFY)
527	Is (NAME) still sick with a (fever/ cough)?	FEVER ONLY . . . . . 1 COUGH ONLY . . . 2 BOTH FEVER AND COUGH . . . . 3 NO, NEITHER . . . . . 4 DON'T KNOW . . . 8	FEVER ONLY . . . . . 1 COUGH ONLY . . . 2 BOTH FEVER AND COUGH . . . . 3 NO, NEITHER . . . . . 4 DON'T KNOW . . . 8	FEVER ONLY . . . . . 1 COUGH ONLY . . . 2 BOTH FEVER AND COUGH . . . . 3 NO, NEITHER . . . . . 4 DON'T KNOW . . . 8
530		GO BACK TO 503 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 531.	GO BACK TO 503 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 531.	GO TO 503 IN NEXT-TO-LAST COLUMN OF NEW QUESTIONNAIRE; OR, IF NO MORE BIRTHS, GO TO 531.

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
531	CHECK 215 AND 218, ALL ROWS: NUMBER OF CHILDREN BORN IN 2004 OR LATER LIVING WITH THE RESPONDENT ONE OR MORE ☐ NONE ☐ → 601 RECORD NAME OF YOUNGEST CHILD LIVING WITH HER (AND CONTINUE WITH 532) _____ (NAME)		
532	Now I would like to ask you about liquids or foods (NAME FROM 531) had yesterday during the day or at night. Did (NAME FROM 531) (drink/eat):	YES NO DK	
	A. Plain water?	A. PLAIN WATER 1 2 8	
	B. Sugar Water/Honey/Juice	B. SUGAR WATER/HONEY/JUIC 1 2 8	
	C. Commercially produced infant formula/baby formula?	C. FORMULA/BABY FORMULA 1 2 8	
	D. Cow's or goat's milk or yoghurt?	D. COW'S/GOAT MILK 1 2 8	
	E. Other liquid?	E. OTHER LIQUIDS 1 2 8	
	F. Papaya/mango?	F. PAPAYA/MANGO 1 2 8	
	G. Green leafy vegetables?	G. GREEN VEGETABLE 1 2 8	
	H. Other fruits and vegetables?	H. OTHER FRUITS AND ' 1 2 8	
	I. Rice, wheat, porridge, bread?	I. RICE, WHEAT 1 2 8	
	J. Meat/fish/eggs?	J. MEAT/FISH 1 2 8	
	K. Dal?	K. DAL 1 2 8	
	X. Others solid or semi-solid?	X. OTHERS 1 2 8	
532A	CHECK 532 FOR CATEGORIES 'F' THROUGH 'X' : ATLEAST ONE `YES' CIRCLED ☐ NOT A SINGLE 'YES' ☐ → 601		
533	How many times did (NAME FROM 531) eat solid, semisolid, or soft foods yesterday during the day or at night? IF 7 OR MORE TIMES, RECORD '7'.	NUMBER OF TIMES . . . . . ☐ DON'T KNOW 8	

SECTION 6. MARRIAGE

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
601	CHECK 105A: CURRENTLY MARRIED →	NOT CURRENTLY MARRIED (SEPARATED/DESERTED DIVORCED/WIDOWED) →	605
602	Is your husband staying with you now or is he staying elsewhere?	STAYING WITH HER . . . . . 1 STAYING ELSEWHERE 2	→ 604
603	How long has your husband been staying away from you?	MONTHS	
604	RECORD THE HUSBAND'S NAME AND LINE NUMBER FROM THE HOUSEHOLD QUESTIONNAIRE. IF HE IS NOT LISTED IN THE HOUSEHOLD, RECORD '00'.	NAME _____ LINE NO.	
605	Have you been married or lived with a man only once or more than once?	ONLY ONCE . . . . . 1 MORE THAN ONCE 2	
606	CHECK 605: MARRIED ONLY ONCE → In what month and year did you start living with your husband? MARRIED MORE THAN ONCE → Now I would like to ask about when you started living with your first husband. In what month and year was that?	MONTH . . . . . DON'T KNOW MONTH . . . . . 98 YEAR . . . . . DON'T KNOW YEAR 9998	→ 608
607	How old were you when you started living with him?	AGE	
608	How old was your husband when you started living with him?	AGE	

SECTION 7. FERTILITY PREFERENCES

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
701	CHECK 105A: CURRENTLY MARRIED ☐ ↓ NOT CURRENTLY MARRIED (SEPARATED/DESERTED/ DIVORCED/WIDOWED) ☐ →		713
701A	CHECK 311: NEITHER STERILIZED ☐ ↓ HE OR SHE STERILIZED ☐ →		713
702	CHECK 226: NOT PREGNANT OR UNSURE ☐ ↓ Now I have some questions about the future. Would you like to have (a/another) child, or would you prefer not to have any (more) children? PREGNANT ☐ ↓ Now I have some questions about the future. After the child you are expecting now, would you like to have another child, or would you prefer not to have any more children?	HAVE (A/ANOTHER) CHILD . . . . . 1 NO MORE/NONE . . . . . 2 SAYS SHE CAN'T GET PREGNANT . 3 UNDECIDED/DON'T KNOW AND PREGNANT . . . . . 4 UNDECIDED/DON'T KNOW AND NOT PREGNANT OR UNSURE 5	→ 704 → 713 → 709 → 708
703	CHECK 226: NOT PREGNANT OR UNSURE ☐ ↓ How long would you like to wait from now before the birth of (a/another) child? PREGNANT ☐ ↓ After the birth of the child you are expecting now, how long would you like to wait before the birth of another child?	MONTHS . . . . . 1 ☐☐ YEARS . . . . . 2 ☐☐ SOON/NOW . . . . . 993 SAYS SHE CAN'T GET PREGNANT 994 OTHER _____ 996 (SPECIFY) DON'T KNOW 998	→ 708 → 713 → 708
704	CHECK 226: NOT PREGNANT OR UNSURE ☐ ↓ PREGNANT ☐ →		709
705	CHECK 310: USING A CONTRACEPTIVE METHOD? NOT ASKED ☐ ↓ NOT CURRENTLY USING ☐ ↓ CURRENTLY USING ☐ →		713
706	CHECK 703: NOT ASKED ☐ ↓ 24 OR MORE MONTHS OR 02 OR MORE YEARS ☐ ↓ 00-23 MONTHS OR 00-01 YEAR ☐ →		709

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
707	CHECK 702: WANTS TO HAVE A/ANOTHER CHILD → You have said that you do not want (a/another) child soon, but you are not using any method to avoid pregnancy. Can you tell me why you are not using a method? Any other reason? WANTS NO MORE/ NONE → You have said that you do not want any (more) children, but you are not using any method to avoid pregnancy. Can you tell me why you are not using a method? Any other reason? RECORD ALL REASONS MENTIONED.	FERTILITY-RELATED REASONS NOT HAVING SEX . . . . . B INFREQUENT SEX . . . . . C MENOPAUSAL/HYSTERECTOMY . D SUBFECUND/INFECUND . . . . . E POSTPARTUM AMENORRHEIC . . . F BREASTFEEDING . . . . . G FATALISTIC . . . . . H OPPOSITION TO USE RESPONDENT OPPOSED . . . . . I HUSBAND/PARTNER OPPOSED . J OTHERS OPPOSED . . . . . K RELIGIOUS PROHIBITION . . . . . L LACK OF KNOWLEDGE KNOWS NO METHOD . . . . . M KNOWS NO SOURCE . . . . . N METHOD-RELATED REASONS HEALTH CONCERNS . . . . . O FEAR OF SIDE EFFECTS . . . . . P LACK OF ACCESS/TOO FAR . . . . . Q COSTS TOO MUCH . . . . . R INCONVENIENT TO USE . . . . . S INTERFERES WITH BODY'S NORMAL PROCESSES . . . . . T OTHER _____ X (SPECIFY) DON'T KNOW . . . . . Z	
708	CHECK 310: USING A CONTRACEPTIVE METHOD? NOT ASKED → NO, NOT CURRENTLY USING → YES, CURRENTLY USING		→ 713
709	Do you think you will use a contraceptive method to delay or avoid pregnancy at any time in the future?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 711 → 713
710	Which contraceptive method would you prefer to use?	FEMALE STERILIZATION . . . . . 01 MALE STERILIZATION . . . . . 02 PILL . . . . . 03 IUD . . . . . 04 INJECTABLES . . . . . 05 IMPLANTS . . . . . 06 CONDOM . . . . . 07 SAFE PERIOD . . . . . 08 WITHDRAWAL . . . . . 09 OTHER _____ 96 (SPECIFY) UNSURE 98	→ 713

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
711	What is the main reason that you think you will not use a contraceptive method at any time in the future?	FERTILITY-RELATED REASONS INFREQUENT SEX/NO SEX . . . 22 MENOPAUSAL/HYSTERECTOMY 23 SUBFECUND/INFECUND . . . . . 24 WANTS AS MANY CHILDREN AS POSSIBLE . . . . . 26 OPPOSITION TO USE RESPONDENT OPPOSED . . . . . 31 HUSBAND/PARTNER OPPOSED 32 OTHERS OPPOSED . . . . . 33 RELIGIOUS PROHIBITION . . . . . 34 LACK OF KNOWLEDGE KNOWS NO METHOD . . . . . 41 KNOWS NO SOURCE . . . . . 42 METHOD-RELATED REASONS HEALTH CONCERNS . . . . . 51 FEAR OF SIDE EFFECTS . . . . . 52 LACK OF ACCESS/TOO FAR . . . 53 COSTS TOO MUCH . . . . . 54 INCONVENIENT TO USE . . . . . 55 INTERFERES WITH BODY'S NORMAL PROCESSES . . . . . 56 OTHER _____ 96 (SPECIFY) DON'T KNOW 98	
713	CHECK 216: HAS LIVING CHILDREN → If you could go back to the time you did not have any children and could choose exactly the number of children to have in your whole life, how many would that be? NO LIVING CHILDREN → If you could choose exactly the number of children to have in your whole life, how many would that be? PROBE FOR A NUMERIC RESPONSE.	NONE . . . . . 00 → 715 NUMBER . . . . . ☐☐ OTHER _____ 96 → 715 (SPECIFY)	
714	How many of these children would you like to be boys, how many would you like to be girls and for how many would the sex not matter?	BOYS GIRLS EITHER NUMBER ☐☐ ☐☐ ☐☐ OTHER _____ 96 (SPECIFY)	
715	In the last month have you: Heard about family planning on the radio? Seen shows about family planning on the television? Read about family planning in a newspaper or magazine? Read about family planning in a poster, billboard or leaflet? Heard about family planning from a community event?	YES NO RADIO . . . . . 1 2 TELEVISION . . . . . 1 2 NEWSPAPER OR MAGAZINE . . . 1 2 POSTER/BILLBOARD . . . . . 1 2 COMMUNITY EVENT 1 2	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
717	CHECK 105A: YES, CURRENTLY MARRIED ↓ NOT CURRENTLY MARRIED (SEPARATED/DESERTED/ DIVORCED/WIDOWED) →		801
722	Does your husband want the same number of children that you want, or does he want more or fewer than you want?	SAME NUMBER . . . . . 1 MORE CHILDREN . . . . . 2 FEWER CHILDREN . . . . . 3 DON'T KNOW 8	
723	How often have you talked to your husband about family planning in the last three months?	NEVER . . . . . 1 ONCE OR TWICE . . . . . 2 MORE OFTEN 3	

SECTION 8. HUSBAND'S BACKGROUND AND WOMAN'S WORK

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
801	CHECK 105A: CURRENTLY MARRIED ☐ ↓ SEPARATED/ DESERTED/ DIVORCED/ WIDOWED ☐ →		→ 803
802	How old was your husband on his last birthday?	AGE IN COMPLETED YEARS ☐☐	
803	Did your (last) husband ever attend school or madrasha?	YES, SCHOOL . . . . . 1 YES, MADRASHA . . . . . 2 YES, BOTH . . . . . 3 NO 4	→ 804 → 804 → 805
803A	What type of schooling did your husband last attend?	SCHOOL . . . . . 1 MADRASHA 2	
804	What level of schooling did he last attend?	PRIMARY . . . . . 1 SECONDARY . . . . . 2 COLLEGE AND HIGHER 3	
804A	What is the highest class he completed at that level?	CLASS . . . . . ☐☐	
805	What kind of work does (did) your (last) husband mainly do?	_____ ☐☐ _____ _____	
806	Now I would like to ask you some questions about your work. Aside from your own housework, have you done any work in the last seven days?	YES . . . . . 1 NO 2	→ 810
807	As you know, some women take up jobs for which they are paid in cash or kind. Others sell things, have a small business or work on the family farm or in the family business. In the last seven days, have you done any of these things or any other work?	YES . . . . . 1 NO 2	→ 810
808	Although you did not work in the last seven days, do you have any job or business from which you were absent for leave, illness, vacation, maternity leave or any other such reason?	YES . . . . . 1 NO 2	→ 810
809	Have you done any work in the last 12 months?	YES . . . . . 1 NO 2	→ 814
810	What is your occupation, that is, what kind of work do you mainly do?	_____ ☐☐ _____ _____	
812	Do you usually work throughout the year, or do you work seasonally, or only once in a while?	THROUGHOUT THE YEAR . . . . . 1 SEASONALLY/PART OF THE YEAR . 2 ONCE IN A WHILE 3	
813	Are you paid in cash or kind for this work or are you not paid at all?	CASH ONLY . . . . . 1 CASH AND KIND . . . . . 2 IN KIND ONLY . . . . . 3 NOT PAID 4	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
814	CHECK 105A: CURRENTLY MARRIED ☐ ↓ NOT CURRENTLY MARRIED ☐ → 822		
818	CHECK 813: CODE 1 OR 2 CIRCLED ☐ ↓ OTHER ☐ → 822		
819	Who usually decides how the money you earn will be used: mainly you, mainly your husband, you and your husband jointly, or someone else?	RESPONDENT . . . . . 1 HUSBAND . . . . . 2 RESPONDENT AND HUSBAND JOINTLY . . . 3 SOMEONE ELSE . . . . . 4 RESPONDENT AND SOMEONE ELSE JOINTLY 5	
822	Who usually makes decisions about health care for yourself: you, your husband, you and your husband jointly, or someone else?	RESPONDENT = 1 HUSBAND = 2 RESPONDENT & HUSBAND JOINTLY = 3 SOMEONE ELSE = 4 RESPONDENT AND SOMEONE ELSE JOINTLY = 5 1 2 3 4 5	
823	Who usually makes decisions about making major household purchases?	1 2 3 4 5	
824	Who usually makes decisions about making purchases for daily household needs?	1 2 3 4 5	
825	Who usually makes decisions about visits to your family or relatives?	1 2 3 4 5	
826	Who usually makes decisions about your child health care?	1 2 3 4 5	
826A	Do you go to a health centre or hospital alone or with your young children?	YES, ALONE . . . . . 1 YES, WITH CHILDREN . . . . . 2 → 901 NO . . . . . 3 . . . OTHER _____ 6 (SPECIFY)	
826B	Can you go to a health centre or hospital alone or with your young children?	YES, ALONE . . . . . 1 YES, WITH CHILDREN . . . . . 2 NO . . . . . 3 OTHER _____ 6 (SPECIFY)	

SECTION 9. HIV/AIDS

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
901	Now I would like to talk about something else. Have you ever heard of an illness called AIDS?	YES . . . . . 1 NO 2	→ 913
902	Can people reduce their chance of getting the AIDS virus by having just one uninfected sex partner who has no other sex partners?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
903	Can people get the AIDS virus from mosquito bites?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
904	Can people reduce their chance of getting the AIDS virus by using a condom every time they have sex?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
905	Can people get the AIDS virus by sharing food with a person who has AIDS?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
906	Can people reduce their chance of getting the AIDS virus by not having sexual intercourse at all?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
906A	Can people get the AIDS virus by using unsterilized needle or syringe?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
906B	Can people get the AIDS virus through unsafe blood transfusion?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
908	Is it possible for a healthy-looking person to have the AIDS virus?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
913	CHECK 901: HEARD ABOUT AIDS → Apart from AIDS, have you heard about other infections that can be transmitted through sexual contact? NOT HEARD ABOUT AIDS → Have you heard about infections that can be transmitted through sexual contact?	YES . . . . . 1 NO 2	
914	Have you heard about: a) Syphilis? b) Gonorrhea?	YES NO SYPHILIS 1 2 GONORRHEA 1 2	
915	CHECK 913/914: HEARD ABOUT OTHER SEXUALLY TRANSMITTED INFECTIONS? YES NO → 917		
916	Now I would like to ask you some questions about your health in the last 12 months. During the last 12 months, have you had a disease which you got through sexual contact?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
917	Sometimes women experience a bad smelling abnormal genital discharge. During the last 12 months, have you had a bad smelling abnormal genital discharge?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
918	Sometimes women have a genital sore or ulcer. During the last 12 months, have you had a genital sore or ulcer?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
919	CHECK 916, 917, AND 918: HAS HAD AN INFECTION (ANY 'YES') ↓ HAS NOT HAD AN INFECTION OR DOES NOT KNOW →		→ 922
920	The last time you had (PROBLEM FROM 916/917/918), did you seek any kind of advice or treatment?	YES . . . . . 1 NO 2	→ 922
921	Where did you go? Any other place? PROBE TO IDENTIFY EACH TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE(S). IF UNABLE TO DETERMINE IF HOSPITAL, HEALTH CENTER VCT CENTER, OR CLINIC IS PUBLIC OR PRIVATE MEDICAL, WRITE THE NAME OF THE PLACE. _____ (NAME OF PLACE(S))	PUBLIC SECTOR HOSPITAL/MEDICAL COLLEGE . A FAMILY WELFARE CENTRE . . . B UPAZILA HEALTH COMPLEX . . . C SATELLITE CLINIC/ EPI OUTREACH . . . . . D MATERNAL AND CHILD WELFARE CENTRE (MCWC) . . . E GOVT. FIELD WORKER (FWA) . . . F COMMUNITY CLINIC . . . . . G OTHER _____ H (SPECIFY) NGO SECTOR NGO STATIC CLINIC . . . . . I NGO SATELLITE CLINIC . . . . . J NGO DEPOT HOLDER . . . . . K NGO FIELD WORKER (FWA) . . . . . L OTHER _____ M (SPECIFY) PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC . . . N QUALIFIED DOCTOR . . . . . O TRADITIONAL DOCTOR . . . . . P PHARMACY . . . . . Q OTHER PRIVATE MEDICAL_____ R (SPECIFY) OTHER SOURCE SHOP . . . . . S FRIEND/RELATIVE . . . . . T OTHER _____ X (SPECIFY)	
922	Husbands and wives do not always agree on everything. If a wife knows her husband has a disease that she can get during sexual intercourse, is she justified in refusing to have sex with him?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	

SECTION 10. OTHER HEALTH ISSUES

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1001	Have you ever heard of an illness called tuberculosis or TB?	YES . . . . . 1 NO 2	→ 1101A
1002	How does tuberculosis spread from one person to another? PROBE: Any other ways? RECORD ALL MENTIONED.	THROUGH THE AIR WHEN COUGHING OR SNEEZING . . . . . A THROUGH SHARING UTENSILS . . . . . B THROUGH TOUCHING A PERSON WITH TB . . . . . C THROUGH FOOD . . . . . D THROUGH SEXUAL CONTACT . . . . . E THROUGH MOSQUITO BITES . . . . . F OTHER _____ X (SPECIFY) DON'T KNOW . . . . . Z	
1003	Can tuberculosis be cured?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	

SECTION 11: DOMESTIC VIOLENCE MODULE

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1101A	PRESENCE OF OTHERS AT THIS POINT (PRESENT AND LISTENING, PRESENT BUT NOT LISTENING, OR NOT PRESENT)	PRES./ LISTEN. / PRES. NOT LISTEN. / NOT PRES. CHILDREN < 10 . . . . . 1 2 3 HUSBAND . . . . . 1 2 3 OTHER MALES . . . . . 1 2 3 OTHER FEMALES . . . 1 2 3	
1101B	Sometimes a husband is annoyed or angered by things that his wife does. In your opinion, is a husband justified in hitting or beating his wife in the following situations: If she goes out without telling him? If she neglects the children? If she argues with him? If she refuses to have sex with him? If she does not obey elders in the family?	YES NO DK GOES OUT . . . . . 1 2 8 NEGL. CHILDREN . . . 1 2 8 ARGUES . . . . . 1 2 8 REFUSES SEX . . . . . 1 2 8 DOESN.T OBEY ELDERS . 1 2 8	
1101C	CHECK COVER PAGE: WOMAN SELECTED FOR THIS SECTION WOMAN NOT SELECTED →		1113
1102	CHECK FOR PRESENCE OF OTHERS: DO NOT CONTINUE UNTIL EFFECTIVE PRIVACY IS ENSURED. PRIVACY OBTAINED . . . . . 1 PRIVACY NOT POSSIBLE . . . . . 2 →		1113
1103	READ TO THE RESPONDENT Now I would like to ask you questions about some other important aspects of a woman's life. I know that some of these questions are very personal. However, your answers are crucial for helping to understand the condition of women in Bangladesh. Let me assure you that your answers are completely confidential and will not be told to anyone and no one else will know that you were asked these questions.		
1104	As far as you know, did your father ever hit or beat your mother?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	1106
1105	How often did your father hit or beat you mother: often, sometimes or rarely?	OFTEN . . . . . 1 SOMETIMES . . . . . 2 RARELY . . . . . 3 DON'T KNOW 8	
1106	CHECK 105A: CURRENTLY MARRIED NOT CURRENTLY MARRIED (SEPARATED/DESERTED/ DIVORCED/WIDOWED) (READ IN PAST TENSE)		

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1107	A (Does/did) your (last) husband/partner ever do any of the following things to you:	B CHECK 105A: ASK ONLY **IF RESPONDENT IS CURRENTLY MARRIED** How often did this happen during the last 12 months: often, only sometimes, or not at all?	

			OFTEN	SOME-TIMES	NOT AT ALL
a)	push you, shake you, or throw something at you?	YES 1 → NO 2 ↓	1	2	3
b)	slap you?	YES 1 → NO 2 ↓	1	2	3
c)	twist your arm or pull your hair?	YES 1 → NO 2 ↓	1	2	3
d)	punch you with his fist or with something that could hurt you?	YES 1 → NO 2 ↓	1	2	3
e)	kick you, drag you or beat you up?	YES 1 → NO 2 ↓	1	2	3
f)	try to choke you or burn you on purpose?	YES 1 → NO 2 ↓	1	2	3
g)	threaten or attack you with a knife, gun, or any other weapon?	YES 1 → NO 2 ↓	1	2	3
h)	physically force you to have sexual intercourse with him even when you did not want to?	YES 1 → NO 2 ↓	1	2	3

1108	CHECK 1107B: AT LEAST ONE `1' OR '2' CIRCLED FOR CATEGORIES `a' THROUGH 'g' ↓	NOT A SINGLE `1' OR '2' CIRCLED FOR CATEGORIES `a' THROUGH 'g' →	1113
1109	Why did your husband hurt you in the last 12 months? Any other reason? RECORD ALL MENTIONED.	WITHOUT ANY REASON . . . . . A BECAUSE OF FINANCIAL CRISIS . . B BECAUSE HUSBAND UNEMPLOYED C BECAUSE OF FOOD CRISIS . . . . . D BECAUSE OF ENVY OR MALICE . . . . E BECAUSE I REFUSED SEX . . . . . F I DISOBEYED HUSBAND/ELDER . . . . G NEGLECTED HOUSEHOLD CHORES H WENT OUT WITHOUT PERMISSION . I HUSBAND SUSPECTS INFIDELITY . . J WIFE SUSPECTS INFIDELITY . . . . . K DOWRY ISSUE . . . . . L DEMAND FOR MONEY/OTHER RESOURCES FROM MY FAMILY . . M HUSBAND DRUNK/HAD DRUGS . . . . N NEGLECTED CHILDREN ..... O OTHER _____ (SPECIFY) X	
1109A	CHECK 1109: L' NOT CIRCLED ↓	L'CIRCLED →	1109C
1109B	Is your husband hurting you related to demand for dowry?	YES . . . . . 1 NO 2	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1109C	CHECK 1109: M' NOT CIRCLED ☐ ↓ M'CIRCLED ☐ →		1109E
1109D	Is your husband hurting you related to your inability to bring money/other resources from your family?	YES . . . . . 1 NO 2	
1109E	CHECK 1109: N' NOT CIRCLED ☐ ↓ N'CIRCLED ☐ →		1110
1109F	Is your husband hurting you related to his drinking alcohol or taking drugs?	YES . . . . . 1 NO 2	
1110	Did you tell anyone about your husband hurting you?	YES . . . . . 1 NO 2	→ 1112
1111	Whom did you tell? RECORD ALL MENTIONED.	FRIEND . . . . . A FATHER/MOTHER . . . . . B BROTHER/SISTER . . . . . C AUNT/UNCLE . . . . . D CHILDREN . . . . . E MOTHER-IN-LAW . . . . . F FATHER-IN-LAW . . . . . G OTHER RELATIVE . . . . . H POLICE . . . . . I DOCTOR/HEALTHWORK . . . . . J MOULAVI/CLERIC . . . . . K COUNSELOR . . . . . L NGO/FEMALE . . . . . M LOCAL LEADER . . . . . N NEIGHBOUR . . . . . O OTHER _____ X (SPECIFY)	
1112	Did anyone provide any assistance to protect you from being hurt by your husband?	YES . . . . . 1 NO 2	→ 1113
1112A	What type of assistance did you receive?	NEIGHBOURS TOOK AWAY HUSBAND . . . . . A ADVICE TO TELL POLICE BY NEIGHBOUR . . . . . B ADVICE TO FILE A CASE IN THE COURT AGAINST HUSBAND ..... C OTHER _____ X (SPECIFY)	
1113	RECORD THE TIME.	HOUR . . . . . ☐☐ MINUTES . . . . . ☐☐	

INTERVIEWER'S OBSERVATIONS

TO BE FILLED IN AFTER COMPLETING INTERVIEW

COMMENTS ABOUT RESPONDENT:

COMMENTS ON SPECIFIC QUESTIONS:

ANY OTHER COMMENTS:

SUPERVISOR'S OBSERVATIONS

NAME OF SUPERVISOR: _____ DATE: _____

EDITOR'S OBSERVATIONS

NAME OF EDITOR: _____ DATE: _____

INSTRUCTIONS:
ONLY ONE CODE SHOULD APPEAR IN ANY BOX.
ALL MONTHS SHOULD BE FILLED IN.

INFORMATION TO BE CODED FOR EACH COLUMN

BIRTHS, PREGNANCIES, CONTRACEPTIVE USE

B	BIRTHS
P	PREGNANCIES
T	TERMINATIONS
0	NO METHOD
1	FEMALE STERILIZATION
2	MALE STERILIZATION
3	PILL
4	IUD
5	INJECTABLES
6	IMPLANTS
7	CONDOM
L	SAFE PERIOD/RHYTHM METHOD
M	WITHDRAWAL
X	OTHER _____ (SPECIFY)

1	05	BADHRA	01		01	08	AUG	2
4	04	SRABAN	02		02	07	JUL	0
1	03	ASHAR	03		03	06	JUN	0
4	02	JAISTHA	04		04	05	MAY	7
	01	BAISHAK	05		05	04	APR	
	12	CHOITRA	06		06	03	MAR	
	11	FALGUN	07		07	02	FEB	
	10	MAGH	08		08	01	JAN	
	09	POUSH	09		09	12	DEC	
1	08	AGRAHAYAN	10		10	11	NOV	2
4	07	KARTIK	11		11	10	OCT	0
1	06	ASHWIN	12		12	09	SEP	0
3	05	BADHRA	13		13	08	AUG	6
	04	SRABAN	14		14	07	JUL	
	03	ASHAR	15		15	06	JUN	
	02	JAISTHA	16		16	05	MAY	
	01	BAISHAK	17		17	04	APR	
	12	CHOITRA	18		18	03	MAR	
	11	FALGUN	19		19	02	FEB	
	10	MAGH	20		20	01	JAN	
	09	POUSH	21		21	12	DEC	
1	08	AGRAHAYAN	22		22	11	NOV	2
4	07	KARTIK	23		23	10	OCT	0
1	06	ASHWIN	24		24	09	SEP	0
2	05	BADHRA	25		25	08	AUG	5
	04	SRABAN	26		26	07	JUL	
	03	ASHAR	27		27	06	JUN	
	02	JAISTHA	28		28	05	MAY	
	01	BAISHAK	29		29	04	APR	
	12	CHOITRA	30		30	03	MAR	
	11	FALGUN	31		31	02	FEB	
	10	MAGH	32		32	01	JAN	
	09	POUSH	33		33	12	DEC	
1	08	AGRAHAYAN	34		34	11	NOV	2
4	07	KARTIK	35		35	10	OCT	0
1	06	ASHWIN	36		36	09	SEP	0
1	05	BADHRA	37		37	08	AUG	4
	04	SRABAN	38		38	07	JUL	
	03	ASHAR	39		39	06	JUN	
	02	JAISTHA	40		40	05	MAY	
	01	BAISHAK	41		41	04	APR	
	12	CHOITRA	42		42	03	MAR	
	11	FALGUN	43		43	02	FEB	
	10	MAGH	44		44	01	JAN	
	09	POUSH	45		45	12	DEC	
1	08	AGRAHAYAN	46		46	11	NOV	2
4	07	KARTIK	47		47	10	OCT	0
1	06	ASHWIN	48		48	09	SEP	0
0	05	BADHRA	49		49	08	AUG	3
	04	SRABAN	50		50	07	JUL	
	03	ASHAR	51		51	06	JUN	
	02	JAISTHA	52		52	05	MAY	
	01	BAISHAK	53		53	04	APR	
	12	CHOITRA	54		54	03	MAR	
	11	FALGUN	55		55	02	FEB	
	10	MAGH	56		56	01	JAN	
	09	POUSH	57		57	12	DEC	
1	08	AGRAHAYAN	58		58	11	NOV	2
4	07	KARTIK	59		59	10	OCT	0
0	06	ASHWIN	60		60	09	SEP	0
9	05	BADHRA	61		61	08	AUG	2
	04	SRABAN	62		62	07	JUL	
	03	ASHAR	63		63	06	JUN	
	02	JAISTHA	64		64	05	MAY	
	01	BAISHAK	65		65	04	APR	
	12	CHOITRA	66		66	03	MAR	
	11	FALGUN	67		67	02	FEB	
	10	MAGH	68		68	01	JAN	
1	09	POUSH	69		69	12	DEC	2
4	08	AGRAHAYAN	70		70	11	NOV	0
0	07	KARTIK	71		71	10	OCT	0
8	06	ASHWIN	72		72	09	SEP	1

20 March 2007

BANGLADESH DEMOGRAPHIC AND HEALTH SURVEYS
MAN'S QUESTIONNAIRE

NIPORT, MOHFW
Mitra and Associates

IDENTIFICATION

CLUSTER NUMBER . . . . . [ ][ ][ ]

HOUSEHOLD NUMBER . . . . . [ ][ ][ ]

NAME OF THE HOUSEHOLD HEAD _____

NAME AND LINE NUMBER OF MAN _____ [ ][ ]

MAN SELECTED FOR DOMESTIC VIOLENCE MODULE (YES=1, NO=2) _____ [ ]

INTERVIEWER VISITS

	1	2	3	FINAL VISIT
DATE				DAY [ ][ ]
				MONTH [ ][ ]
				YEAR 2 0 0 7
INTERVIEWER'S NAME				INT. NUMBER [ ][ ][ ]
RESULT*				RESULT [ ]
NEXT VISIT: DATE				TOTAL NUMBER OF VISITS [ ]
TIME				

*RESULT CODES:

1	COMPLETED	4	REFUSED		
2	NOT AT HOME	5	PARTLY COMPLETED	7	OTHER _____ (SPECIFY)
3	POSTPONED	6	INCAPACITATED		

SUPERVISOR	FIELD EDITOR	OFFICE EDITOR	KEYED BY
NAME _____	NAME _____	[ ][ ]	[ ][ ]
DATE _____ [ ][ ][ ]	DATE _____ [ ][ ][ ]		

SECTION 1. RESPONDENT'S BACKGROUND

INTRODUCTION AND CONSENT

INFORMED CONSENT

Hello. My name is _____ and I am working with Mitra and Associates, a private research organization located in Dhaka. To assist in the implementation of socio-development programs in the country, we conduct different types of surveys. We are now conducting a national survey about the health of women, men and children under the authority of NIPORT of Ministry of Health and Family Welfare. We would very much appreciate your participation in this survey. I would like to ask you about your health. This information will help the government to plan health services. The survey usually takes between 20 minutes to complete. Whatever information you provide will be kept strictly confidential and will not be shown to other persons.

Participation in the survey is completely voluntary. If we should come to any question you don't want to answer, just let me know and I will go on to the next question; or you can stop the interview at any time. However, we hope you will participate in the survey since your views are important.

At this time, do you want to ask me anything about the survey?
May I begin the interview now?

Signature of interviewer: _____ Date: _____

RESPONDENT AGREES TO BE INTERVIEWED . . . . . 1 ↓ RESPONDENT DOES NOT AGREE TO BE INTERVIEWED . . . 2 → END

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
101	RECORD THE TIME.	HOUR . . . . . ☐☐ MINUTES . . . . . ☐☐	
102	How long have you been living continuously in (NAME OF CURRENT PLACE OF RESIDENCE)? IF LESS THAN ONE YEAR, RECORD '00' YEARS.	YEARS . . . . . ☐☐ ALWAYS . . . . . 95 VISITOR 96	→ 104
103	Just before you moved here, did you live in a city, in a town, or in the village?	CITY . . . . . 1 TOWN . . . . . 2 VILLAGE 3	
104	In what month and year were you born?	MONTH . . . . . ☐☐ DON'T KNOW MONTH . . . . . 98 YEAR . . . . . ☐☐☐☐ DON'T KNOW YEAR 9998	
105	How old were you at your last birthday? COMPARE AND CORRECT 104 AND/OR 105 IF INCONSISTENT.	AGE IN COMPLETED YEARS ☐☐	
105A	Are you now married, separated, deserted, widowed, divorced or have you never been married?	CURRENTLY MARRIED . . . . . 1 SEPARATED . . . . . 2 DESERTED . . . . . 3 DIVORCED . . . . . 4 WIDOWED . . . . . 5 NEVER MARRIED 6	→ END
106	Have you ever attended school/madrasha?	YES, SCHOOL . . . . . 1 YES, MADRASHA . . . . . 2 YES, BOTH . . . . . 3 NO 4	→ 107 → 110
106A	What type of school have you last attended?	SCHOOL . . . . . 1 MADRASHA 2	
107	What is the highest level of school you attended: primary, secondary, or college and higher?	PRIMARY . . . . . 1 SECONDARY . . . . . 2 COLLEGE AND HIGHER 3	
108	What is the highest class you completed at that level?	CLASS . . . . . ☐☐	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
109	CHECK 107: PRIMARY ☐ → SECONDARY OR HIGHER ☐ → 112		
110	Now I would like you to read this sentence to me. SHOW CARD TO RESPONDENT. IF RESPONDENT CANNOT READ WHOLE SENTENCE, PROBE: Can you read any part of the sentence to me?	CANNOT READ AT ALL . . . . . 1 ABLE TO READ ONLY PARTS OF SENTENCE . . . . . 2 ABLE TO READ WHOLE SENTENCE. . 3 NO CARD WITH REQUIRED LANGUAGE _____ 4 (SPECIFY LANGUAGE) BLIND/VISUALLY IMPAIRED 5	
111	CHECK 110: CODE '2', '3' OR '4' CIRCLED ☐ → CODE '1' OR '5' CIRCLED ☐ → 113		
112	Do you read a newspaper or magazine?	YES . . . . . 1 NO 2	→ 113
112A	How often do you read a newspaper or magazine almost every day, at least once a week, or less than once a week?	ALMOST EVERY DAY . . . . . 1 AT LEAST ONCE A WEEK . . . . . 2 LESS THAN ONCE A WEEK 3	
113	Do you listen to the radio?	YES . . . . . 1 NO 2	→ 114
113A	Do you listen to the radio almost every day, at least once a week, or less than once a week?	ALMOST EVERY DAY . . . . . 1 AT LEAST ONCE A WEEK . . . . . 2 LESS THAN ONCE A WEEK 3	
114	Do you watch television?	YES . . . . . 1 NO 2	→ 115
114A	Do you watch television almost every day, at least once a week, or less than once a week?	ALMOST EVERY DAY . . . . . 1 AT LEAST ONCE A WEEK . . . . . 2 LESS THAN ONCE A WEEK 3	
115	What is your religion?	ISLAM . . . . . 1 HINDUISM . . . . . 2 BUDDHISM . . . . . 3 CHRISTIANITY . . . . . 4 OTHER _____ 6 (SPECIFY)	
116	Are you currently working?	YES . . . . . 1 NO 2	→ 122
117	What is your occupation, that is, what kind of work do you mainly do?	_____ ☐☐ _____ _____	
119	Do you usually work throughout the year, or do you work seasonally, or only once in a while?	THROUGHOUT THE YEAR . . . . . 1 SEASONALLY/PART OF THE YEAR . 2 ONCE IN A WHILE 3	→ 121
120	During the last 12 months, how many months did you work?	NUMBER OF MONTHS . . . . . ☐☐	
121	Do you think that your earning is sufficient, moderately sufficient, or not sufficient to provide for your family's basic needs?	SUFFICIENT . . . . . 1 MODERATELY SUFFICIENT . . . . . 2 NOT SUFFICIENT 3	→ 302
122	Have you done any work in the last 12 months?	YES . . . . . 1 NO 2	→ 302
123	What have you been doing over the last 12 months?	GOING TO SCHOOL . . . . . 1 LOOKING FOR WORK . . . . . 2 INACTIVE . . . . . 3 COULD NOT WORK/HANDICAPPED 4 OTHER _____ 6 (SPECIFY)	

SECTION 3. MARRIAGE

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
302	CHECK 105A: CURRENTLY MARRIED ☐ NOT CURRENTLY MARRIED (SEPARATED/DESERTED DIVORCED/WIDOWED) ☐		→ 307
303	Is your wife staying with you now or is she staying elsewhere?	STAYING WITH HIM . . . . . 1 STAYING ELSEWHERE 2	
304	Do you currently have one wife or more than one wife?	ONE WIFE . . . . . 1 MORE THAN ONE WIFE 2	→ 306
305	Altogether, how many wives do you have?	TOTAL NUMBER OF WIVES ☐☐	
306	CHECK 304: ONE WIFE/ PARTNER ☐ → Please tell me the name of your wife. MORE THAN ONE WIFE/ PARTNER ☐ → Please tell me the name of each of your current wives. RECORD THE WIFE'S NAME AND LINE NUMBER FROM THE HOUSEHOLD QUESTIONNAIRE. IF SHE IS NOT LISTED IN THE HOUSEHOLD, RECORD '00'.	NAME _____ LINE NO. . . . . ☐☐ NAME _____ LINE NO. . . . . ☐☐ NAME _____ LINE NO. . . . . ☐☐	
306A	CHECK 304: CURRENTLY HAS ONE WIFE ☐ CURRENTLY HAS MORE THAN ONE WIFE ☐		→ 308
307	Have you been married only once or more than once?	ONLY ONCE . . . . . 1 MORE THAN ONCE 2	
308	CHECK 307: MARRIED ONLY ONCE ☐ → In what month and year did you start living with your wife? MARRIED MORE THAN ONCE ☐ → Now I would like to ask about when you started living with your first wife. In what month and year was that?	MONTH . . . . . ☐☐ DON'T KNOW MONTH . . . . . 98 YEAR . . . . . ☐☐☐☐ DON'T KNOW YEAR 9998	→ 310
309	How old were you when you started living with her?	AGE . . . . . ☐☐	
310	CHECK FOR THE PRESENCE OF OTHERS. BEFORE CONTINUING, MAKE EVERY EFFORT TO ENSURE PRIVACY.		
310A	Now I would like to ask you some questions about sexual activity in order to gain a better understanding of some important life issues. Did you have sex before (first) marriage?	YES . . . . . 1 NO 2	
311	How old were you when you had sexual intercourse for the very first time?	NEVER HAD SEXUAL INTERCOURSE . . . . . 00 AGE IN YEARS . . . . . ☐☐ FIRST TIME WHEN STARTED LIVING WITH (FIRST) WIFE 95	

SECTION 4. FERTILITY PREFERENCES

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
401	CHECK 306: ONE OR MORE WIVES ☐ QUESTION NOT ASKED ☐ →		408
403	(Is your wife /Are any of your wives) currently pregnant?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
404	CHECK 403: NO WIFE PREGNANT OR DON'T KNOW ☐ WIFE(WIVES) PREGNANT ☐ Now I have some questions about the future. Would you like to have (a/another) child, or would you prefer not to have any (more) children? Now I have some questions about the future. After the child(ren) you and your (wife(wives)/partner(s) are expecting now, would you like to have another child, or would you prefer not to have any more children?	HAVE (A/ANOTHER) CHILD . . . . . 1 NO MORE/NONE . . . . . 2 COUPLE INFECUND . . . . . 3 WIFE (WIVES) STERILIZED . . . . . 4 RESPONDENT STERILIZED . . . . . 5 UNDECIDED/DON'T KNOW 8	408
405	CHECK 306: ONE WIFE ☐ MORE THAN ONE WIFE ☐ →		407
406	CHECK 403: WIFE NOT PREGNANT OR DON'T KNOW ☐ WIFE PREGNANT ☐ How long would you like to wait from now before the birth of (a/another) child? After the birth of the child you are expecting now, how long would you like to wait before the birth of another child?	MONTHS . . . . . 1 ☐☐ YEARS . . . . . 2 ☐☐ SOON/NOW . . . . . 993 COUPLE INFECUND . . . . . 994 OTHER _____ 996 (SPECIFY) DON'T KNOW 998	408
407	How long would you like to wait from now before the birth of (a/another) child?	MONTHS . . . . . 1 ☐☐ YEARS . . . . . 2 ☐☐ SOON/NOW . . . . . 993 HE/ALL HIS WIVES ARE INFECUND . . . . . 994 OTHER _____ 996 (SPECIFY) DON'T KNOW 998	
408	Do you have any living children?	YES . . . . . 1 NO 2	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
409	CHECK 408: HAS LIVING CHILDREN ☐ → If you could go back to the time you did not have any children and could choose exactly the number of children to have in your whole life, how many would that be? NO LIVING CHILDREN ☐ → If you could choose exactly the number of children to have in your whole life, how many would that be? PROBE FOR A NUMERIC RESPONSE.	NONE . . . . . 00 NUMBER . . . . . ☐☐ OTHER _____ 96 (SPECIFY)	→ 411 → 411
410	How many of these children would you like to be boys, how many would you like to be girls and for how many would the sex not matter?	BOYS GIRLS EITHER NUMBER ☐☐ ☐☐ ☐☐ OTHER _____ 96 (SPECIFY)	
411	In the last month have you:	YES NO	
	Heard about family planning on the radio?	RADIO 1 2	
	Seen shows about family planning on the television?	TELEVISION 1 2	
	Read about family planning in a newspaper or magazine?	NEWSPAPER OR MAGAZINE . . . 1 2	
	Read about family planning in a poster, billboard or leaflet?	POSTER/BILLBOARD 1 2	
	Heard about family planning from a community event?	COMMUNITY EVENT 1 2	
412	I will now read you some statements about contraception. Please tell me if you agree or disagree with each one.	AGREE DISAGREE DK	
	a) Contraception is women's business and a man should not have to worry about it.	CONTRACEPTION WOMAN'S BUSINESS . 1 2 8	
	b) Women who use contraception may become promiscuous.	WOMAN MAY BECOME PROMISCUOUS . . . 1 2 8	

SECTION 5. PARTICIPATION IN HEALTH CARE

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
502	Do you think that women need to have a medical checkup when they are pregnant even if they are not sick?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 504
503	At what month of pregnancy do you think that women need to have their first checkup?	MONTH ☐☐ DON'T KNOW 98	
504	During their pregnancy, do you think that women need to eat more, the same, or less than they did before their pregnancy?	MORE . . . . . 1 SAME . . . . . 2 LESS . . . . . 3 DON'T KNOW 8	
505	CHECK 408: HAS LIVING CHILDREN ☐ ↓ DOES NOT HAVE LIVING CHILDREN ☐ →		→ 601
506	How many years old is your youngest child?	AGE IN YEARS ☐☐	
507	CHECK 506: YOUNGEST CHILD IS 0-3 YEARS OLD ☐ ↓ YOUNGEST CHILD 4 YEARS OR OLDER ☐ →		→ 601
508	What is the name of your youngest child? WRITE NAME OF YOUNGEST CHILD _____ (NAME OF YOUNGEST CHILD)		
509	Did your wife go to a health facility for antenatal care when she was pregnant with (NAME OF YOUNGEST CHILD)?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 511
510	Did any medical persons such as a doctor, nurse, FWV or others visit your wife when she was pregnant with (NAME)?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 512

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
511	Were you present during any of the antenatal care visits?	YES . . . . . 1 NO 2	
512	At any time during this pregnancy, did any medical persons such as a doctor, nurse, FWV or others talk to you about this particular pregnancy?	YES . . . . . 1 NO 2	
513	At any time during this pregnancy, did you ever talk with your wife about what the medical persons such as a doctor, nurse FWV or others told her about her own health or that of the baby's health?	YES . . . . . 1 NO 2	
514	Where did your wife give birth to (NAME)?	HOME OWN HOME . . . . . 11 OTHER HOME . . . . . 12 PUBLIC SECTOR GOVT. HOSPITAL ..... 21 UPAZILA HEALTH COMPLEX ..... 22 MATERNAL AND CHILD CENTRE 23 OTHER _____ 26 (SPECIFY) NGO SECTOR NGO STATIC CLINIC ..... 31 OTHER _____ 36 (SPECIFY) PRIVATE MED. SECTOR PVT. HOSPITAL/CLINIC ..... 41 OTHER _____ 46 (SPECIFY) OTHER PRIVATE _____ 96 (SPECIFY)	
515	Were you present at the birth of (NAME) in (NAME OF PLACE IN 514)?	YES . . . . . 1 NO 2	
516	In the first two months after (NAME) was born, did your wife visit a health facility to have her own health or the baby's health checked?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 518
517	In the first two months after (NAME) was born, did a medical person such as a doctor, nurse, FWV or others make a visit to check on your wife's or baby's health?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 519
518	Were you present during any of the visits?	YES . . . . . 1 NO 2	
519	Did (NAME OF THE YOUNGEST CHILD) ever receive any vaccinations to prevent him/her from getting diseases?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 601
520	Did you take (NAME) to be vaccinated at any time?	YES . . . . . 1 NO 2	

SECTION 6. HIV/AIDS AND STI

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
601	Now I would like to talk about something else. Have you ever heard of an illness called AIDS?	YES . . . . . 1 NO 2	→ 613
602	Can people reduce their chance of getting the AIDS virus by having just one uninfected sex partner who has no other sex partners?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
603	Can people get the AIDS virus from mosquito bites?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
604	Can people reduce their chance of getting the AIDS virus by using a condom every time they have sex?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
605	Can people get the AIDS virus by sharing food with a person who has AIDS?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
606	Can people reduce their chance of getting the AIDS virus by not having sexual intercourse at all?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
606A	Can people get the AIDS virus by using unsterilized needle or syringe?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
606B	Can people get the AIDS virus through unsafe blood transfusions?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
608	Is it possible for a healthy-looking person to have the AIDS virus?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
613	CHECK 601: HEARD ABOUT AIDS → Apart from AIDS, have you heard about other infections that can be transmitted through sexual contact? NOT HEARD ABOUT AIDS → Have you heard about infections that can be transmitted through sexual contact?	YES . . . . . 1 NO 2	
614	Have you heard about: a) Syphilis? b) Gonorrhea?	YES NO SYPHILIS 1 2 GONORRHEA 1 2	
615	CHECK 613/614: HEARD ABOUT OTHER SEXUALLY TRANSMITTED INFECTIONS? YES NO → 617		
616	Now I would like to ask you some questions about your health in the last 12 months. During the last 12 months, have you had a disease which you got through sexual contact?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
617	During the last 12 months, have you had a discharge from your penis?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
618	Sometimes men experience a sore or ulcear on or near their penis? During the last 12 months, have you had a sore or ulcer on or near your penis?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
618A	During the last 12 months, have you had pain or burning sensation during urination?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
619	CHECK 616, 617, 618 AND 618A HAS HAD AN INFECTION (ANY 'YES') ↓ HAS NOT HAD AN INFECTION OR DOES NOT KNOW → 622		
620	The last time you had (PROBLEM FROM 616, 617, 618 and 618A), did you seek any kind of advice or treatment?	YES . . . . . 1 NO 2	→ 622
621	Where did you go? Any other place? PROBE TO IDENTIFY EACH TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE(S). IF UNABLE TO DETERMINE IF HOSPITAL, HEALTH CENTER VCT CENTER, OR CLINIC IS PUBLIC OR PRIVATE MEDICAL, WRITE THE NAME OF THE PLACE. _____ (NAME OF PLACE(S))	PUBLIC SECTOR HOSPITAL/MEDICAL COLLEGE . . . . A FAMILY WELFARE CENTRE . . . B UPAZILA HEALTH COMPLEX . . . C SATELLITE CLINIC/ EPI OUTREACH . . . . . D MATERNAL AND CHILD WELFARE CENTRE (MCWC) . . . E GOVT. FIELD WORKER (FWA) . . . F COMMUNITY CLINIC . . . . . G OTHER _____ H (SPECIFY) NGO SECTOR NGO STATIC CLINIC . . . . . I NGO SATELLITE CLINIC . . . . . J NGO DEPOT HOLDER . . . . . K NGO FIELD WORKER (FWA) . . . . . L OTHER _____ M (SPECIFY) PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC . . . . . N QUALIFIED DOCTOR . . . . . O TRADITIONAL DOCTOR . . . . . P PHARMACY . . . . . Q OTHER PRIVATE MEDICAL _____ R (SPECIFY) OTHER SOURCE SHOP . . . . . S FRIEND/RELATIVE . . . . . T OTHER _____ X (SPECIFY)	
622	Husbands and wives do not always agree on everything. If a wife knows her husband has a disease that she can get during sexual intercourse, is she justified in refusing to have sex with him?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	

SECTION 7. OTHER HEALTH ISSUES

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
701	Have you ever heard of an illness called tuberculosis or TB?	YES . . . . . 1 NO 2	→ 705
702	How does tuberculosis spread from one person to another? PROBE: Any other ways? RECORD ALL MENTIONED.	THROUGH THE AIR WHEN COUGHING OR SNEEZING . . . . . A THROUGH SHARING UTENSILS . . . . . B THROUGH TOUCHING A PERSON WITH TB . . . . . C THROUGH FOOD . . . . . D THROUGH SEXUAL CONTACT . . . . . E THROUGH MOSQUITO BITES . . . . . F OTHER _____ X (SPECIFY) DON'T KNOW . . . . . Z	
703	Can tuberculosis be cured?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
705	At any time during the last three months, have you had any health problems or injury, that made it difficult for you to carry out your normal work or regular activities? IF YES PROBE AND CIRCLE APPROPRIATE CODE.	YES, ILLNESS . . . . . A YES, INJURY . . . . . B NONE . . . . . Y	→ 709
706	For how many days in the last three months were you not able to do your normal work or regular activities due to this illness or injury?	NUMBER OF DAYS	
707	CHECK 705: YES, ILLNESS A' CIRCLED ☐ → A ' NOT CIRCLED ☐		→ 709
708	What type of illness has prevented you from doing your normal work or regular activities?	TUBERCULOSIS . . . . . A ASTHMA . . . . . B DIABETES . . . . . C HIGH BLOOD PRESSURE . . . . . D HEART PROBLEM . . . . . E MALARIA/FEVER . . . . . F JAUNDICE/HEPATITIS . . . . . G OTHER _____ X (SPECIFY)	
709	Do you currently smoke cigarettes/bidi?	YES . . . . . 1 NO 2	→ 711
710	In the last 24 hours, how many cigarettes/bidi did you smoke?	CIGARETTES . . . . . ☐☐ BIDI . . . . . ☐☐	
711	Do you currently smoke or use any other type of tobacco?	YES . . . . . 1 NO 2	→ 801
712	What (other) type of tobacco do you currently smoke or use? RECORD ALL MENTIONED.	PIPE . . . . . A CHEWING TOBACCO . . . . . B SNUFF . . . . . C OTHER _____ X (SPECIFY)	

SECTION 8: DOMESTIC VIOLENCE MODULE

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
801	Now I would like to talk with you about the relationship between marriec women and men. People have different opinions on this subject and we would like to know more about what you think. If the husband is making enough money, do you believe that it is acceptable for married women to work outside the home to earn an income?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
802	If for some reason the husband cannot make enough money for the family, do you believe that it is acceptable for married women to work outside the home to earn an income?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
803	CHECK 105A: CURRENTLY MARRIED ⚑ NOT CURRENTLY MARRIED ☐ →		805
804	Who usually makes decisions about how to spend the cash that your wife earns?	RESPONDENT . . . . . 1 WIFE . . . . . 2 RESPONDENT AND WIFE JOINTLY . . . . . 3 SOMEONE ELSE . . . . . 4 RESPONDENT AND SOMEONE ELSE . . . . . 5 WIFE DOES NOT EARN CASH 6	
805	Who usually makes decisions about health care for yourself: you, your wife, you and your wife jointly, or someone else?	RESPONDENT = 1 WIFE = 2 RESPONDENT & WIFE JOINTLY = 3 SOMEONE ELSE = 4 RESPONDENT AND SOMEONE ELSE JOINTLY = 5 1 2 3 4 5	
806	Who usually makes decisions about making major household purchases?	1 2 3 4 5	
807	Who usually makes decisions about making purchases for daily household needs?	1 2 3 4 5	
808	Who usually makes decisions about visits to your family or relatives?	1 2 3 4 5	
809	Who usually makes decisions about your child health care?	1 2 3 4 5	
809A	PRESENCE OF OTHERS AT THIS POINT.	CHILDREN UNDER 10 . . . . . 1 2 WIFE (S) . . . . . 1 2 OTHER MALES . . . . . 1 2 OTHER FEMALES 1 2	
810	Sometimes a husband is annoyed or angered by things that his wife does. In your opinion, is a husband justified in hitting or beating his wife in the following situations: If she goes out without telling him? If she neglects the children? If she argues with him? If she refuses to have sex with him? If she does not obey elders in the family?	YES NO DK GOES OUT . . . . . 1 2 8 NEGL. CHILDREN . . . . . 1 2 8 ARGUES . . . . . 1 2 8 REFUSES SEX . . . . . 1 2 8 DOESN.T OBEY ELDERS . 1 2 8	
811	CHECK COVER PAGE: MAN SELECTED FOR THIS SECTION ⚑ MAN NOT SELECTED ☐ →		820
812	CHECK FOR PRESENCE OF OTHERS: DO NOT CONTINUE UNTIL EFFECTIVE PRIVACY IS ENSURED. PRIVACY OBTAINED . . . . . 1 ↓ PRIVACY NOT POSSIBLE . . . . . 2 →		821
813	READ TO THE RESPONDENT Now I would like to ask you questions about some other important aspects of a couple's life. I know that some of these questions are very personal. However, your answers are crucial for helping to understand the condition of couples in Bangladesh. Let me assure you that your answers are completely confidential and will not be told to anyone and no one else will know that you were asked these questions.		
814	As far as you know, did your father ever hit or beat your mother?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 816
815	How often did your father hit or beat you mother: often, sometimes or rarely?	OFTEN . . . . . 1 SOMETIMES . . . . . 2 RARELY . . . . . 3 DON'T KNOW 8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
816	CHECK 105A: CURRENTLY MARRIED → NOT CURRENTLY MARRIED (SEPARATED/DESERTED/ DIVORCED/WIDOWED) (READ IN PAST TENSE)		
817	A At any time. were there any circumstances or family disagreements which caused you to:	B CHECK 105A: ASK ONLY IF RESPONDENT IS CURRENTLY MARRIED How often did this happen during the last 12 months: often, only sometimes, or not at all?	

			OFTEN	SOME-TIMES	NOT AT ALL
a)	push, shake, or throw something at your wife?	YES 1 → NO 2	1	2	3
b)	slap your wife?	YES 1 → NO 2	1	2	3
c)	twist her arm or pull her hair?	YES 1 → NO 2	1	2	3
d)	punch her with your fist or with something that could hurt her?	YES 1 → NO 2	1	2	3
e)	kick her, drag her or beat her up?	YES 1 → NO 2	1	2	3
f)	try to choke her or burn her on purpose?	YES 1 → NO 2	1	2	3
g)	threaten or attack her with a knife, gun, or any other weapon?	YES 1 → NO 2	1	2	3
h)	physically force her to have sexual intercourse with you even when she did not want to?	YES 1 → NO 2	1	2	3

818	CHECK 817B (a-g): AT LEAST ONE `1' OR '2' CIRCLED FOR CATEGORIES `a' THROUGH 'g' ↓ NOT A SINGLE `1' OR '2' CIRCLED FOR CATEGORIES `a' THROUGH 'g' →		820
819	What is the reason for you to hurt your wife in the last 12 months? Any other reason? RECORD ALL MENTIONED.	WITHOUT ANY REASON . . . . . A BECAUSE OF FINANCIAL CRISIS . . . B BECAUSE HUSBAND UNEMPLOYED C BECAUSE OF FOOD CRISIS . . . . . D BECAUSE OF ENVY OR MALICE ..... E BECAUSE SHE REFUSED SEX .. . . . F WIFE DISOBEYED ME/ELDER . . . . G NEGLECTED HOUSEHOLD CHORES H WIFE WENT OUT WITHOUT PERMISSION . . . . . I HUSBAND SUSPECTS WIFE OF INFIDELITY . . . . . J MY WIFE SUSPECTS ME OF INFIDELITY . . . . . K DOWRY ISSUE . . . . . L DEMAND FOR MONEY/OTHER RESOURCES FROM HER FAMILY .. M HUSBAND DRUNK/HAD DRUGS . . . . N NEGLECTED CHILDREN ..... O OTHER _____ (SPECIFY) X	
819A	CHECK 819: L' NOT CIRCLED ↓ L'CIRCLED →		819C
819B	Did you hurt your wife for your demand related to dowry?	YES . . . . . 1 NO 2	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
819C	CHECK 819: M' NOT CIRCLED ☐ M'CIRCLED ☐		→ 819E
819D	Did you hurt your wife for her inability to bring money/other resources from her family?	YES . . . . . 1 NO 2	
819E	CHECK 819: N' NOT CIRCLED ☐ N'CIRCLED ☐		→ 819G
819F	Did you hurt your wife for your being drunk or addicted to alcohol or taking drugs?	YES . . . . . 1 NO 2	
819G	Did she tell anyone about your hurting her?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 819i
819H	Whom did she tell? RECORD ALL MENTIONED.	FRIEND . . . . . A FATHER/MOTHER . . . . . B BROTHER/SISTER . . . . . C AUNT/UNCLE . . . . . D CHILDREN . . . . . E MOTHER-IN-LAW . . . . . F FATHER-IN-LAW . . . . . G OTHER RELATIVE . . . . . H POLICE . . . . . I DOCTOR/HEALTHWORI . . . . . J MOULAVI/CLERIC . . . . . K COUNSELOR . . . . . L NGO/FEMALE . . . . . M LOCAL LEADER . . . . . N NEIGHBOUR . . . . . O OTHER _____ X (SPECIFY)	
819I	Did anyone provide any assistance to protect her from being hurt by you?	YES . . . . . 1 NO 2	→ 820
819J	What type of assistance did she receive?	NEIGHBOURS PREVENT ME FROM HITTING HER . . . . . A ADVICE TO TELL POLICE BY NEIGHBOUR . . . . . B ADVICE TO FILE A CASE IN THE COURT AGAINST HUSBAND . . . . . C OTHER _____ X (SPECIFY)	
820	Now I would like to ask you about another personal question. The information you provide will be kept strictly confidential. Some people take such things as Ganja, Charas, Phensidle, Pethedine, Heroin, Morphine, or other drugs, or any injectable drug. In the last three months, have you ever taken: Ghanja? Charas? Phensidle? Pethedine? Heroin? Morphine? Injectable drugs? Other drugs?	YES NO GHANJA . . . . . 1 2 CHARAS . . . . . 1 2 PHENSIDLE . . . . . 1 2 PETHEDINE . . . . . 1 2 HEROIN . . . . . 1 2 MORPHINE . . . . . 1 2 INJECTABLE DR . . . . . 1 2 OTHER DRUG ____ . . . . . 1 2 (SPECIFY)	
821	RECORD THE TIME.	HOUR ☐☐ MINUTES ☐☐	

INTERVIEWER'S OBSERVATIONS

TO BE FILLED IN AFTER COMPLETING INTERVIEW

COMMENTS ABOUT RESPONDENT:

COMMENTS ON SPECIFIC QUESTIONS:

ANY OTHER COMMENTS:

SUPERVISOR'S OBSERVATIONS

NAME OF SUPERVISOR: _____ DATE: _____

EDITOR'S OBSERVATIONS

NAME OF EDITOR: _____ DATE: _____

SUMMARY INDICATORS

Appendix G

Bangladesh Demographic and Health Survey

Indicator	1993-1994	1996-1997	1999-2000	2004	2007[1]
Fertility					
Total fertility rate (TFR) 15-49	3.4	3.3	3.3	3.0	2.7
Contraceptive prevalence rate					
Any method	44.6	49.2	53.8	58.1	55.8
Any modern method	36.2	41.6	43.4	47.3	47.5
Pill	17.4	20.8	23.0	26.2	28.5
IUD	2.2	1.8	1.2	0.6	0.9
Injection	4.5	6.2	7.2	9.7	7.0
Condom	3.0	3.9	4.3	4.2	4.5
Female sterilization	8.1	7.6	6.7	5.2	5.0
Male sterilization	1.1	1.1	0.5	0.6	0.7
Norplant	-	0.1	0.5	0.8	0.7
Any traditional method	8.4	7.7	10.3	10.8	8.3
Contraceptive use among married adolescent					
Percent of currently married adolescent girls using a modern contraceptive method					
Age 10-14	10.5	9.1	16.1	21.9	-
Age 15-19	19.6	27.8	31.2	34.1	37.6
Unmet need for family planning					
Percentage of currently married women under age 50 with unmet need for family planning	19.4	15.8	15.3	11.3	17.1
Fieldworker visit					
Percentage of currently married women who reported having been visited by a family planning fieldworker in the six months prior to the survey	43.0	35.2	21.2	18.2	21.0
Antenatal coverage					
Percentage of last live births in the five years preceding the survey for which women received at least one ANC from a medically trained provider	-	29.0	33.3	48.7	51.7
Skilled assistance at delivery					
Percentage of births in the five years preceding the survey attended by medically trained provider	9.52	8.0	12.1	13.4	18.0
Postnatal care					
Percentage of last live births where the mother received PNC from a trained provider within 42 days of delivery	-	-	13.7	17.8	30.1
Percentage of last live births in the five years preceding the survey where the child received PNC from a trained provider within 42 days of delivery	-	-	-	17.5	31.4
Childhood mortality					
Neonatal mortality	52	48	42	41	37
Post-neonatal mortality	35	34	24	24	15
Infant mortality rate	87	82	66	65	52
Child mortality Rate	50	37	30	24	14
Under-five mortality rate	133	116	94	88	65
Vaccination coverage					
Percentage of children age 12-23 months who received specific vaccines at any time before the survey					
BCG	85.4	86.2	91.0	93.4	96.8
DPT3	66.0	69.3	72.1	81.0	91.1
Polio3	66.8	62.3	70.8	82.3	90.8
Measles	68.9	69.9	70.8	75.7	83.1
All vaccines	58.9	54.1	60.4	73.1	81.9
Vitamin A supplementation					
Percentage of children (9-59 months) receiving vitamin A capsules in the 6 months preceding the survey	-	-	80.4	81.8	88.3
Treatment for diarrhea					
Percentage of children under age five with diarrhea treated with					
ORT (ORS or homemade solution)	58.33	61.0	73.6	74.6	81.2
Increased fluid intake	50.93	55.7	49.7	52.3	48.1

Indicator	1993-1994	1996-1997	1999-2000	2004	2007
Treatment for ARI					
Percentage of children under age five with symptoms of ARI seeking care from a trained provider	28.0[3]	32.9	27.2	20.3	37.1[4]
Nutritional status of children					
Percentage of children under age five considered malnourished according to three anthropometric indices of nutritional status					
Height-for-age (stunting)					
Severe	-	28.0	18.3	16.9	16.1[5]
Moderate or severe	-	54.6	44.7	43.0	43.2[5]
Weight for-height (wasting)					
Severe	-	3.7	1.1	1.3	2.9[5]
Moderate or severe	-	17.7	10.3	12.8	17.4[5]
Weight-for-age (underweight)					
Severe	-	20.6	12.9	12.8	11.8[5]
Moderate or severe	-	56.3	47.7	47.5	41.0[5]
Knowledge of HIV/AIDS					
Percentage of women/men who have heard of HIV/AIDS					
Ever-married women	-	18.7	30.8	60.0	67.4
Currently married men	-	33.1	50.2	78.0	86.7
Never-married men	-	-	-	89.3	-
Percentage of women/men who know at least two correct ways to avoid HIV/AIDS					
Ever-married women	-	-	7.2	29.7	20.1[6]
Currently married men	-	-	18.0	45.3	52.4[6]
Never-married men	-	-	-	58.8	-
Sanitary excreta disposal					
Percent of households with flush toilets, pit toilets/latrines	40.7	43.2	54.1	58.6	25.3
Education					
Percent of females 15-19 with completed primary education	33.1	51.6	62.9	70.4	77.9
Percent of males 15-19 with completed primary education	43.3	57.2	65.2	66.7	68.6
Percent of females 20-24 with completed secondary education	9.0	13.1	16.7	16.4	16.0
Percent of males 20-24 with completed secondary education	20.9	22.7	22.7	23.8	20.4
Breastfeeding					
Percent of children under 6 months who are exclusively breastfed (based on 24 hour recall)	45.9	45.1	46.1	42.2	42.9
Percent of children under 6 months who are exclusively breastfed (based on 7 days recall)	-	-	-	36.4	-
Percent of children age 6-9 months receiving breast milk and complementary food (based on 24 hour recall)	28.5	28.4	58.9	62.3	74.2
Percent of children age 6-9 months receiving breast milk and complementary food (based on 7 days recall)	-	-	-	69.2	-
Maternal nutrition					
Percent of mothers under age 50 who have children under 5 years with low BMI(<18.5)	-	52.0	45.4	37.9	-
Percent of ever married women under age 50 with low BMI	-	-	-	34.3	29.7

[1] 2007 data refer to ever-married women age 15-49
[2] Refers to births in the three years preceding the survey
[3] Refers to children under three years of age
[4] Calculated using a new definition of ARI
[5] Calculated using the new WHO Child Growth Standards
[6] Knows using condoms every time they have sexual intercourse and limiting sexual intercourse to one uninfected partner who has no other partners