

NFHS-2

PN-ACL-946

Uttar Pradesh 109795

**National Family
Health Survey
India
1998-99**



International Institute for Population Sciences



**MEASURE DHS+
ORC MACRO**

World Summit for Children Indicators: Uttar Pradesh, 1998-99

BASIC INDICATORS

Childhood mortality	Infant mortality rate	87 per 1,000
	Under-five mortality rate	123 per 1,000
Childhood malnutrition	Percent stunted (children 0-35 months)	55.5
	Percent wasted (children 0-35 months)	11.1
	Percent underweight (children 0-35 months)	51.7
Clean water supply	Percent of households within 15 minutes of a safe water supply ¹	77.5
Sanitary excreta disposal	Percent of households with flush toilet	10.2
Basic education	Percent of women age 15-49 with completed primary education	35.7
	Percent of men age 15-49 with completed primary education	69.1
	Percent of girls age 6-12 attending school	72.5
	Percent of boys age 6-12 attending school	83.5
	Percent of women age 15-49 who are literate	39.4
Children in especially difficult situations	Percent of children age 0-14 who live in single adult households	2.7

SUPPORTING INDICATORS

Birth spacing	Percent of births within 24 months of a previous birth	29.1
Safe motherhood	Percent of births with medical antenatal care	34.3
	Percent of births with antenatal care in first trimester	16.9
	Percent of births with medical assistance at delivery	22.4
	Percent of births in a medical facility	15.5
	Percent of births at high risk	61.9
Family planning	Contraceptive prevalence rate (any method, currently married women)	28.1
	Percent of currently married women with an unmet need for family planning	25.1
	Percent of currently married women with an unmet need for family planning to avoid a high-risk birth	19.5
Maternal nutrition	Percent of women with low body mass index (BMI)	35.8
Low birth weight	Percent of births with low birth weight (of those reporting a numeric weight)	37.0
Breastfeeding	Percent of children under 4 months who are exclusively breastfed	56.9
Iodized salt intake	Percent of households that use iodized salt (at least 15 ppm)	48.8
Vaccinations	Percent of children whose mothers received tetanus toxoid vaccinations during pregnancy	59.4
	Percent of children 12-23 months with measles vaccination	34.6
	Percent of children 12-23 months fully vaccinated	21.2
Diarrhoea control	Percent of children with diarrhoea in the preceding 2 weeks who received ORS, sugar-salt-water solution, or gruel	23.3
Acute respiratory infection	Percent of children with acute respiratory infection in the preceding 2 weeks seen by medical personnel	61.3

¹Water from pipes, hand pump, covered well, or tanker truck

PN-ACL-946

NATIONAL FAMILY HEALTH SURVEY (NFHS-2)

INDIA

1998-99

UTTAR PRADESH

**International Institute for Population Sciences
Mumbai, India**

**MEASURE DHS+, ORC MACRO
Calverton, Maryland, USA**

April 2001

**Suggested citation: International Institute for
Population Sciences (IIPS) and ORC Macro. 2001.
*National Family Health Survey (NFHS-2), India,
1998–99: Uttar Pradesh. Mumbai: IIPS.***

For additional information about the National Family Health Survey (NFHS-2), please contact:

**International Institute for Population Sciences
Govandi Station Road, Deonar, Mumbai-400 088
Telephone: 5564883, 5563254, 5563255, 5563256
Fax: 5563257
E-mail: iipsnfhs@vsnl.com
Website: <http://www.nfhsindia.org>**

NFHS-2 data sets for this state can be obtained from the website listed above.

d

CONTRIBUTORS

**Arvind Pandey
Fred Arnold
T.K. Roy
Robert D. Retherford
Pradeep Mishra
Sunita Kishor
Sumati Kulkarni
Kamla Gupta
P.K. Mangain
Zaheer Ahmad Khan
Damodar Sahu**

CONTENTS

	Page
Tables	v
Figures.....	ix
Preface.....	xi
Acknowledgements.....	xiii
Fact Sheet, Uttar Pradesh.....	xvi
Fact Sheet, Uttaranchal	xvii
Summary of Findings.....	xix

CHAPTER 1 INTRODUCTION

1.1	Background of the Survey.....	1
1.2	Basic Socioeconomic and Demographic Features of Uttar Pradesh.....	1
1.3	Questionnaires.....	3
1.4	Survey Design and Sample Implementation.....	5
	Sample Size and Reporting Domains	5
	Sample Design	5
	Sample Selection in Rural Areas	6
	Sample Selection in Urban Areas	9
	Sample Weights	10
	Sample Implementation	11
1.5	Recruitment, Training, and Fieldwork.....	12
1.6	Data Processing.....	13

CHAPTER 2 BACKGROUND CHARACTERISTICS OF HOUSEHOLDS

2.1	Age-Sex Distribution of the Household Population	15
2.2	Marital Status	17
2.3	Household Composition	20
2.4	Educational Level	22
2.5	Housing Characteristics	27
2.6	Lifestyle Indicators	32
2.7	Availability of Facilities and Services to the Rural Population.....	34

CHAPTER 3 BACKGROUND CHARACTERISTICS OF RESPONDENTS

3.1	Background Characteristics	37
3.2	Educational Level	40
3.3	Age at First Marriage.....	41
3.4	Exposure to Mass Media.....	43
3.5	Women's Employment	45
3.6	Women's Autonomy.....	46
3.7	Women's Educational Aspirations for Children	50
3.8	Domestic Violence: Attitudes and Prevalence.....	51

CHAPTER 4 FERTILITY AND FERTILITY PREFERENCES

4.1	Age at First Cohabitation.....	59
4.2	Current Fertility Levels.....	61
4.3	Fertility Differentials and Trends.....	63
4.4	Children Ever Born and Living.....	68
4.5	Birth Order.....	68
4.6	Birth Intervals.....	71
4.7	Age at First and Last Birth.....	73
4.8	Postpartum Amenorrhoea, Abstinence, Insusceptibility, and Menopause.....	75
4.9	Desire for More Children.....	77
4.10	Ideal Number of Children.....	82
4.11	Sex Preference for Children.....	83
4.12	Fertility Planning.....	86

CHAPTER 5 FAMILY PLANNING

5.1	Knowledge of Family Planning Methods.....	91
5.2	Contraceptive Use.....	93
	Ever Use of Family Planning Methods.....	93
	Current Use of Family Planning Methods.....	94
	Socioeconomic Differentials in Current Use of Family Planning Methods.....	97
	Number of Living Children at First Use of Contraception.....	100
	Problems with Current Method.....	100
5.3	Timing of Sterilization.....	102
5.4	Sources of Contraceptive Methods.....	103
5.5	Reasons for Discontinuation/Non-Use of Contraception.....	107
5.6	Future Intentions Regarding Contraceptive Use.....	109
5.7	Exposure to Family Planning Messages.....	114
5.8	Discussion of Family Planning.....	116
5.9	Need for Family Planning.....	118

CHAPTER 6 MORTALITY, MORBIDITY, AND IMMUNIZATION

6.1	Crude Death Rates and Age-Specific Death Rates.....	124
6.2	Infant and Child Mortality.....	125
	Assessment of Data Quality.....	125
	Levels, Trends, and Differentials in Infant and Child Mortality.....	127
	Socioeconomic Differentials in Infant and Child Mortality.....	129
	Demographic Differentials in Infant and Child Mortality.....	131
6.3	Morbidity.....	133
	Asthma.....	134
	Tuberculosis.....	134
	Jaundice.....	135
	Malaria.....	136

	Page
6.4	Child Immunization136
6.5	Vitamin A Supplementation146
6.6	Child Morbidity and Treatment148
	Acute Respiratory Infection148
	Fever148
	Diarrhoea.....150
6.7	HIV/AIDS156
	Knowledge of AIDS157
	Source of Knowledge About AIDS157
	Knowledge of Ways to Avoid AIDS160

CHAPTER 7 NUTRITION AND THE PREVALENCE OF ANAEMIA

7.1	Women's Food Consumption163
7.2	Nutritional Status of Women164
7.3	Anaemia Among Women167
7.4	Infant Feeding Practices.....171
7.5	Nutritional Status of Children.....177
7.6	Anaemia Among Children182
7.7	Iodization of Salt.....184

CHAPTER 8 MATERNAL AND REPRODUCTIVE HEALTH

8.1	Antenatal Problems and Care.....188
	Problems During Pregnancy189
	Antenatal Check-Ups189
	Reasons for Not Receiving Antenatal Check-Ups.....192
	Number and Timing of Antenatal Check-Ups193
	Components of Antenatal Check-Ups195
	Tetanus Toxoid Vaccination196
	Iron and Folic Acid Supplementation199
8.2	Delivery Care200
	Place of Delivery.....200
	Assistance During Delivery202
	Delivery Characteristics.....204
8.3	Postnatal Care205
	Postpartum Complications208
8.4	Reproductive Health Problems208

CHAPTER 9 QUALITY OF CARE

9.1	Source of Health Care for Households215
9.2	Contacts at Home with Health and Family Planning Workers217
9.3	Quality of Home Visits217
9.4	Matters Discussed During Home Visits or Visits to Health Facilities.....219
9.5	Quality of Services Received at the Most Recent Visit to a Health Facility221

	Page
9.6 Family Planning Information and Advice Received.....	222
9.7 Availability of Pills and Condoms.....	223
9.8 Person Motivating Users of a Modern Contraceptive Method.....	223
9.9 Quality of Care of Family Planning Services.....	225
REFERENCES.....	227

APPENDICES

Appendix A Estimates of Sampling Errors.....	235
Appendix B Data Quality Tables.....	245
Appendix C Uttar Pradesh NFHS-2 Staff.....	253
Appendix D Survey Instruments.....	261

TABLES

		Page
Table 1.1	Sampling stratification.....	7
Table 1.2	Sample results.....	11
Table 1.3	Sample results by region.....	12
Table 2.1	Household population by age and sex.....	16
Table 2.2	Population by age and sex from the SRS and NFHS-2.....	17
Table 2.3	Marital status of the household population.....	18
Table 2.4	Singulate mean age at marriage.....	20
Table 2.5	Household characteristics.....	21
Table 2.6	Educational level of the household population.....	23
Table 2.7	School attendance.....	26
Table 2.8	Reasons for children not attending school.....	27
Table 2.9	Housing characteristics.....	28
Table 2.10	Household ownership of agricultural land, house, and livestock.....	31
Table 2.11	Household ownership of durable goods and standard of living.....	32
Table 2.12	Lifestyle indicators.....	33
Table 2.13	Distance from the nearest health facility.....	35
Table 2.14	Availability of facilities and services.....	36
Table 3.1	Background characteristics of respondents.....	38
Table 3.2	Respondent's level of education by background characteristics.....	41
Table 3.3	Age at first marriage.....	42
Table 3.4	Exposure to mass media.....	44
Table 3.5	Employment.....	46
Table 3.6	Household decisionmaking.....	47
Table 3.7	Women's autonomy.....	49
Table 3.8	Perceived educational needs of girls and boys.....	51
Table 3.9	Reasons given for justifying a husband beating his wife.....	53
Table 3.10	Women's experience with beatings or physical mistreatment.....	55
Table 3.11	Frequency of beatings or physical mistreatment.....	57
Table 4.1	Age at first cohabitation with husband.....	60
Table 4.2	Current fertility.....	62
Table 4.3	Fertility by background characteristics.....	64
Table 4.4	Fertility trends.....	66

	Page
Table 4.5	Fertility by marital duration.....67
Table 4.6	Children ever born and living.....69
Table 4.7	Birth order.....70
Table 4.8	Birth interval.....72
Table 4.9	Median age at first birth.....74
Table 4.10	Age at last birth.....75
Table 4.11	Postpartum amenorrhoea, abstinence, and insusceptibility.....76
Table 4.12	Menopause.....77
Table 4.13	Fertility preferences.....78
Table 4.14	Desire to have no more children by background characteristics.....81
Table 4.15	Ideal and actual number of children.....83
Table 4.16	Ideal number of children by background characteristics.....84
Table 4.17	Indicators of sex preference.....85
Table 4.18	Fertility planning.....87
Table 4.19	Wanted fertility rates.....88
Table 5.1	Knowledge of contraceptive methods.....92
Table 5.2	Ever use of contraception.....93
Table 5.3	Current use of contraception.....95
Table 5.4	Current use by background characteristics.....98
Table 5.5	Number of living children at first use.....101
Table 5.6	Problems with current method.....102
Table 5.7	Timing of sterilization.....103
Table 5.8	Source of modern contraceptive methods.....105
Table 5.9	Reasons for discontinuation/non-use.....108
Table 5.10	Future use of contraception.....110
Table 5.11	Reasons for not intending to use contraception.....111
Table 5.12	Preferred method.....113
Table 5.13	Exposure to family planning messages.....115
Table 5.14	Discussion of family planning.....117
Table 5.15	Need for family planning services.....119
Table 6.1	Age-specific death rates and crude death rates.....125
Table 6.2	Infant and child mortality.....128

	Page
Table 6.3	Infant and child mortality by background characteristics.....130
Table 6.4	Infant and child mortality by demographic characteristics.....132
Table 6.5	Morbidity135
Table 6.6	Childhood vaccinations by source of information.....138
Table 6.7	Childhood vaccinations by background characteristics.....141
Table 6.8	Childhood vaccinations received by 12 months of age144
Table 6.9	Source of childhood vaccinations145
Table 6.10	Vitamin A supplementation for children147
Table 6.11	Prevalence of acute respiratory infection, fever, and diarrhoea149
Table 6.12	Knowledge of diarrhoea care152
Table 6.13	Treatment of diarrhoea.....154
Table 6.14	Source of ORS packets156
Table 6.15	Source of knowledge about AIDS158
Table 6.16	Knowledge about avoidance of AIDS161
Table 7.1	Women's food consumption.....164
Table 7.2	Women's food consumption by background characteristics165
Table 7.3	Nutritional status of women.....166
Table 7.4	Anaemia among women170
Table 7.5	Initiation of breastfeeding.....173
Table 7.6	Breastfeeding status by child's age.....174
Table 7.7	Type of food received by children.....176
Table 7.8	Median duration of breastfeeding.....177
Table 7.9	Nutritional status of children by demographic characteristics.....179
Table 7.10	Nutritional status of children by background characteristics.....181
Table 7.11	Anaemia among children183
Table 7.12	Iodization of salt186
Table 8.1	Health problems during pregnancy.....189
Table 8.2	Antenatal check-ups.....191
Table 8.3	Reason for not receiving an antenatal check-up193
Table 8.4	Number and timing of antenatal check-ups and stage of pregnancy194
Table 8.5	Components of antenatal check-ups196
Table 8.6	Tetanus toxoid vaccination and iron and folic acid tablets or syrup198

	Page
Table 8.7	Place of delivery201
Table 8.8	Assistance during delivery203
Table 8.9	Characteristics of births205
Table 8.10	Postpartum check-ups206
Table 8.11	Symptoms of postpartum complications.....209
Table 8.12	Symptoms of reproductive health problems211
Table 8.13	Treatment of reproductive health problems214
Table 9.1	Source of health care.....216
Table 9.2	Home visits by a health or family planning worker.....218
Table 9.3	Quality of home visits219
Table 9.4	Matters discussed during contacts with a health or family planning worker220
Table 9.5	Quality of care during the most recent visit to a health facility.....222
Table 9.6	Family planning discussions with a health or family planning worker223
Table 9.7	Availability of regular supply of condoms/pills224
Table 9.8	Motivation to use family planning.....224
Table 9.9	Discussions about alternative methods of family planning226
Table 9.10	Information on side effects and follow-up for current method.....226

Appendix A

Table A.1	List of selected variables for sampling errors, Uttar Pradesh, 1998–99237
Table A.2	Sampling errors, Uttar Pradesh, 1998–99238

Appendix B

Table B.1	Household age distribution246
Table B.2	Age distribution of eligible and interviewed women247
Table B.3	Completeness of reporting247
Table B.4	Births by calendar year.....249
Table B.5	Reporting of age at death in days250
Table B.6	Reporting of age at death in months251

FIGURES

		Page
Figure 2.1	Population Pyramid	16
Figure 2.2	School Attendance by Age, Sex, and Residence	26
Figure 3.1	Percentage of Women Participating in Different Household Decisions and Percentage with Access to Money	48
Figure 4.1	Age-Specific Fertility Rates by Residence	62
Figure 4.2	Age-Specific Fertility Rates, NFHS-1 and NFHS-2	63
Figure 4.3	Total Fertility Rate by Selected Background Characteristics	65
Figure 4.4	Fertility Preferences Among Currently Married Women	80
Figure 5.1	Current Use of Family Planning by Residence, NFHS-1 and NFHS-2	96
Figure 5.2	Sources of Family Planning Among Current Users of Modern Contraceptive Methods	104
Figure 6.1	Infant Mortality Rates for Five-Year Periods by Residence	128
Figure 6.2	Infant Mortality Rates by Selected Demographic Characteristics	133
Figure 6.3	Percentage of Children Age 12–23 Months Who Have Received Specific Vaccinations	139
Figure 6.4	Percentage of Children Age 12–23 Months Who Have Received All Vaccinations	140
Figure 6.5	Source of Childhood Vaccinations by Residence	146
Figure 7.1	Anaemia Among Women	169
Figure 7.2	Stunting Among Children Under Three Years by Mother’s Education and SLI	182
Figure 7.3	Anaemia Among Children	184
Figure 8.1	Problems During Pregnancy	190
Figure 8.2	Source of Antenatal Check-Ups During Pregnancy	192
Figure 8.3	Number and Timing of Antenatal Check-Ups	195
Figure 8.4	Place of Delivery and Assistance During Delivery	202
Figure 8.5	Reproductive Health Problems Among Currently Married Women	210
Figure 9.1	Motivator for Current Users of Modern Contraceptive Methods	225

PREFACE

The success of the first National Family Health Survey, conducted in 1992–93, in creating an important demographic and health database in India has paved the way for repeating the survey. The second National Family Health Survey (NFHS-2), undertaken in 1998–99, is designed to strengthen the database further and facilitate implementation and monitoring of population and health programmes in the country. As in the earlier survey, the principal objective of NFHS-2 is to provide state and national estimates of fertility, the practice of family planning, infant and child mortality, maternal and child health, and the utilization of health services provided to mothers and children. In addition, the survey provides indicators of the quality of health and family welfare services, women's reproductive health problems, and domestic violence, and includes information on the status of women, education, and the standard of living.

Another feature of NFHS-2 is measurement of the nutritional status of women. Height and weight measurements, which were available only for young children in the earlier survey, were extended to cover all eligible women in NFHS-2. In addition, ever-married women and their children below age three had their blood tested for the level of haemoglobin, using the HemoCue instrument. Through these blood tests, for the first time the survey provides information on the prevalence of anaemia throughout India. In two metropolitan cities, Delhi and Mumbai, a further test was done for children below age three to measure the lead content in their blood. The survey also measured the extent to which households in India use cooking salt that has been fortified with iodine.

The NFHS-2 survey was funded by the United States Agency for International Development (USAID) through ORC Macro, USA. UNICEF provided additional financial support for the nutritional components of the survey. The survey is the outcome of the collaborative efforts of many organizations. The International Institute for Population Sciences (IIPS) was designated as the nodal agency for this project by the Ministry of Health and Family Welfare, Government of India, New Delhi. Thirteen reputed field organizations (FOs) in India, including five Population Research Centres, were selected to carry out the houselisting operation and data collection for NFHS-2. The field organization for Uttar Pradesh was ACNielsen Research Services Private Limited in New Delhi. ORC Macro, Calverton, Maryland, USA, and the East-West Center, Honolulu, Hawaii, USA, provided technical assistance for all survey operations.

The NFHS-2 survey covered a representative sample of about 90,000 eligible women age 15–49 from 26 states that comprise more than 99 percent of India's population. The data collection was carried out in two phases, starting in November 1998 and March 1999. The survey provides state-level estimates of demographic and health parameters as well as data on various socioeconomic and programmatic factors that are critical for bringing about desired changes in India's demographic and health situation. The survey provides urban and rural estimates for most states, regional estimates for four states (Bihar, Madhya Pradesh, Rajasthan, and Uttar Pradesh), separate estimates for three metro cities (Chennai, Kolkata, and Mumbai), and estimates for slum areas in Mumbai.

The survey used uniform questionnaires, sample designs, and field procedures to facilitate comparability of the data and to achieve a high level of data quality. Preliminary reports

with selected results were prepared earlier for each state and presented to policymakers and programme administrators responsible for improving health and family welfare programmes in most states.

The final state reports are based on a standard tabulation plan developed at a workshop held in Kodaikanal on 15–17 January 1999. IIPS finalized the tabulation plan according to the recommendations of the NFHS-2 Technical Advisory Committee and produced the tables and figures for the final reports. In most states, the final state reports were written by representatives of the Population Research Centres, faculty members from IIPS, representatives from ORC Macro and the East-West Center, and reputed researchers from other organizations in the field of population and health in India. Each report has been reviewed by an Indian expert in the field of population sciences.

We are happy to present the final NFHS-2 state report for Uttar Pradesh, which was covered in the first phase of the survey. We hope that the report will provide helpful insights into the changes that are taking place in the state and will provide policymakers and programme managers with up-to-date estimates of indicators that can be used for effective management of health and family welfare programmes, with an emphasis on reproductive health dimensions. The report should also contribute to the knowledge of researchers and analysts in the fields of population, health, and nutrition.

T.K. Roy
Director
International Institute for
Population Sciences
Mumbai

ACKNOWLEDGEMENTS

The second National Family Health Survey was successfully completed due to the efforts and involvement of numerous organizations and individuals at different stages of the survey. We would like to thank everyone who was involved in the survey and made it a success.

First of all, we are grateful to the Ministry of Health and Family Welfare, Government of India, New Delhi, for its overall guidance and support during the project. Mr. Y.N. Chaturvedi and Mr. K.S. Sugathan, the then Secretary and Joint Secretary, respectively, at the Department of Family Welfare deserve special thanks. They initiated the project and designated the International Institute for Population Sciences (IIPS) as the nodal agency for the survey. They also formed the Steering Committee, the Administrative and Financial Management Committee, and the Technical Advisory Committee for the smooth and efficient functioning of the project. Special thanks are due to Mr. A.R. Nanda, the present Secretary of the Department of Family Welfare, who continued to take an active interest in the project and provided timely guidance and support. The contributions of Mr. Vijay Singh, Joint Secretary (FA), Ms. Meenakshi Dutta Ghosh, Joint Secretary (S), Mr. Gautam Basu, Joint Secretary (RCH), Mr. P.K. Saha, Chief Director (S), and Dr. K.V. Rao, Chief Director (S), are acknowledged with gratitude.

We gratefully acknowledge the immense help received from the Office of the Registrar General, India, New Delhi (particularly Dr. M. Vijayanunni, the then Registrar General of India, Mr. J.K. Banthia, the present Registrar General of India, Mr. S.P. Sharma, Consultant, and Mr. S.K. Sinha, Deputy Registrar General, Vital Statistics) in implementing the sample design and making the latest SRS results available to cite in the reports. We thank all the expert participants in the series of workshops to finalize the questionnaire design, the sample design and tabulations plans for the survey. Special mention and thanks are due to Dr. Vijay Verma for his expert advice on the sample design and the calculation of sample weights.

We are grateful to the Directorate of Census Operations, Maharashtra, for their support in conducting training of the trainers for the houselisting operation. We acknowledge the support of the All India Institute of Medical Sciences, New Delhi, which extended its facilities for training of the health investigators.

We are thankful to the Department of Health and Family Welfare, Government of Uttar Pradesh, for helping the field organization by providing logistic assistance, whenever possible. Special thanks go to the local officials in all of the sample areas for facilitating the data collection.

The United States Agency for International Development (USAID) provided generous funding for NFHS-2. USAID's contribution to the project is sincerely acknowledged. Special thanks are due to Mr. William Goldman, the former Director of the Office of Population, Health and Nutrition (PHN), USAID, New Delhi, Ms. Sheena Chhabra, Team Leader, Policy, Research, Evaluation, and Marketing (PHN), and Dr. Victor K. Barbiero, current Director of PHN, for their initiative and involvement in the project. Many thanks are due to UNICEF for providing additional funding for the nutrition component of the project and the most modern medical equipment for carrying out the height-weight measurements and anaemia testing. Special thanks are due to Dr. Sanjiv Kumar, Project Officer (Health), UNICEF, New Delhi, for his earnest cooperation in this respect.

We gratefully acknowledge the help and cooperation given by Dr. Rameshwar Sharma, the then Director, and Dr. Shiv Chandra Mathur, Professor, State Institute of Health and Family Welfare (SIHFW), Jaipur, during the national pretest of the NFHS-2 questionnaires in Rajasthan.

Thanks are due to all the members of the Steering Committee, Administrative and Financial Management Committee, and Technical Advisory Committee for participating in various meetings and providing valuable guidance for successful execution of the project.

Dr. K.B. Pathak was the Director of IIPS during the development of the project and throughout the first phase of data collection. His immense interest and great assistance to NFHS-2 are gratefully acknowledged.

We appreciate and acknowledge the untiring efforts, interest, and initiative taken by Dr. Fred Arnold, Dr. Sunita Kishor, Mr. Sushil Kumar, and Mr. Zaheer Ahmad Khan from ORC Macro and Dr. Robert D. Retherford and Dr. Vinod Mishra from the East-West Center. It is only due to their hard work that NFHS-2 could be completed successfully. Thanks go to Dr. Umesh Kapil, Additional Professor, Department of Human Nutrition, All India Institute of Medical Sciences, New Delhi, for organizing, in collaboration with IIPS, the training programme for the health component of the survey, and to Dr. Almaz Sharman of ORC Macro for assisting with the training programme. We also thank the health coordinators, Dr. Vikash Chandra, Dr. P.V. Kaushik, and Dr. Sanjeev P. Walokar, for their involvement in the NFHS-2 nutrition training programme and their sincere supervision of the nutrition component of the survey. We gratefully acknowledge Mr. O.P. Sharma for his able assistance in ensuring the timely printing and distribution of the survey reports.

ORC Macro made available the ISSA (Integrated System for Survey Analysis) computer package for data entry and tabulation. Special thanks go to Mr. Martin Wulfe for his immense help in the data processing operation, data analysis, and preparation of the tables for NFHS-2 reports and to Dr. Rajib Acharya for his assistance at every stage of the data processing operation and report writing and his maintenance of the NFHS website. Special thanks go to Mr. Somnath W. Choughule, Data Entry Operator, for designing the NFHS website. We gratefully acknowledge the valuable contribution of IIPS Senior Research Officers Dr. Rajeshri Chitanand, Dr. Damodar Sahu, and Dr. Yonah Bhutia, and Research Officers Dr. Madhumita Das and Mr. M. Hemanta Meitei. Thanks are also due to the other supporting staff of the project, as well as the Administrative, Accounts, and Library staff of IIPS, for their continuous cooperation during the entire project period.

The difficult task of data collection and data processing in the state of Uttar Pradesh was successfully carried out by ACNielsen Research Services Private Limited, New Delhi. Our special thanks are due to Mr. Jyoti Shankar Tewari, Survey Director, and the three survey coordinators (Mr. Anantha Rao, Dr. M.A. Vasudeva Rao, and Ms. Rupa Jakharia) for successfully coordinating the fieldwork and data processing for the state. Special thanks go to Mr. Anurag Mishra and Mr. M.N. Murthy, IIPS Research Officers, NFHS-2, for assisting during the training of the field staff and monitoring the data collection in Uttar Pradesh. This acknowledgement cannot be concluded without expressing appreciation for the hard work put in by the interviewers, health investigators, supervisors, and field editors in collecting data in Uttar Pradesh.

Thanks are due to Dr. Pradeep Mishra and Dr. P.K. Mangain, Population Research Centre, Lucknow, for their contribution in report writing. We extend our sincere thanks to Prof. R.C. Yadava for reviewing this report and giving his comments.

Last but not the least, credit goes to the 9,292 ever-married women of Uttar Pradesh and the household respondents who spent their time and responded to the rather lengthy questionnaires with tremendous patience and without any expectation from NFHS-2.

T.K. Roy
Sumati Kulkarni
Arvind Pandey
Kamla Gupta
Parveen Nangia

NFHS-2 Coordinators

FACT SHEET, UTTAR PRADESH

NATIONAL FAMILY HEALTH SURVEY, 1998-99

Sample Size

Households.....	8,682
Ever-married women age 15-49	9,292

Characteristics of Households

Percent with electricity.....	36.6
Percent within 15 minutes of safe water supply ¹	77.5
Percent with flush toilet	10.2
Percent with no toilet facility	73.3
Percent using govt. health facilities for sickness	11.4
Percent using iodized salt (at least 15 ppm)	48.8

Characteristics of Women²

Percent urban	20.0
Percent illiterate	70.2
Percent completed high school and above.....	11.1
Percent Hindu.....	83.0
Percent Muslim	16.0
Percent Sikh	0.6
Percent regularly exposed to mass media.....	45.3
Percent working in the past 12 months.....	23.4

Status of Women²

Percent involved in decisions about own health.....	44.8
Percent with control over some money	52.3

Marriage

Percent never married among women age 15-19.....	60.1
Median age at marriage among women age 20-49	15.3

Fertility and Fertility Preferences

Total fertility rate (for the past 3 years).....	3.99
Mean number of children ever born to women 40-49	5.76
Median age at first birth among women age 20-49	19.1
Percent of births ³ of order 3 and above	58.0
Mean ideal number of children ⁴	3.1
Percent of women with 2 living children wanting another child.....	45.5

Current Contraceptive Use⁵

Any method.....	28.1
Any modern method.....	22.0
Pill.....	1.2
IUD	1.0
Condom.....	4.2
Female sterilization	14.9
Male sterilization.....	0.7
Any traditional method	5.7
Rhythm/safe period.....	4.1
Withdrawal.....	1.6
Other traditional or modern method	0.4

Unmet Need for Family Planning⁵

Percent with unmet need for family planning	25.1
Percent with unmet need for spacing.....	11.8

¹Water from pipes, hand pump, covered well, or tanker truck

²Ever-married women age 15-49

³For births in the past 3 years

⁴Excluding women giving non-numeric responses

⁵Among currently married women age 15-49

Quality of Family Planning Services⁶

Percent told about side effects of method	14.3
Percent who received follow-up services.....	50.5

Childhood Mortality

Infant mortality rate ⁷	86.7
Under-five mortality rate ⁷	122.5

Safe Motherhood and Women's Reproductive Health

Percent of births ⁸ within 24 months of previous birth.....	29.1
--	------

Percent of births³ whose mothers received:

Antenatal check-up from a health professional.....	34.3
Antenatal check-up in first trimester	16.9
Two or more tetanus toxoid injections.....	51.4
Iron and folic acid tablets or syrup.....	32.4

Percent of births³ whose mothers were assisted at delivery by a:

Doctor	14.2
ANM/nurse/midwife/LHV	8.1
Traditional birth attendant.....	34.6

Percent⁵ reporting at least one reproductive health problem

.....	38.1
-------	------

Awareness of AIDS

Percent of women who have heard of AIDS	20.2
---	------

Child Health

Percent of children age 0-3 months exclusively breastfed.....	56.9
Median duration of breastfeeding (months).....	25.8

Percent of children⁹ who received vaccinations:

BCG.....	57.5
DPT (3 doses)	33.9
Polio (3 doses)	42.3
Measles	34.6
All vaccinations	21.2

Percent of children¹⁰ with diarrhoea in the past

2 weeks who received oral rehydration salts (ORS)	15.8
---	------

Percent of children¹⁰ with acute respiratory infection in the past 2 weeks taken to a health facility or provider

.....	61.3
-------	------

Nutrition

Percent of women with anaemia ¹¹	48.7
Percent of women with moderate/severe anaemia ¹¹	15.3
Percent of children age 6-35 months with anaemia ¹¹	73.9
Percent of children age 6-35 months with moderate/severe anaemia ¹¹	54.5
Percent of children chronically undernourished (stunted) ¹²	55.5
Percent of children acutely undernourished (wasted) ¹²	11.1
Percent of children underweight ¹²	51.7

⁶For current users of modern methods

⁷For the 5 years preceding the survey (1994-98)

⁸For births in the past 5 years (excluding first births)

⁹Children age 12-23 months

¹⁰Children under 3 years

¹¹Anaemia-haemoglobin level < 11.0 grams/deciliter (g/dl) for children and pregnant women and < 12.0 g/dl for nonpregnant women. Moderate/severe anaemia -haemoglobin level < 10.0 g/dl.

¹²Stunting assessed by height-for-age, wasting assessed by weight-for-height, underweight assessed by weight-for-age

FACTSHEET, UTTARANCHAL

NATIONAL FAMILY HEALTH SURVEY, 1998-99

Sample Size

Households.....	1,092
Ever-married women age 15-49	1,093

Characteristics of Households

Percent with electricity.....	52.4
Percent within 15 minutes of safe water supply ¹	66.1
Percent with flush toilet	25.9
Percent with no toilet facility	61.4
Percent using govt. health facilities for sickness.....	23.3
Percent using iodized salt (at least 15 ppm).....	60.1

Characteristics of Women²

Percent urban	22.2
Percent illiterate	53.7
Percent completed high school and above.....	23.7
Percent Hindu.....	93.5
Percent Muslim	3.8
Percent Sikh	1.6
Percent regularly exposed to mass media.....	58.3
Percent working in the past 12 months.....	21.3

Status of Women²

Percent involved in decisions about own health.....	54.3
Percent with control over some money	46.8

Marriage

Percent never married among women age 15-19.....	83.4
Median age at marriage among women age 20-49	17.8

Fertility and Fertility Preferences

Total fertility rate (for the past 3 years).....	2.71
Mean number of children ever born to women 40-49	4.18
Median age at first birth among women age 20-49	20.4
Percent of births ³ of order 3 and above	46.5
Mean ideal number of children ⁴	2.7
Percent of women with 2 living children wanting another child.....	24.6

Current Contraceptive Use⁵

Any method.....	43.0
Any modern method.....	40.4
Pill.....	1.4
IUD	1.7
Condom.....	6.3
Female sterilization	27.3
Male sterilization.....	3.8
Any traditional method	2.4
Rhythm/safe period.....	0.7
Withdrawal.....	1.7
Other traditional or modern method.....	0.2

Unmet Need for Family Planning⁵

Percent with unmet need for family planning	21.0
Percent with unmet need for spacing.....	10.5

¹Water from pipes, hand pump, covered well, or tanker truck

²Ever-married women age 15-49

³For births in the past 3 years

⁴Excluding women giving non-numeric responses

⁵Among currently married women age 15-49

Quality of Family Planning Services⁶

Percent told about side effects of method	25.1
Percent who received follow-up services.....	60.9

Childhood Mortality

Infant mortality rate ⁷	37.8
Under-five mortality rate ⁷	56.4

Safe Motherhood and Women's Reproductive Health

Percent of births ⁸ within 24 months of previous birth.....	24.8
--	------

Percent of births³ whose mothers received:

Antenatal check-up from a health professional.....	43.5
Antenatal check-up in first trimester.....	22.9
Two or more tetanus toxoid injections.....	54.2
Iron and folic acid tablets or syrup.....	38.6

Percent of births³ whose mothers were assisted at delivery by a:

Doctor.....	24.9
ANM/nurse/midwife/LHV	9.8
Traditional birth attendant.....	45.8

Percent⁵ reporting at least one reproductive health problem

41.5

Awareness of AIDS

Percent of women who have heard of AIDS	35.7
---	------

Child Health

Percent of children age 0-3 months exclusively breastfed.....	65.7
Median duration of breastfeeding (months).....	24.3

Percent of children⁹ who received vaccinations:

BCG.....	77.0
DPT (3 doses)	56.1
Polio (3 doses)	62.5
Measles	56.1
All vaccinations	40.9

Percent of children¹⁰ with diarrhoea in the past 2 weeks who received oral rehydration salts (ORS)

31.4

Percent of children¹⁰ with acute respiratory infection in the past 2 weeks taken to a health facility or provider

71.4

Nutrition

Percent of women with anaemia ¹¹	45.2
Percent of women with moderate/severe anaemia ¹¹	12.8
Percent of children age 6-35 months with anaemia ¹¹	76.6
Percent of children age 6-35 months with moderate/severe anaemia ¹¹	51.6
Percent of children chronically undernourished (stunted) ¹²	46.5
Percent of children acutely undernourished (wasted) ¹²	7.3
Percent of children underweight ¹²	41.4

⁶For current users of modern methods

⁷For the 5 years preceding the survey (1994-98)

⁸For births in the past 5 years (excluding first births)

⁹Children age 12-23 months

¹⁰Children under 3 years

¹¹Anaemia-haemoglobin level < 11.0 grams/decilitre (g/dl) for children and pregnant women and < 12.0 g/dl for nonpregnant women. Moderate/severe anaemia -haemoglobin level < 10.0 g/dl.

¹²Stunting assessed by height-for-age, wasting assessed by weight-for-height, underweight assessed by weight-for-age

SUMMARY OF FINDINGS

The second National Family Health Survey (NFHS-2), conducted in 1998–99, provides information on fertility, mortality, family planning, and important aspects of health, nutrition, and health care. The International Institute for Population Sciences (IIPS) coordinated the survey, which collected information from a nationally representative sample of approximately 90,000 ever-married women age 15–49 from 26 states of India. These states comprise more than 99 percent of India's population.

IIPS also coordinated the first National Family Health Survey (NFHS-1) in 1992–93. Most of the types of information collected in NFHS-2 were also collected in the earlier survey, making it possible to identify trends over the intervening period of six and a half years. In addition, the NFHS-2 questionnaire covered a number of new or expanded topics with important policy implications, such as reproductive health, women's autonomy, domestic violence, women's nutrition, anaemia, and salt iodization.

In Uttar Pradesh, NFHS-2 field staff collected information from 8,682 households between 4 December 1998 and 20 March 1999 and interviewed 9,292 eligible women in these households. In addition, the survey collected information on 4,414 children born to eligible women in the three years preceding the survey. One health investigator on each survey team measured the height and weight of eligible women and young children and took blood samples to assess the prevalence of anaemia.

Background Characteristics of the Survey Population

More than three-quarters (79 percent) of the population lives in rural areas. The age distribution is typical of high-fertility populations that have recently experienced some fertility decline, with relatively high proportions in the younger age groups and a slightly smaller proportion age 0–4 than age 5–9. Forty-two percent of the population is below age 15 and 5 percent is age 65 and above. The sex ratio is 948 females for every 1,000 males in rural areas but only 931 females for every 1,000 males in urban areas, suggesting that more men than women have migrated to urban areas.

The survey provides information on a variety of demographic and socioeconomic background characteristics. In the state as a whole, 83 percent of household heads are Hindu, 16 percent are Muslim, and 1 percent are Sikh. Muslims live disproportionately in urban areas, where they comprise 29 percent of household heads. Twenty percent of household heads belong to scheduled castes, 2 percent belong to scheduled tribes, and 26 percent belong to other backward classes (OBCs). Less than half of household heads do not belong to any of these groups.

Questions about housing conditions and the standard of living of household members indicate some improvements since the time of NFHS-1. Thirty-seven percent of households in Uttar Pradesh have electricity, up from 30 percent in NFHS-1. Seventy-three percent of households do not have any toilet facility, compared with 77 percent in NFHS-1. However, there has been a slight decline in the use of piped drinking water between the two surveys (14 percent in NFHS-2 and 16 percent in NFHS-1).

Almost three-quarters (72 percent) of males and nearly half (43 percent) of females age six and above are literate, an increase of 8–11 percentage points from literacy rates at the time of NFHS-1. Seventy-seven percent of children age 6–14 currently attend school, a substantial increase from 61 percent in NFHS-1. The proportion of children attending school has increased for all age groups, particularly for girls, but girls still lag behind boys in school attendance. Moreover, the disparity in school attendance by sex grows with increasing age of children. At age 6–10, 84 percent of boys attend school, compared with 74 percent of girls. By age 15–17, 58 percent of boys attend school, compared with 33 percent of girls.

Women in Uttar Pradesh tend to marry at an early age. Thirty-two percent of women age 15–19 are already married, and an additional 8 percent report that they are married but *gauna* has yet to be performed. In rural areas, almost half of women age 15–19 have already married. Older women are more likely than younger women to have married at an early age: 57 percent of women who are now age 45–49 married before they were 15, compared with 20 percent of women age 15–19. Although this indicates that the proportion of women who marry young is declining rapidly, 62 percent of young women age 20–24 in Uttar Pradesh still marry before reaching the legal minimum age of 18 years. On average, women are more than four years younger than the men they marry.

As part of an increasing emphasis on gender issues in NFHS-2, the survey asked women about their participation in household decisionmaking. In Uttar Pradesh, 84 percent of women are involved in decisionmaking on at least one of four selected topics. A much lower proportion of women (45 percent), however, are involved in making decisions about their own health care. Only 23 percent of women do work other than their own housework, and less than half of these women work for cash. Only half of women who earn cash can decide independently how to spend the money that they earn. Thirty-nine percent of working women report that their earnings constitute at least half of total family earnings, including 16 percent who report that the family is entirely dependent on their earnings.

Fertility and Family Planning

Fertility continues to decline in Uttar Pradesh. At current fertility levels, women will have an average of 4.0 children each throughout their childbearing years. The total fertility rate is down from 4.8 children per woman at the time of NFHS-1, but it is still one of the highest rates in India (higher than any other state except Meghalaya).

Efforts to encourage the trend toward lower fertility might usefully focus on groups within the population that have higher fertility than average. In Uttar Pradesh, women living in rural areas, illiterate women, poor women, Muslim women, and women from scheduled castes and scheduled tribes have much higher fertility than other women. Fertility rates are much lower in the Hill Region than in any other region in the state. One important feature of the fertility pattern is the high level of childbearing among young women. The median age at first childbirth is 19 years, and women age 15–19 account for 15 percent of total fertility. Studies in India and elsewhere have shown that health and mortality risks increase when women give birth at young ages—both for the women themselves and for their children. Family planning programmes focusing on women in this age group could make a significant impact on maternal and child health and could also reduce overall fertility in the state.

The appropriate design of family planning programmes depends, to a large extent, on women's fertility preferences. Women may have large families because they want many children, or they may prefer small families but, for a variety of reasons, may have more children than they actually want. For 14 percent of births over the three years preceding NFHS-2, mothers report that they did not want the pregnancy at all, and for another 11 percent of births, mothers say that they would have preferred to delay the pregnancy. When asked about their preferred family size, 19 percent of women who already have three living children and 11 percent of women with four or more living children said that they consider the two-child family to be ideal. This gap between women's actual fertility experience and what they want or would consider ideal suggests a need for expanded or improved family welfare services to help women achieve their fertility goals. In Uttar Pradesh, 94 percent of women want at least one son and 89 percent want at least one daughter. A strong preference for sons is indicated by the fact that more than half of women want more sons than daughters but only a negligible proportion want more daughters than sons.

If women in Uttar Pradesh are not using family planning, it is not due to lack of knowledge. Knowledge of contraception is nearly universal: 98 percent of currently married women know at least one modern family planning method. Women are most familiar with female sterilization (97 percent), followed by male sterilization (93 percent), the pill (85 percent), condoms (83 percent), and the IUD (74 percent). Knowledge of modern spacing methods has increased by 16–20 percentage points since the time of NFHS-1, although use rates for these methods remain very low.

Twenty-eight percent of married women are currently using some method of contraception, an increase from 20 percent at the time of NFHS-1, but much lower than the NFHS-2 national level of 48 percent. Contraceptive prevalence is almost twice as high in urban areas (45 percent) as in rural areas (24 percent). Female sterilization is by far the most popular method, used by more than half of all current contraceptive users. The median age at sterilization (28 years) is two years higher in Uttar Pradesh than in India as a whole. In all, 15 percent of currently married women are sterilized, a slight increase from 12 percent at the time of NFHS-1. By contrast, only 1 percent of women report that their husbands are sterilized. Four percent of women report that their husbands use condoms. Use rates for the pill and the IUD remain very low, at only 1 percent each. Six percent of women report that they are currently using traditional methods, mostly the rhythm method.

There are substantial variations in contraceptive prevalence among socioeconomic groups. Contraceptive prevalence is higher than 40 percent among urban women, women living in the Hill Region, women who have completed at least a high school education, Sikh women, and women living in households with a high standard of living. Use of modern spacing methods—pills, IUDs, and condoms—is highest (18–21 percent) among women living in urban areas and women who have completed at least high school.

Contraceptive use rises steadily with age, peaking at 46 percent for women age 35–39 and declining thereafter. Use also increases with the number of living children, to 38–39 percent among women with three or more children. A strong preference for sons is evident for women at every parity. Women who have one or more sons are consistently more likely to use contraception than are women who have the same number of children but have only daughters. For example, almost half of women with three children and at least two sons use some method of

contraception. However, only 9 percent of women with three children all of whom are daughters use contraception.

Twelve percent of currently married women are not using contraception but say that they want to wait at least two years before having another child. Another 13 percent are not using contraception although they do not want any more children. These women are described as having an 'unmet need' for family planning. The unmet need is highest for young women, who have a strong interest in spacing their births. These results underscore the need for strategies that provide spacing as well as terminal contraceptive methods in order to meet the changing needs of women over their lifecycle.

For many years, the Government of India has been using electronic and other mass media to promote family planning. Among the different types of media, television and radio have the broadest reach across all categories of women. Overall, 32 percent of ever-married women watch television at least once a week and 30 percent listen to the radio at least once a week. Nevertheless, more than half of women (55 percent) are not regularly exposed to television, radio, or other types of media. About half of women (53 percent) saw or heard a family planning message in the media during the few months preceding the survey. Television and radio are the primary sources of these messages. Exposure to family planning messages is relatively low among disadvantaged socioeconomic groups. Family planning messages reach only one-quarter to one-third of illiterate women, women from households with a low standard of living, and women belonging to scheduled tribes.

Almost three-quarters (71 percent) of women who use modern contraception obtained their method from a government hospital or other source in the public sector. Only 14 percent obtained their method from the private medical sector. The private medical sector, along with shops, is the major source for pills and condoms, however. The private medical sector plays a larger role in urban areas (where it is the source of modern methods for 27 percent of users) than in rural areas (where it is the source of modern methods for only 7 percent of users).

An important indication of the quality of family planning services is the information that women receive when they obtain contraception and the extent to which they receive follow-up services after accepting contraception. In Uttar Pradesh, only 14 percent of users of modern contraceptives who were motivated by someone to use their method were told about any other method by that person. Moreover, at the time of adopting the method, only 14 percent were told by a health or family planning worker about possible side effects of the method they adopted. Half of the users of modern contraceptive methods, however, received follow-up services after accepting the method.

From the information provided in NFHS-2, a picture emerges of women marrying before the legal age at marriage, having their first birth at 19 years of age, and having about four children before ending their childbearing. However, only 38 percent of women with four or more living children use any method of family planning, so the risk of pregnancy remains substantial even for that group.

Infant and Child Mortality

NFHS-2 provides estimates of infant and child mortality and factors associated with the survival of young children. During the five years preceding the survey, the infant mortality rate was 87

deaths at age 0–11 months per 1,000 live births. Despite the fact that the infant mortality rate decreased from 100 per 1,000 live births in NFHS-1, Uttar Pradesh had the highest level of infant mortality of any state except Meghalaya at the time of NFHS-2. The child mortality rate (39 deaths at age 1–4 years per 1,000 children reaching age one) was 15 percent lower than the corresponding rate in NFHS-1. Despite the improvement in child survival in recent years, 1 in 12 children in Uttar Pradesh still die in the first year of life, and 1 in 8 die before reaching age five. Child-survival programmes might usefully focus on specific groups of children with particularly high infant and child mortality rates, such as children who live in rural areas or in the Central and Bundelkhand Regions of the state, children whose mothers are illiterate, children from scheduled castes or other backward classes (OBCs), and children from poor households.

Along with various socioeconomic groups, efforts to promote child survival need to concentrate on very young mothers and mothers whose births are closely spaced. Infant mortality is 48 percent higher among children born to mothers under age 20 than to mothers age 20–29. Infant mortality is almost three times as high among children born less than 24 months after a previous birth as among children born after a gap of 48 months or more. Clearly, efforts to expand the use of temporary contraceptive methods for delaying and spacing births would help reduce infant mortality as well as fertility. In addition, infant mortality rates are 57 percent higher for women who did not receive any of the recommended types of maternity-related medical care than for mothers who received some of the recommended types of care. Therefore, efforts need to be strengthened to increase utilization of services for antenatal care, delivery care, and postnatal care to improve the health of mothers and the chances of survival of their children.

Health and Health Care

Promotion of maternal and child health has been one of the most important components of the Reproductive and Child Health Programme of the Government of India. One goal is for each pregnant woman to receive at least three antenatal check-ups plus two tetanus toxoid injections and a full course of iron and folic acid supplementation. In Uttar Pradesh, mothers of only 35 percent of the children born in the three years preceding NFHS-2 received at least one antenatal check-up (only about half the level of 65 percent for India as a whole), and mothers of only 15 percent of children received at least three antenatal check-ups. Only one-third of women (32 percent) received iron and folic acid supplementation during their pregnancies (a smaller percentage than in any other state except Bihar), but mothers received the recommended number of tetanus toxoid vaccinations for more than half of children (51 percent). Women in disadvantaged socioeconomic groups are less likely than other women to be covered by each of the three recommended types of antenatal care. However, coverage is inadequate for all groups of women. In fact, for all births in the three years preceding the survey, only 4 percent of women in Uttar Pradesh received all of the recommended types of antenatal care.

The Reproductive and Child Health Programme encourages women to deliver in a medical facility or, if at home, with assistance from a trained health professional and to receive at least three check-ups after delivery. During the three years preceding NFHS-2, only 15 percent of births in Uttar Pradesh were delivered in a medical facility. Seventy-four percent were delivered in the woman's own home and 10 percent in her parents' home. Trained health professionals assisted with the delivery in only 22 percent of cases. Thirty-five percent of deliveries were assisted by a *dai* (a traditional birth attendant), and 43 percent were attended only by relatives, friends, and other persons who were not health professionals. Less than 10 percent

of births delivered at home were assisted by a health professional. Postpartum check-ups are rare for noninstitutional births in Uttar Pradesh. Only 7 percent of births that took place outside a medical facility were followed by a postpartum check-up within two months of delivery. Overall, these results show that health services during pregnancy, during delivery, and in the postpartum period are not reaching most women in Uttar Pradesh. Despite some gains in the utilization of these services over time, Uttar Pradesh consistently performs worse than almost every other state on each of the indicators measured in NFHS-2.

The Government of India recommends that breastfeeding should begin immediately after childbirth and that infants should be exclusively breastfed for about the first four months of life. Although breastfeeding is nearly universal in Uttar Pradesh, very few children begin breastfeeding immediately after birth—only 7 percent in the first hour and 13 percent in the first day. Moreover, for three-quarters of births, mothers squeeze the first milk (colostrum) from the breast before breastfeeding begins, thereby depriving the baby of natural immunity against diseases that colostrum provides. Only 57 percent of children under four months of age are exclusively breastfed, as recommended at that age. The median duration of breastfeeding is 25 months, or slightly over two years, and the median duration of exclusive breastfeeding is 2.2 months. At age 6–9 months, children should be receiving solid or mushy food in addition to breast milk. However, only 17 percent of children age 6–9 months receive the recommended combination of breast milk and solid/mushy foods.

NFHS-2 uses three internationally recognized standards to assess children's nutritional status—weight-for-age, height-for-age, and weight-for-height. Children who are more than two standard deviations below the median of an international reference population are considered underweight (measured in terms of weight-for-age), stunted (height-for-age), or wasted (weight-for-height). Stunting is a sign of chronic, long-term undernutrition, wasting is a sign of acute, short-term undernutrition, and underweight is a composite measure that takes into account both chronic and acute undernutrition.

Based on these measures, 52 percent of children under age three years are underweight, 56 percent are stunted, and 11 percent are wasted. The trend in nutritional status over time gives a mixed picture. According to two of the three measures, child nutritional status has improved in Uttar Pradesh since the time of NFHS-1, when 57 percent of young children were underweight and 18 percent were wasted. However, the amount of stunting actually increased slightly between the two surveys (from 54 percent to 56 percent). Despite improvements in some measures, poor nutrition is still a serious problem in Uttar Pradesh. Undernutrition is much higher in rural areas than in urban areas and is particularly high among children from disadvantaged socioeconomic groups. Girls are more likely to be underweight and stunted than boys, but boys are slightly more likely to be wasted. Nearly three-quarters (74 percent) of children age 6–35 months are anaemic, including 48 percent who are moderately anaemic and 7 percent who are severely anaemic. Although there are some differentials in the prevalence of anaemia among groups, a large majority of children in every subgroup of the population are anaemic.

Child immunization is an important component of child-survival programmes in India, with efforts focussing on six serious but preventable diseases—tuberculosis, diphtheria, pertussis, tetanus, polio, and measles. The objective of the Universal Immunization Programme (UIP), launched in 1985–86, was to extend immunization coverage against these diseases to at

least 85 percent of infants by 1990. In Uttar Pradesh, only 21 percent of children age 12–23 months are fully vaccinated, another 49 percent have received some but not all of the recommended vaccinations, and 30 percent have not been vaccinated at all. Fifty-eight percent of children age 12–23 months have been vaccinated against tuberculosis, 34 percent have received three doses of DPT vaccine, and 42 percent have received three doses of polio vaccine.

Immunization coverage, although far from complete, has improved somewhat since NFHS-1, when 43 percent of children had not received any vaccinations at all. The coverage of all vaccinations except DPT3 also improved considerably, but there has been almost no improvement in full vaccination coverage in Uttar Pradesh since the time of NFHS-1. The largest increases in vaccination coverage between NFHS-1 and NFHS-2 are for the first two doses of polio vaccine, undoubtedly because of the introduction of the Pulse Polio Immunization Campaign in 1995. Full immunization coverage is not as high as it might be primarily because only 35 percent of children have been vaccinated against measles and only 34 percent have received three doses of DPT vaccine. Dropout rates for the series of DPT and polio vaccinations are a continuing problem. Fifty-seven percent of children received the first DPT vaccination, but only 34 percent received all three doses. Similarly, 67 percent received the first polio vaccination, but only 42 percent received all three doses. It is also recommended that children under age five years should receive oral doses of vitamin A every six months starting at age nine months. However, only 14 percent of children age 12–35 months have received any vitamin A supplementation and only 10 percent received a dose of vitamin A in the six months preceding the survey.

NFHS-2 collected information on the prevalence and treatment of three health problems that cause considerable mortality in young children—fever, acute respiratory infection (ARI), and diarrhoea. In Uttar Pradesh, 28 percent of children under age three were ill with fever during the two weeks preceding the survey, 21 percent were ill with ARI, and 23 percent had diarrhoea. More than 60 percent of the children who became ill with ARI or diarrhoea were taken to a health facility or health provider. Knowledge of the appropriate treatment of diarrhoea remains low, however. Fifty-nine percent of mothers of children age less than 3 years know about oral rehydration salt (ORS) packets and 35 percent of mothers incorrectly believe that when children are sick with diarrhoea, they should be given less to drink than usual. Only 36 percent of children with diarrhoea received some form of oral rehydration therapy (ORT), including 16 percent who received ORS. The percentage of children with diarrhoea who received ORS has increased only slightly since NFHS-1, when it was 13 percent.

Based on a weight-for-height index (the body mass index), more than one-third (36 percent) of women in Uttar Pradesh are undernourished. Nutritional deficiency is particularly serious for women in rural areas and women in disadvantaged socioeconomic groups. Women who are undernourished themselves are also much more likely than other women to have children who are undernourished. Overall, 49 percent of women in Uttar Pradesh have some degree of anaemia, and 15 percent are moderately to severely anaemic. Anaemia is a serious problem among women in every population group, with prevalence rates ranging from 35 to 58 percent. Pregnant women are much more likely than nonpregnant women to be moderately to severely anaemic.

About half of households (49 percent) use cooking salt that is iodized at the recommended level of 15 parts per million, suggesting that iodine deficiency disorders are likely to be a serious problem. Rural households and households with a low standard of living are much less likely than other households to be using adequately iodized cooking salt.

Thirty-eight percent of currently married women in Uttar Pradesh report some type of reproductive health problem, including abnormal vaginal discharge, symptoms of a urinary tract infection, and pain or bleeding associated with intercourse. Among these women, 75 percent have not sought any advice or treatment. These results suggest a need to expand reproductive health services, as well as information programmes that encourage women to discuss their problems with a health-care provider.

In recent years, there has been growing concern about domestic violence in India. NFHS-2 found that in Uttar Pradesh, there is widespread acceptance among ever-married women that the beating of wives by husbands is justified under some circumstances. More than three out of five women accept at least one of six reasons as a justification for a husband beating his wife. Domestic violence is also fairly common in Uttar Pradesh. Twenty-two percent of ever-married women have experienced beatings or physical mistreatment since age 15 and 13 percent experienced such violence in the 12 months preceding the survey. Most of these women have been beaten or physically mistreated by their husbands.

Overall, only 3 percent of women received a home visit from a health or family planning worker during the 12 months preceding the survey. A large majority of the women who received a home visit expressed satisfaction with the amount of time that the worker spent with them and with the way the worker talked to them.

The survey collected information on the prevalence of tuberculosis, asthma, malaria, and jaundice among all household members. Disease prevalence based on reports from household heads must be interpreted with caution, however. The survey found that less than 1 percent of the population suffers from tuberculosis, 2 percent suffers from asthma, 4 percent suffered from malaria during the three months preceding the survey, and 1 percent suffered from jaundice during the 12 months preceding the survey. Men are more likely than women to suffer from tuberculosis, asthma, and jaundice, but women are slightly more likely to suffer from malaria.

A large majority of household respondents in Uttar Pradesh (85 percent) said that household members usually go to private hospitals or private doctors for treatment when they get sick. Only 11 percent normally use the public medical sector. Even among poor households, only 9 percent normally use the public medical sector when household members become ill. NFHS-2 also asked women about the quality of care received during the most recent visit to a health facility. Most respondents are generally satisfied with the health care they receive. Almost all women (99 percent) received the service they went for on their last visit. Although women had to wait about 25 minutes before being served, 96 percent said that the staff spent enough time with them. However, only 55 percent said that the staff talked to them nicely and only 51 percent rated the facility as very clean. Seventy percent of those who said they needed privacy during the visit said that the staff respected their need for privacy. Ratings of the quality of services are consistently lower for public-sector facilities than for private-sector facilities.

NFHS-2 also collected information on selected lifestyle indicators for household members. According to household respondents, 34 percent of adult men and 3 percent of adult women smoke, 12 percent of men and less than 1 percent of women drink alcohol, and 36 percent of men and 11 percent of adult women chew *paan masala* or tobacco.

Although the spread of HIV/AIDS is a major concern in India, only 20 percent of women in Uttar Pradesh have even heard of AIDS. Awareness of AIDS is particularly low among women in rural areas, poor women, scheduled-tribe women, and women who are illiterate. Among women who have heard of AIDS, 90 percent learned about the disease from television and 39 percent from the radio, suggesting that government efforts to promote AIDS awareness through the electronic mass media have achieved some success. However, given the low level of exposure to mass media in Uttar Pradesh, AIDS programmes will have to find innovative ways of reaching women who are not exposed to mass media. Among women who have heard of AIDS, almost half (45 percent) do not know of any way to avoid infection. NFHS-2 results suggest that health personnel could play a much larger role in promoting AIDS awareness. In Uttar Pradesh, only 1 percent of women who know about AIDS learned about the disease from a health worker.

CHAPTER 1

INTRODUCTION

1.1 Background of the Survey

India's first National Family Health Survey (NFHS-1) was conducted in 1992-93 (International Institute for Population Sciences, 1995). The Ministry of Health and Family Welfare (MOHFW) subsequently designated the International Institute for Population Sciences (IIPS), Mumbai, as the nodal agency to initiate a second survey (NFHS-2), which was conducted in 1998-99. An important objective of NFHS-2 is to provide state-level and national-level information on fertility, family planning, infant and child mortality, reproductive health, child health, nutrition of women and children, and the quality of health and family welfare services. Another important objective is to examine this information in the context of related socioeconomic and cultural factors. The survey is also intended to provide estimates at the regional level for four states (Bihar, Madhya Pradesh, Rajasthan, and Uttar Pradesh) and estimates for three metro cities (Chennai, Kolkata, and Mumbai), as well as slum areas in Mumbai. This information will assist policymakers and programme administrators in planning and implementing strategies for improving population, health, and nutrition programmes. Comparative state results from NFHS-2 have already been published (International Institute for Population Sciences and ORC Macro, 2000). The current report provides a more comprehensive picture of the findings for Uttar Pradesh.

The NFHS-2 national sample covers more than 99 percent of India's population living in all 26 states. It does not cover the union territories. NFHS-2 is a household sample survey with an overall sample size of 90,303 ever-married women in the age group 15-49 living in 92,486 households.

NFHS-2 was conducted with financial support from the United States Agency for International Development (USAID), with additional funding from UNICEF. Technical assistance was provided by ORC Macro, Calverton, Maryland, USA, and the East-West Center, Honolulu, Hawaii, USA. Thirteen field organizations were selected to collect the data. Eight of the field organizations are private sector organizations and five are Population Research Centres (PRCs) established by the Government of India in various states. Each field organization had responsibility for collecting the data in one or more states. ACNielsen Research Services Private Limited, New Delhi, was selected as the field organization for NFHS-2 in Uttar Pradesh.

1.2 Basic Socioeconomic and Demographic Features of Uttar Pradesh¹

Uttar Pradesh acquired the status of a state, within the Indian Union, with Lucknow as its capital on 26 January 1950, when the constitution of India came into force. It is the most populous state in India and has a total land area of 294,400 square kilometres. The state has more than one-sixth of the total population and one-tenth of the land area of the country. The state is divided into 19 administrative divisions and 83 districts. Geographically, Uttar Pradesh can be divided into five

¹Because NFHS-2 was conducted before the state of Uttaranchal was established, this report covers Uttar Pradesh as it existed at the time of the survey. A fact sheet, which provides summary information about the new state of Uttaranchal, is included in this report.

regions, namely Hill, Western, Central, Eastern, and Bundelkhand. Every region has distinct social, economic, and cultural characteristics apart from different local dialects of Hindi.

Uttar Pradesh is predominantly an agricultural state with 80 percent of the population living in rural areas. The importance of various economic sectors in the economy has changed only slightly over time. The contribution of the agricultural sector to the state domestic product declined from 50 percent in 1980–81 to 42 percent in 1996–97. During the same period, the share of the manufacturing sector increased from 10 percent to 15 percent and the contribution of other sectors increased slightly, from 40 percent to 42 percent (EPW Research Foundation, 1998). At the time of the 1991 Census, the agriculture sector provided a livelihood for 72 percent of the labour force (Office of the Registrar General and Census Commissioner, 1992). Uttar Pradesh grows *kharif* and *rabi* crops and the major agricultural products include wheat, rice, sugarcane, *bajra*, and potatoes. The state ranks third in India in terms of the per capita production of food grains and the rate of growth of the production of food grains.

Industry in Uttar Pradesh is not well developed. The state has a few industries that manufacture cement, fertilizer, aluminium, and automobiles. The average annual per capita net domestic product of the state increased from Rs. 1,278 in 1980–81 to Rs. 1,763 in 1996–97 at constant 1980–81 prices or Rs. 6,733 at current prices (EPW Research Foundation, 1998). As per the estimates given by the Planning Commission for 1993–94, 42 percent of the rural population and 35 percent of the urban population were below the poverty line.

Uttar Pradesh had a population of 139.1 million at the time of the 1991 Census. The total population of the state was 88.3 million in 1971 and 110.9 million in 1981. The decadal growth rate increased from 20 percent in 1961–71 to 26 percent in both 1971–81 and 1981–91, resulting in a larger number of people being added to the population in 1981–91 than in 1971–81. The 1981–91 intercensal increase in population (25.5 percent) was slightly higher than that for the country as a whole (23.9 percent). Population density per km² in Uttar Pradesh increased from 300 in 1971 to 377 in 1981 and 473 in 1991, which is much higher than the density for the country as a whole (273). The increase in population density indicates an increasing pressure on land and other resources.

Uttar Pradesh has been undergoing slow but steady urbanization. The percentage of the total population living in urban areas increased from 14 percent in 1971 to 18 percent in 1981 and 20 percent in 1991. However, the level of urbanization is lower than for all India (26 percent). According to the 1991 Census, the proportion of the total population designated as scheduled caste is higher and the proportion designated as scheduled tribe is lower in Uttar Pradesh than in all India.² The percentage of scheduled caste and scheduled tribe population remained the same during 1971–91 at a level of 21 and 0.2 percent, respectively (Pathak, 1997).

Uttar Pradesh is one of the most educationally backward states in India. According to the 1991 Census, the literacy rate among the population age 7 and above was 42 percent, compared with 52 percent for India as a whole. The literacy rates were 56 percent for males and 25 percent for females in the state, compared with 64 percent for males and 39 percent for females in India as a whole.

²Scheduled castes and scheduled tribes are castes and tribes that the Government of India officially recognizes as socially and economically backward and in need of special protection from injustice and exploitation.

For 1997, the Sample Registration System estimated the infant mortality rate in Uttar Pradesh at 85 per 1,000 live births, which is much higher than the rate of 71 for all India. For 1996–2001, life expectancy is projected to be 61.2 years for males and 61.1 years for females, a substantial increase from the estimates of 54.1 for males and 49.6 for females for 1986–1991 (Office of the Registrar General, 1996). The sex ratio of the population (number of females per 1,000 males) increased slightly from 879 in 1971 to 885 in 1981, but declined to 879 again in 1991. The percentage of the population age 0–14 years, which was the same in 1971 and 1981 (42 percent), dropped slightly (to 39 percent) in 1991. The percentage of the population age 65 and above has been fairly stable at around 4 percent since 1971.

The couple protection rate (defined as the percentage of eligible couples effectively protected against pregnancy by various methods of contraception) in Uttar Pradesh increased steadily from 6 percent in 1971 to 11 percent in 1981, 36 percent in 1991, and 39 percent in 1998. However, the couple protection rate in 1998 was 6 percentage points lower than the 45 percent estimate for all India. Between 1971 and 1997, fertility declined slowly in the state. According to estimates from the Sample Registration System, the crude birth rate declined from 44.9 per 1,000 population in 1971 to 39.6 in 1981, 36.2 in 1992, and 33.5 in 1997. The total fertility rate declined at about the same rate, dropping by 1.8 children over the period of 26 years. The crude death rate has also followed a more rapid downward trend, from 20.1 per 1,000 population in 1971 to 16.3 in 1981, 12.8 in 1992, and 10.3 in 1997. During the same period, the infant mortality rate declined by nearly 50 percent, from 167 to 85 infant deaths per 1,000 live births.

1.3 Questionnaires

NFHS-2 used three types of questionnaires: the Household Questionnaire, the Woman's Questionnaire, and the Village Questionnaire. The overall content and format of the questionnaires were determined through a series of workshops held at IIPS in Mumbai in 1997 and 1998. The workshops were attended by representatives of a wide range of organizations in the population and health fields, as well as experts working on gender issues. The questionnaires in Uttar Pradesh were bilingual, with questions in both Hindi and English.

The Household Questionnaire listed all usual residents in each sample household plus any visitors who stayed in the household the night before the interview. For each listed person, the survey collected basic information on age, sex, marital status, relationship to the head of the household, education, and occupation. The Household Questionnaire also collected information on the prevalence of asthma, tuberculosis, malaria, and jaundice, as well as three risk behaviours—chewing *paan masala* or tobacco, drinking alcohol, and smoking. Information was also collected on the usual place where household members go for treatment when they get sick, the main source of drinking water, type of toilet facility, source of lighting, type of cooking fuel, religion of the household head, caste/tribe of the household head, ownership of a house, ownership of agricultural land, ownership of livestock, and ownership of other selected items. In addition, a test was conducted to assess whether the household uses cooking salt that has been fortified with iodine. Finally, the Household Questionnaire asked about deaths occurring to household members in the two years preceding the survey, with particular attention to maternal mortality. The information on the age, sex, and marital status of household members was used to identify eligible respondents for the Woman's Questionnaire.

The Woman's Questionnaire collected information from ever-married women age 15–49 who were usual residents of the sample household or visitors who stayed in the sample household the night before the interview. The questionnaire covered the following topics:

Background characteristics: Questions on age, marital status, education, employment status, and place of residence provide information on characteristics likely to influence demographic and health behaviour. Questions are also asked about the background characteristics of a woman's husband.

Reproductive behaviour and intentions: Questions cover dates and survival status of all births, current pregnancy status, and future childbearing intentions of each woman.

Quality of care: Questions assess the quality of family planning and health services.

Knowledge and use of contraception: Questions cover knowledge and use of specific family planning methods. For women not using family planning, questions are included on reasons for not using contraception and intentions concerning future use.

Sources of family planning: Questions determine where a user obtained her family planning method.

Antenatal, delivery, and postpartum care: The questionnaire collects information on whether women received antenatal and postpartum care, who attended the delivery, and the nature of complications during pregnancy for the last two births since January 1995.

Breastfeeding and health: Questions cover feeding practices, the length of breastfeeding, immunization coverage, and recent occurrences of diarrhoea, fever, and cough for young children.

Reproductive health: Questions assess various aspects of women's reproductive health and the type of care sought for health problems.

Status of women: The questionnaire asks about gender roles, women's autonomy, and violence against women.

Knowledge of AIDS: Questions assess women's knowledge of AIDS and the sources of their knowledge, as well as their knowledge about ways to avoid getting AIDS.

In addition, the health investigator on each survey team measured the height and weight of each woman and each of her children born since January 1995. This height and weight information is useful for assessing levels of nutrition prevailing in the population. The health investigators also took blood samples from each woman and each of her children born since January 1995, to assess haemoglobin levels. This information is useful for assessing prevalence rates of anaemia among women and children. Haemoglobin levels were measured in the field at the end of each interview using portable equipment (the HemoCue) that provides test results in less than one minute. Severely anaemic women and children were referred to local medical authorities for treatment.

For each village selected in the NFHS-2 sample, the Village Questionnaire collected information on the availability of various facilities in the village (especially health and education facilities) and amenities such as electricity and telephone connections. Respondents to the Village Questionnaire were also asked about development and welfare programmes operating in the village. The village survey included a short, open-ended questionnaire that was administered to the village head, with questions on major problems in the village and actions that could be taken to alleviate the problems.

1.4 Survey Design and Sample Implementation

Sample Size and Reporting Domains

The overall target sample size for Uttar Pradesh was 10,000 completed interviews with eligible women. The NFHS-1 nonresponse rates at the household and individual levels were used to estimate the sample size that would be required to achieve the target number of completed interviews in NFHS-2.

The sample was designed to provide estimates for the state as a whole, for urban and rural areas, and for the five major regions of the state. The sample is not large enough to provide reliable estimates for individual districts or for urban and rural areas in each region. The Hill Region and the Bundelkhand Region (which have the smallest proportions of the state population) were oversampled to obtain sufficiently large samples to produce reliable estimates for those regions. Within each region, the required sampling rates for rural and urban areas were determined by allocating the sample proportionally to the population of the two areas, taking into account their expected nonresponse rates based on nonresponse rates of urban and rural areas in the state as a whole in NFHS-1.

The district composition of the five regions (based on the 63 districts in Uttar Pradesh at the time of the 1991 Census) is as follows:

Region I (Hill):	Nainital, Tehri Garhwal, Almora, Chamoli, Dehradun, Garhwal, Pithoragarh, Uttarkashi
Region II (Western):	Bijnor, Ghaziabad, Hardwar, Meerut, Moradabad, Rampur, Saharanpur, Muzzafarnagar, Agra, Aligarh, Bareilly, Budaun, Bulandshahr, Etah, Farrukhabad, Firozabad, Mainpuri, Pilibhit, Shahjahanpur, Etawah, Mathura
Region III (Central):	Kheri, Hardoi, Rae Bareli, Sitapur, Barabanki, Fatehpur, Kanpur Dehat, Kanpur Nagar, Lucknow, Unnao
Region IV (Eastern):	Allahabad, Gonda, Pratapgarh, Sultanpur, Bahraich, Faizabad, Azamgarh, Basti, Deoria, Gorakhpur, Jaunpur, Maharajganj, Mau, Siddharthnagar, Ballia, Gazipur, Varanasi, Mirzapur, Sonbhadra
Region V (Bundelkhand):	Banda, Lalitpur, Hamirpur, Jalaun, Jhansi

Sample Design

Within each of the 10 sampling domains (rural and urban areas of each of the five regions), a systematic, multi-stage stratified sampling design was used. The rural sample in each region was selected in two stages: the selection of Primary Sampling Units (PSUs), which are villages or

groups of villages (in the case of small linked villages), with probability proportional to size (PPS) in the first stage, followed by the selection of households using systematic sampling within each selected PSU in the second stage. In urban areas within each region, a three-stage sampling procedure was followed. In the first stage, wards were selected with PPS. From each selected ward, one census enumeration block (CEB) was selected with PPS in the second stage, followed by selection of households using systematic sampling within each selected CEB in the third stage.

Sample Selection in Rural Areas

In rural areas, the 1991 Census list of villages served as the sampling frame. Within each region, the list was stratified by a number of variables. The first level of stratification was geographic, with districts being assigned to the five regions described above and the two largest regions being further subdivided into contiguous areas (geographic strata). In each geographic stratum, villages were further stratified by village size, the percentage of the population from scheduled castes or scheduled tribes, and the percentage of males engaged in nonagricultural activities. Table 1.1 provides details of the sample stratification in rural areas along with the population of each stratum. The final level of stratification was implicit for all strata, consisting of an ordering of villages within each stratum by the level of female literacy (obtained from the 1991 Census Village Directory). From the list of villages arranged in this manner, villages were selected systematically with probability proportional to the 1991 Census population of the village. Small villages with 5–49 households were linked with one or more adjoining villages to form PSUs with a minimum of 50 households. Villages with fewer than five households were excluded from the sampling frame.

The domain sampling fraction, i.e., the probability of selecting a woman (f) in a domain (the rural part of any of the five major regions) was computed as:

$$f = \frac{n_i}{N_i}$$

where n_i = number of women to be interviewed in the i^{th} domain, after upward adjustment to account for nonresponse and other loss,

N_i = projected population of eligible women in the i^{th} domain in December 1998.

The probability of selecting a PSU from the domain (f_i) was computed as:

$$f_i = \frac{a \times s_i}{\sum s_i}$$

where a = number of PSUs to be selected from the domain,
 s_i = population size of the i^{th} PSU in the domain,
 $\sum s_i$ = total population of the domain.

Table 1.1 Sampling stratification

Sampling stratification procedure in rural areas, Uttar Pradesh

Stratum	Region	Geographic stratum	Stratification variables			
			Village size (number of residential households)	Percent SC/ST population	Percentage of males in nonagricultural sector	Population ¹
1	1	1	≤ 100	≤ 15.0	NU	956,828
2	1	1	≤ 100	> 15.0	NU	973,225
3	1	1	> 100	≤ 13.0	NU	903,477
4	1	1	> 100	> 13.0	≤ 15.0	921,449
5	1	1	> 100	> 13.0	> 15.0	869,351
6	2	2	≤ 200	≤ 18.0	NU	1,541,357
7	2	2	≤ 200	> 18.0	NU	1,704,788
8	2	2	> 200 and ≤ 400	≤ 20.0	NU	1,785,474
9	2	2	> 200 and ≤ 400	> 20.0	NU	1,655,239
10	2	2	> 400	≤ 17.0	NU	2,125,826
11	2	2	> 400	> 17.0	NU	1,752,077
12	2	3	≤ 200	≤ 17.0	NU	1,727,012
13	2	3	≤ 200	> 17.0	NU	1,549,690
14	2	3	> 200 and ≤ 400	≤ 19.0	NU	1,839,652
15	2	3	> 200 and ≤ 400	> 19.0	NU	1,492,294
16	2	3	> 400	≤ 16.0	NU	1,958,527
17	2	3	> 400	> 16.0	NU	1,840,148
18	2	4	≤ 200	≤ 17.0	NU	2,332,659
19	2	4	≤ 200	> 17.0	NU	2,486,275
20	2	4	> 200 and ≤ 400	≤ 20.0	NU	2,681,260
21	2	4	> 200 and ≤ 400	> 20.0	NU	2,492,876
22	2	4	> 400	≤ 20.0	NU	2,875,462
23	2	4	> 400	> 20.0	NU	2,645,270
24	3	5	≤ 200	≤ 23.0	NU	1,911,748
25	3	5	≤ 200	> 23.0 and ≤ 39.0	NU	2,002,302
26	3	5	≤ 200	> 39.0	NU	1,983,033
27	3	5	> 200 and ≤ 450	≤ 25.0	NU	2,566,088
28	3	5	> 200 and ≤ 450	> 25.0 and ≤ 35.0	NU	1,970,054
29	3	5	> 200 and ≤ 450	> 35.0	NU	2,670,285
30	3	5	> 450	≤ 23.0	NU	1,770,967
31	3	5	> 450	> 23.0 and ≤ 32.0	NU	1,642,006
32	3	5	> 450	> 32.0	NU	1,933,545
33	4	6	≤ 125	≤ 19.0	NU	2,109,217
34	4	6	≤ 125	> 19.0	NU	1,966,487
35	4	6	> 125 and ≤ 225	≤ 18.0	NU	2,232,462
36	4	6	> 125 and ≤ 225	> 18.0	NU	2,184,454
37	4	6	> 225	≤ 15.0	≤ 6.0	2,216,627
38	4	6	> 225	≤ 15.0	> 6.0	1,815,561
39	4	6	> 225	> 15.0	≤ 6.0	2,445,673
40	4	6	> 225	> 15.0	> 6.0	2,009,063
41	4	7	≤ 150	≤ 22.0	NU	1,793,843
42	4	7	≤ 150	> 22.0	NU	1,834,818
43	4	7	> 150 and ≤ 250	≤ 22.0	NU	1,876,573
44	4	7	> 150 and ≤ 250	> 22.0	NU	1,741,863
45	4	7	> 250	≤ 20.0	≤ 6.0	1,633,819
46	4	7	> 250	≤ 20.0	> 6.0	1,629,276
47	4	7	> 250	> 20.0	≤ 7.0	2,193,867
48	4	7	> 250	> 20.0	> 7.0	1,655,203
49	4	8	≤ 140	≤ 22.0	NU	2,338,290
50	4	8	≤ 140	> 22.0	NU	2,524,951

Contd..

Table 1.1 Sampling stratification (contd.)						
Sampling stratification procedure in rural areas, Uttar Pradesh						
Stratification variables						
Stratum	Region	Geographic stratum	Village size (number of residential households)	Percent SC/ST population	Percentage of males in nonagricultural sector	Population ¹
51	4	8	> 140 and ≤ 225	≤ 23.0	NU	1,759,292
52	4	8	> 140 and ≤ 225	> 23.0	NU	1,854,517
53	4	8	> 225	≤ 28.0	≤ 11.0	2,518,676
54	4	8	> 225	≤ 28.0	> 11.0	2,299,187
55	4	8	> 225	> 28.0	NU	1,945,262
56	5	9	≤ 200	≤ 27.0	NU	879,259
57	5	9	≤ 200	> 27.0	NU	849,571
58	5	9	> 200 and ≤ 400	≤ 27.0	NU	854,153
59	5	9	> 200 and ≤ 400	> 27.0	NU	879,818
60	5	9	> 400	≤ 25.0	NU	866,942
61	5	9	> 400	> 25.0	NU	963,686
Total	NA	NA	NA	NA	NA	111,432,654

Note: The level of female literacy is used for implicit stratification.
 SC: Scheduled caste; ST: Scheduled tribe
 NA: Not applicable
 NU: Not used for stratification
¹The population shown is the 1991 Census population, excluding persons living in villages with fewer than five households.

A mapping and household listing operation carried out in each sample area provided the necessary frame for selecting households at the second stage. The household listing operation involved preparing up-to-date notional and layout sketch maps of each selected PSU, assigning numbers to structures, recording addresses of these structures, identifying residential structures, and listing the names of heads of all the households in residential structures in the selected PSUs. Sample villages larger than 500 households were segmented into three or more segments, and two segments were selected randomly using the PPS method. The household listing in these PSUs was carried out only in the selected segments. The work was carried out by 24 teams, each comprising 1 lister and 1 mapper, under the supervision of 12 field supervisors and 3 field executives. The teams were trained from 21–26 September 1998 in Lucknow and Delhi by two officials from ACNielsen, who were earlier trained in a workshop conducted by IIPS. The mapping and household listing operation was carried out between September and December 1998. The households to be interviewed were selected with equal probability from the household list in each area using systematic sampling.

The probability of selecting a household from a selected PSU (f_2) in the domain (the rural part of one of the five major regions) was computed as:

$$f_2 = \frac{f}{f_1}$$

On average, 30 households were initially targeted for selection in each selected enumeration area. To avoid extreme variations in the workload, minimum and maximum limits were put on the number of households that could be selected from any area, at 15 and 60, respectively. All the selected households were visited during the main survey, and no

replacement was made if a selected household was absent during data collection. However, if a PSU was inaccessible, a replacement PSU with similar characteristics was selected by IIPS and provided to the field organization.

Sample Selection in Urban Areas

The 1991 Census list of urban wards in each of the five major regions was arranged according to districts and within districts by the level of female literacy, and a sample of wards was selected systematically with probability proportional to population size. Next, one census enumeration block, consisting of approximately 150–200 households, was selected from each selected ward using the PPS method. As in rural areas, a household listing operation was carried out in the selected CEBs and, on average, 30 households per block were targeted for selection.

The domain sampling fraction, i.e., the probability of selecting a woman (f) in a domain (the urban part of any of the five major regions) was computed as:

$$f = \frac{n_i}{N_i}$$

where n_i = number of women to be interviewed in the i^{th} domain, after upward adjustment to account for nonresponse and other loss,

N_i = projected population of eligible women in the i^{th} domain in December 1998.

The probability of selecting a ward from the domain (f_1) was computed as:

$$f_1 = \frac{a \times s_i}{\sum s_i}$$

where a = number of wards selected from the domain,
 s_i = population size of the i^{th} ward in the domain,
 $\sum s_i$ = total population of the domain.

The probability of selecting a census enumeration block from a selected ward (f_2) was computed as:

$$f_2 = \frac{B_i}{\sum B_i}$$

where B_i = population size of the i^{th} block,
 $\sum B_i$ = total population of the ward.

A household listing operation carried out in each selected census enumeration block provided the necessary frame for selecting households in the third stage of sample selection. The probability of selecting a household from a selected CEB (f_3) was computed as:

$$f_3 = \frac{f}{f_1 \times f_2}$$

Sample Weights

Sample weights for households and women are based on design weights, adjusted for the effect of differential nonresponse in different geographical areas. The method of calculating the weights is specified below.

Let R_{Hi} and R_{wi} be the response rates for households and eligible women, respectively. Then the household weight (w_{Hi}) is calculated as follows:

$$w_{Hi} = \frac{w_{Di}}{R_{Hi}}$$

where w_{Di} = the design weight for the i^{th} domain (rural or urban part of one of the five major regions), calculated as the ratio of the overall sampling fraction ($F = n/N$) and the sampling fraction for the i^{th} domain ($f = n_i/N_i$). Note that $n = \sum n_i$, and $N = \sum N_i$.

The eligible woman's weight (w_{wi}) is calculated as follows:

$$w_{wi} = \frac{w_{Di}}{R_{Hi} \times R_{wi}}$$

After adjustment for nonresponse, the weights are normalized so that the total number of weighted cases is equal to the total number of unweighted cases. The final weights for households and eligible women are:

$$W_{Hi} = \frac{\sum n_i}{\sum w_{Hi} \times n_i} \times w_{Hi}$$

$$W_{wi} = \frac{\sum n_i}{\sum w_{wi} \times n_i} \times w_{wi}$$

where n_i refers to the actual number of cases (households or eligible women) interviewed in the i^{th} domain.

For the tabulations on anaemia and height/weight of women and children, two separate sets of weights were calculated using a similar procedure. In this case, however, the response rates for anaemia (for both women and children) are based on the percentage of eligible women whose haemoglobin level was measured and the response rates for height/weight (for both

Table 1.2. Sample results

Sample results for households and ever-married women age 15–49 by residence, Uttar Pradesh, 1998–99

Result	Urban		Rural		Total	
	Number	Percent	Number	Percent	Number	Percent
Households selected	2,081	100.0	7,545	100.0	9,626	100.0
Households completed (C)	1,835	88.2	6,847	90.7	8,682	90.2
Households with no household member at home or no competent respondent at home at the time of interview (HP)	34	1.6	134	1.8	168	1.7
Households absent for extended period (HA)	139	6.7	380	5.0	519	5.4
Households postponed (P)	6	0.3	5	0.1	11	0.1
Households refused (R)	45	2.2	66	0.9	111	1.2
Dwelling vacant/address not a dwelling (DV)	18	0.9	80	1.1	98	1.0
Dwelling destroyed (DD)	3	0.1	26	0.3	29	0.3
Dwelling not found (DNF)	0	0.0	7	0.1	7	0.1
Other (O)	1	0.0	0	0.0	1	0.0
Households occupied	1,920	100.0	7,059	100.0	8,979	100.0
Households interviewed	1,835	95.6	6,847	97.0	8,682	96.7
Households not interviewed	85	4.4	212	3.0	297	3.3
Household response rate (HRR) ¹	NA	95.6	NA	97.0	NA	96.7
Eligible women	1,962	100.0	8,030	100.0	9,992	100.0
Women interviewed (EWC)	1,813	92.4	7,479	93.1	9,292	93.0
Women not at home (EWNH)	91	4.6	297	3.7	388	3.9
Women postponed (EWP)	0	0.0	10	0.1	10	0.1
Women refused (EWR)	44	2.2	160	2.0	204	2.0
Women partly interviewed (EWPC)	6	0.3	59	0.7	65	0.7
Other (EWO)	8	0.4	25	0.3	33	0.3
Eligible women's response rate (EWRR) ²	NA	92.4	NA	93.1	NA	93.0
Overall response rate (ORR) ³	NA	88.3	NA	90.3	NA	89.9

Note: Eligible women are defined as ever-married women age 15–49 who stayed in the household the night before the interview (including both usual residents and visitors). This table is based on the unweighted sample; all other tables (except Table 1.3) are based on the weighted sample unless otherwise specified.

NA: Not applicable

¹Using the number of households falling into specific response categories, the household response rate (HRR) is calculated as:

$$\text{HRR} = \frac{C}{C + \text{HP} + \text{P} + \text{R} + \text{DNF}} \times 100$$

²Using the number of eligible women falling into specific response categories, the eligible women's response rate (EWRR) is calculated as:

$$\text{EWRR} = \frac{\text{EWC}}{\text{EWC} + \text{EWNH} + \text{EWP} + \text{EWR} + \text{EWPC} + \text{EWO}} \times 100$$

³The overall response rate (ORR) is calculated as:

$$\text{ORR} = \frac{\text{HRR} \times \text{EWRR}}{100}$$

women and children) are based on the percentage of eligible women whose height or weight was measured.

Sample Implementation

A total of 333 PSUs were selected for the sample, of which 67 (20 percent) were urban and 266 (80 percent) were rural. Table 1.2 shows response rates for households and individuals and reasons for nonresponse. Nonresponse can occur at the stage of the household interview or at the stage of the woman's interview. The last row of the table shows the overall effect of nonresponse at the two stages. The survey achieved an overall response rate of 90 percent (88 percent in urban

Table 1.3 Sample results by region						
Sample results for households and ever-married women age 15–49 by region, Uttar Pradesh, 1998–99						
Result	Region					Total
	Hill	Western	Central	Eastern	Bundelkhand	
Number of households interviewed	954	2,743	1,418	2,792	775	8,682
Number of eligible women interviewed	945	2,934	1,438	3,105	870	9,292
Household response rate	93.4	96.7	96.5	97.8	97.6	96.7
Eligible women's response rate	92.1	92.5	94.9	93.1	92.2	93.0
Overall response rate	86.1	89.4	91.6	91.0	90.0	89.9

Note: Eligible women are defined as ever-married women age 15–49 who stayed in the household the night before the interview (including both usual residents and visitors). This table is based on the unweighted sample.

areas and 90 percent in rural areas). Table 1.3 shows that the overall response rate is lowest in the Hill Region (86 percent) and highest in the Central Region (92 percent).

Of the 9,626 households selected in Uttar Pradesh, interviews were completed in 90 percent of the cases, 5 percent of the selected households were absent for an extended period, and in 2 percent of the cases no household member or no competent respondent was at home at the time of interview (Table 1.2). The household response rate—the number of households interviewed per 100 occupied households—was 97 percent.

In the interviewed households, 9,992 women were identified as eligible for the individual interview. Interviews were successfully completed with 93 percent of the eligible women. Nonresponse at the individual level was primarily due to eligible women not being at home despite repeated household visits (4 percent). Two percent of eligible women refused to be interviewed.

1.5 Recruitment, Training, and Fieldwork

Field staff for the main survey were trained in Lucknow and New Delhi by officials of ACNielsen, who were trained earlier in a Training of Trainers Workshop conducted by IIPS. Training in Uttar Pradesh consisted of three weeks of classroom training, general lectures, and demonstration and practice interviews, as well as field practice and additional training for field editors and supervisors. The classroom training included instructions in interviewing techniques and survey field procedures, a detailed review of each item in the questionnaires, instruction and practice in weighing and measuring women and children, and mock interviews between participants. Special guest lectures on family planning and on child health were also arranged. Health investigators attached to interviewing teams were given additional specialized training on measuring height and weight and testing for anaemia in a centralized training programme conducted by the All India Institute of Medical Sciences (AIIMS), New Delhi, in collaboration with IIPS. This specialized training took place in New Delhi. It included classroom training and extensive field practice in schools, *anganwadis*, and communities.

Eleven interviewing teams conducted the main fieldwork in Uttar Pradesh, each team consisting of one field supervisor, one female field editor, four female interviewers, and one health investigator. The fieldwork was carried out between 4 December 1998 and 20 March 1999.

Coordinators and senior staff of ACNielsen monitored and supervised the data collection operations. IIPS also appointed two research officers to help with monitoring throughout the training and fieldwork period in order to ensure that correct survey procedures were followed and data quality was maintained. From time to time, project coordinators, senior research officers, and other faculty members from IIPS, as well as staff members from ORC Macro and the East-West Center, visited the field sites to monitor the data collection operation. Medical health coordinators appointed by IIPS monitored the nutritional component of the survey. Field data were quickly entered into microcomputers, and field-check tables were produced to identify certain types of errors that might have occurred in eliciting information and filling out questionnaires. Information from the field-check tables was fed back to the interviewing teams and their supervisors so that they could improve their performance.

1.6 Data Processing

Completed questionnaires were sent to the office of ACNielsen in New Delhi for data processing, which consisted of office editing, coding, data entry, and machine editing, using the Integrated System for Survey Analysis (ISSA) software. Data entry was done in New Delhi by 12 data entry operators under the supervision of ACNielsen senior staff who were trained at a data-processing workshop in Hyderabad. Data entry and editing operations were completed by May 1999. Tabulations for the preliminary report as well as for the present final report were carried out at IIPS in Mumbai.

CHAPTER 2

BACKGROUND CHARACTERISTICS OF HOUSEHOLDS

This chapter presents a profile of the demographic and socioeconomic characteristics of NFHS-2 households and describes facilities and services that are available in villages in Uttar Pradesh. The chapter also includes some comparisons of NFHS-2 results with results from NFHS-1, the Census of India, and the Sample Registration System (SRS).

2.1 Age-Sex Distribution of the Household Population

The NFHS-2 household population can be tabulated in two ways: *de facto* (the place each person stayed the night before the survey interview) or *de jure* (the place of usual residence). The *de facto* and *de jure* populations in Uttar Pradesh differ because of temporary population movements. Table 2.1 shows the *de facto* population in the NFHS-2 household sample for Uttar Pradesh, classified by age, residence, and sex. The total *de facto* sample population is 53,726. The sample is 21 percent urban and 79 percent rural.

The age distribution of the population in Uttar Pradesh is typical of high-fertility populations, with a higher proportion of the population in the younger age groups (Figure 2.1). The slight decrease in the proportion of the population under age 5, compared with the population age 5–9, is consistent with a recent decline in fertility. Forty-two percent are below 15 years of age, and only 5 percent are age 65 or older. The proportion below age 15 is higher in rural areas (43 percent) than in urban areas (37 percent).

The single-year age distributions by sex in the *de facto* population (see Appendix Table B.1) indicate that there is substantial misreporting of ages, including considerable preference for ages ending in particular digits, especially 0 and 5. One of the most commonly used measures of digit preference in age reporting is Myers' Index (United Nations, 1955). This index provides an overall summary of preferences for, or avoidance of, each of the 10 digits, from 0 to 9. The index is often used as one indicator of the quality of age reporting on a survey. Values of Myers' Index computed for the age range 10–69 in the household sample population in Uttar Pradesh are 36.0 for males and 31.8 for females. The lower estimate for females is probably due to the emphasis during the interviewer training on obtaining accurate age information for women to correctly determine the eligibility of women for the individual interview. The values of Myers' Index from NFHS-2 are approximately twice as large as the values from NFHS-1 (revised from the published NFHS-1 estimates). This indicates that age reporting on the Household Questionnaire in Uttar Pradesh is much worse in NFHS-2 than in NFHS-1.

Table 2.2 compares the age distributions by sex from the NFHS-2 *de jure* sample with the age distributions by sex from the Sample Registration System for 1997. The SRS baseline survey, which is *de jure*, counts all usual residents in a sample area (Office of the Registrar General, 1999a). The NFHS-2 and SRS age distributions do not differ much for broad age groups, despite the misreporting of age that is evident in the NFHS-2 single-year age data.

Table 2.1 Household population by age and sex

Percent distribution of the household population by age, according to residence and sex, Uttar Pradesh, 1998-99

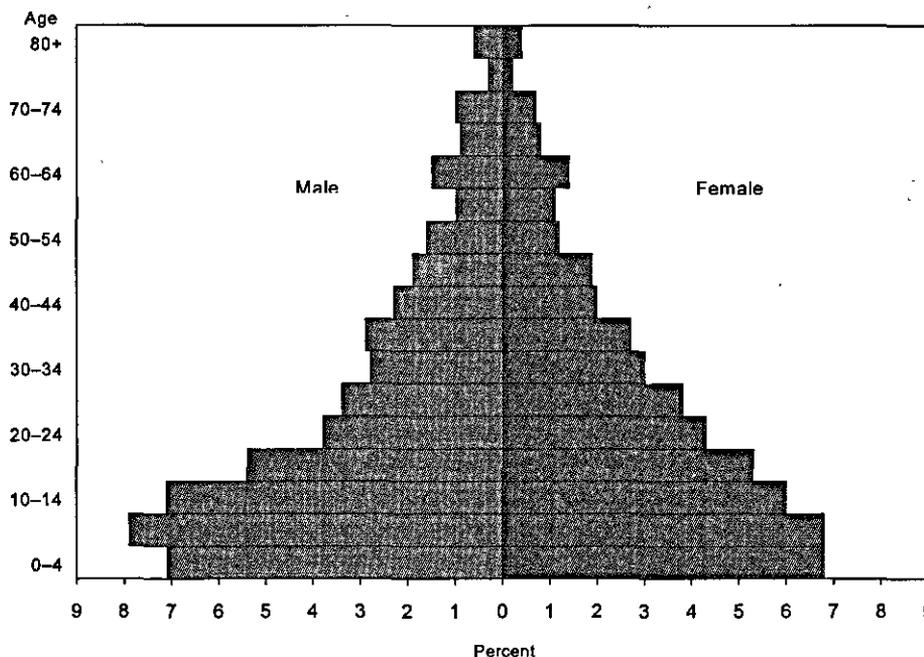
Age	Urban			Rural			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
< 1	2.1	2.3	2.2	3.1	2.9	3.0	2.9	2.8	2.8
1-4	8.9	8.5	8.7	11.5	11.9	11.7	11.0	11.2	11.1
5-9	12.4	12.5	12.5	16.0	14.5	15.3	15.3	14.1	14.7
10-14	14.2	12.8	13.5	13.8	12.2	13.0	13.9	12.4	13.1
15-19	12.4	12.4	12.4	10.1	10.6	10.3	10.5	11.0	10.8
20-24	9.7	9.7	9.7	6.8	8.6	7.7	7.4	8.9	8.1
25-29	6.7	7.6	7.1	6.5	7.8	7.1	6.5	7.8	7.1
30-34	5.6	6.5	6.0	5.4	6.0	5.7	5.5	6.1	5.8
35-39	6.5	7.0	6.8	5.4	5.2	5.3	5.6	5.6	5.6
40-44	5.3	4.6	5.0	4.3	4.0	4.2	4.5	4.1	4.3
45-49	4.9	4.5	4.7	3.5	3.8	3.6	3.8	3.9	3.9
50-54	3.1	2.8	2.9	3.1	2.5	2.8	3.1	2.6	2.9
55-59	2.0	2.0	2.0	1.9	2.4	2.1	1.9	2.3	2.1
60-64	1.9	2.3	2.1	3.1	3.1	3.1	2.8	2.9	2.9
65-69	1.5	1.4	1.5	1.8	1.7	1.7	1.7	1.6	1.7
70-74	1.2	1.6	1.4	2.1	1.3	1.7	1.9	1.4	1.6
75-79	0.6	0.6	0.6	0.6	0.4	0.5	0.6	0.5	0.5
80+	0.8	0.8	0.8	1.2	0.9	1.0	1.1	0.9	1.0
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of persons	5,810	5,408	11,218	21,822	20,686	42,508	27,631	26,094	53,726
Sex ratio ¹	NA	NA	931	NA	NA	948	NA	NA	944

Note: Table is based on the *de facto* population, i.e., persons who stayed in the household the night before the interview (including both usual residents and visitors).

NA: Not applicable

¹Females per 1,000 males

**Figure 2.1
Population Pyramid**



NFHS-2, Uttar Pradesh, 1998-99

Table 2.2 Population by age and sex from the SRS and NFHS-2					
Percent distribution of population by age and sex from the SRS and NFHS-2, Uttar Pradesh, 1997-99					
Age	SRS (1997)		NFHS-2 (1998-99)		
	Male	Female	Male	Female	Sex ratio ¹
< 5	12.9	12.8	13.2	13.9	973
5-14	27.7	27.2	28.9	26.6	853
15-29	26.9	25.5	25.0	27.0	1,000
30-49	20.4	21.5	19.7	20.1	949
50-64	8.2	8.8	8.0	8.0	936
65+	3.9	4.3	5.3	4.4	771
Total	100.0	100.0	100.0	100.0	927
Median age	U	U	18.4	19.0	NA

Note: Table is based on the *de jure* population, i.e., usual residents.
NA: Not applicable
U: Not available
¹Females per 1,000 males
Source for SRS: Office of the Registrar General, 1999a

Tables 2.1 and 2.2 also present sex ratios (females per 1,000 males) in Uttar Pradesh from NFHS-2. The sex ratio of the *de facto* population is 944 (Table 2.1). The sex ratio of the *de jure* population (927) in Table 2.2 is slightly lower than the sex ratio of the *de facto* population (944). Table 2.1 shows that the sex ratio of the *de facto* population is 931 in urban areas and 948 in rural areas, suggesting that rural-urban migration has been dominated by males in Uttar Pradesh.

2.2 Marital Status

NFHS-2 includes information on the marital status of all household members age six and above. Table 2.3 shows the marital status distribution of the *de facto* household population, classified by age, residence, and sex. Among females age six and above, 54 percent are currently married and 37 percent have never been married. The proportion never married is higher for males (49 percent) than for females (37 percent) and is higher in urban areas (54 percent for males and 44 percent for females) than in rural areas (48 percent for males and 35 percent for females). The proportion divorced, separated, or deserted is small, and widowhood is quite limited until the older ages. Thirty-eight percent of women age 50 or older are widowed, but only 17 percent of males in that age group are widowed.

Also of interest is the proportion of persons who marry young. At age 15-19, the proportions ever married are 10 percent for males and 40 percent for females (3 percent for males and 15 percent for females in urban areas, and 13 percent for males and 48 percent for females in rural areas). By age 25-29, almost all women (98 percent) have ever been married. Only 83 percent of males in this age group have ever been married (68 percent in urban areas and 87 percent in rural areas). Overall, the table shows that women in Uttar Pradesh marry at much younger ages than men, and that both men and women marry at much younger ages in rural areas than in urban areas.

Table 2.3 Marital status of the household population

Percent distribution of the household population age 6 and above by marital status, according to age, residence, and sex, Uttar Pradesh, 1998-99

Age	Marital status							Total percent
	Never married	Currently married	Married, <i>gauna</i> not performed	Widowed	Divorced	Separated	Deserted	
URBAN								
Male								
6-12	99.6	0.4	0.0	0.0	0.0	0.0	0.0	100.0
13-14	99.6	0.4	0.0	0.0	0.0	0.0	0.0	100.0
15-19	97.2	2.0	0.9	0.0	0.0	0.0	0.0	100.0
20-24	78.2	20.8	0.6	0.3	0.0	0.0	0.0	100.0
25-29	32.3	66.0	0.6	0.0	0.3	0.3	0.4	100.0
30-49	4.4	93.2	0.0	1.3	0.5	0.1	0.5	100.0
50+	1.0	85.8	0.2	13.0	0.0	0.0	0.0	100.0
Total	54.1	43.2	0.3	2.0	0.2	0.0	0.2	100.0
Female								
6-12	99.5	0.5	0.0	0.0	0.0	0.0	0.0	100.0
13-14	99.6	0.4	0.0	0.0	0.0	0.0	0.0	100.0
15-19	85.4	12.9	1.5	0.2	0.0	0.0	0.0	100.0
20-24	37.1	61.1	0.4	0.0	0.9	0.0	0.5	100.0
25-29	8.2	89.3	0.0	1.4	0.9	0.0	0.3	100.0
30-49	0.9	92.8	0.0	5.6	0.1	0.0	0.4	100.0
50+	0.4	51.9	0.0	47.0	0.0	0.6	0.2	100.0
Total	43.8	47.6	0.3	7.8	0.2	0.1	0.2	100.0
RURAL								
Male								
6-12	98.9	0.7	0.4	0.0	0.0	0.0	0.0	100.0
13-14	98.0	0.5	1.5	0.0	0.0	0.0	0.0	100.0
15-19	87.2	7.1	5.6	0.0	0.1	0.0	0.1	100.0
20-24	42.3	52.3	4.6	0.8	0.1	0.0	0.0	100.0
25-29	13.4	83.1	1.0	1.0	0.8	0.2	0.4	100.0
30-49	3.2	92.9	0.1	3.1	0.3	0.2	0.3	100.0
50+	2.7	78.4	0.0	18.4	0.0	0.2	0.2	100.0
Total	48.0	46.3	1.4	3.9	0.2	0.1	0.1	100.0
Female								
6-12	98.1	0.6	1.3	0.0	0.0	0.0	0.0	100.0
13-14	93.1	1.2	5.7	0.0	0.0	0.0	0.0	100.0
15-19	52.3	37.1	10.2	0.1	0.1	0.1	0.1	100.0
20-24	6.0	90.5	1.6	0.7	0.4	0.3	0.6	100.0
25-29	0.8	97.7	0.1	1.0	0.1	0.0	0.2	100.0
30-49	0.3	93.6	0.0	5.3	0.4	0.1	0.2	100.0
50+	0.5	62.6	0.1	36.3	0.2	0.2	0.2	100.0
Total	35.4	55.1	2.1	6.9	0.2	0.1	0.2	100.0

Table 2.3 Marital status of the household population (contd.)

Percent distribution of the household population age 6 and above by marital status, according to age, residence, and sex, Uttar Pradesh, 1998-99

Age	Marital status							Total percent
	Never married	Currently married	Married, <i>gauna</i> not performed	Widowed	Divorced	Separated	Deserted	
TOTAL								
Male								
6-12	99.0	0.6	0.4	0.0	0.0	0.0	0.0	100.0
13-14	98.4	0.4	1.2	0.0	0.0	0.0	0.0	100.0
15-19	89.7	5.8	4.4	0.0	0.0	0.0	0.0	100.0
20-24	52.2	43.6	3.5	0.7	0.1	0.0	0.0	100.0
25-29	17.5	79.4	1.0	0.8	0.7	0.2	0.4	100.0
30-49	3.5	93.0	0.1	2.6	0.4	0.2	0.3	100.0
50+	2.4	79.8	0.0	17.4	0.0	0.1	0.2	100.0
Total	49.3	45.6	1.1	3.5	0.2	0.1	0.1	100.0
Female								
6-12	98.4	0.6	1.0	0.0	0.0	0.0	0.0	100.0
13-14	94.7	1.0	4.3	0.0	0.0	0.0	0.0	100.0
15-19	60.1	31.4	8.2	0.1	0.1	0.0	0.1	100.0
20-24	13.0	83.8	1.3	0.5	0.5	0.2	0.6	100.0
25-29	2.3	96.0	0.1	1.1	0.3	0.0	0.2	100.0
30-49	0.5	93.4	0.0	5.4	0.3	0.1	0.3	100.0
50+	0.5	60.5	0.0	38.4	0.1	0.3	0.2	100.0
Total	37.2	53.5	1.7	7.1	0.2	0.1	0.2	100.0
<p>Note: Table is based on the <i>de facto</i> population, i.e., persons who stayed in the household the night before the interview (including both usual residents and visitors). The marital status distribution for females by age cannot be directly compared with the published distribution for NFHS-1 because the ages in the current table are based entirely on the reports of the household respondents, whereas in NFHS-1 the ages of ever-married women age 13-49 were taken from the Woman's Questionnaire.</p>								

Table 2.4 shows estimates of the singulate mean age at marriage (SMAM), which can be calculated from age-specific proportions single in a census or household survey. SMAM is calculated from the *de jure* population in NFHS-2 in order to arrive at estimates that are more comparable to those derived from the censuses, which are modified *de jure* counts. According to the SMAM measure, men in Uttar Pradesh tend to marry women who are four years younger than themselves. The census and NFHS-2 data indicate that the age at marriage has been rising for both men and women, but slightly faster for women than for men. There has been, however, only a small change in the age at marriage in the six years between NFHS-1 and NFHS-2. Marriage ages in NFHS-2 are higher in urban areas than in rural areas, with urban women and men marrying more than three years later than their rural counterparts. As estimated from NFHS-2, the SMAM for females in Uttar Pradesh is 19.0 (21.5 in urban areas and 18.3 in rural areas).

Table 2.4 Singulate mean age at marriage			
Singulate mean age at marriage by sex from selected sources, Uttar Pradesh, 1961–1998/99			
Source	Singulate mean age at marriage (SMAM)		
	Male	Female	Difference
1961 Census	19.4	14.5	4.9
1971 Census	19.8	15.5	4.3
1981 Census	21.3	16.7	4.6
1991 Census	21.9	18.1	3.8
1992–93 NFHS-1			
Urban	25.2	20.9	4.3
Rural	22.4	17.9	4.5
Total	23.0	18.6	4.4
1998–99 NFHS-2			
Urban	26.2	21.5	4.7
Rural	22.4	18.3	4.1
Total	23.3	19.0	4.3

Note: Table is based on the *de jure* population.

2.3 Household Composition

Table 2.5 shows the percent distribution of households by various characteristics of the household head (sex, age, religion, and caste/tribe), as well as by household type and the number of usual household members, according to residence and region. The table is based on the *de jure* population because household type and the number of usual household members pertain to the usual-resident population. The table shows that 89–90 percent of household heads are male, regardless of area of residence (rural or urban). The proportion of male-headed households ranges from 85 percent in the Hill Region to 95 percent in the Bundelkhand Region.

The median age of household heads is 45 years in both urban and rural areas. The median age is 45–46 years in every region except the Bundelkhand Region, where it is 42 years. Nearly two-thirds (65 percent) of household heads are age 30–59 and only 11 percent are less than age 30. Eighty-three percent of household heads are Hindu, 16 percent are Muslim, and less than 1 percent belong to all other religions combined (almost the same distribution as in NFHS-1). Muslims constitute 29 percent of urban households, but only 13 percent of rural households. The proportion of Muslim household heads is highest in the Western Region (23 percent) and lowest in the Hill Region (4 percent). Twenty percent of household heads belong to scheduled castes, 2 percent to scheduled tribes, and 26 percent to other backward classes (OBC¹). The proportion of household heads belonging to any of these disadvantaged groups is 31 percent in urban areas and 53 percent in rural areas, and it ranges from only 23 percent in the Hill Region to 60 percent in the Eastern Region.

¹Other backward classes are castes and communities that have been designated by the Government of India as socially and educationally backward and in need of special protection from social injustice.

Table 2.5 Household characteristics

Percent distribution of households by selected characteristics of the household head, household type, and household size, according to residence and region, Uttar Pradesh, 1998–99

Characteristic	Residence		Region					Total
	Urban	Rural	Hill	Western	Central	Eastern	Bundelkhand	
Sex of household head								
Male	89.4	90.4	85.2	91.4	93.0	87.6	95.1	90.2
Female	10.6	9.6	14.8	8.6	7.0	12.4	4.9	9.8
Age of household head								
< 30	8.9	11.4	10.1	11.5	14.1	8.8	11.1	10.9
30–44	39.3	36.0	33.9	38.3	35.5	35.8	40.5	36.7
45–59	32.9	26.8	31.3	29.3	26.5	27.3	27.1	28.1
60+	18.9	25.7	24.7	20.9	23.8	28.1	21.3	24.3
Don't know/missing	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Median age	45.2	45.3	45.9	45.0	45.0	45.6	42.3	45.3
Religion of household head								
Hindu	69.5	86.1	92.9	75.9	85.6	84.7	95.0	82.6
Muslim	29.0	12.8	4.2	22.6	13.1	14.7	4.7	16.3
Christian	0.2	0.1	0.9	0.2	0.0	0.0	0.0	0.1
Sikh	0.9	0.7	1.8	1.2	0.8	0.1	0.1	0.7
Buddhist/Neo-Buddhist	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0
Jain	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Zoroastrian/Parsi	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
No religion	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Other	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Missing	0.2	0.2	0.1	0.1	0.3	0.4	0.1	0.2
Caste/tribe of household head								
Scheduled caste	13.3	22.1	13.3	17.0	25.6	21.7	19.2	20.2
Scheduled tribe	1.1	2.5	5.4	1.9	0.3	3.0	3.1	2.2
Other backward class	16.9	28.7	4.6	19.7	25.6	35.7	27.0	26.2
Other	65.2	41.1	75.5	58.9	36.3	35.9	40.2	46.2
Don't know/missing	3.4	5.5	1.2	2.6	12.2	3.8	10.5	5.1
Household type								
Nuclear household	56.4	50.2	52.4	51.8	56.0	48.4	53.4	51.5
Non-nuclear household	43.6	49.8	47.5	48.2	44.0	51.6	46.6	48.5
Household with no usual members	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Number of usual members								
0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
1	1.7	2.6	3.4	1.7	2.5	2.9	2.1	2.4
2	6.3	6.8	6.6	4.9	8.9	7.3	7.0	6.7
3	8.7	8.0	9.6	7.8	8.9	7.9	8.1	8.1
4	15.3	13.0	17.4	13.0	15.0	12.7	12.3	13.5
5	16.5	15.1	21.0	14.3	16.8	14.6	17.8	15.4
6	16.1	14.7	15.6	14.8	16.5	13.9	17.8	15.0
7	11.0	12.1	9.7	13.1	9.6	12.3	11.1	11.9
8	8.8	9.3	6.4	10.1	8.7	8.8	9.5	9.2
9+	15.7	18.5	10.1	20.3	13.2	19.5	14.3	17.9
Mean household size	6.1	6.3	5.5	6.5	5.7	6.4	6.2	6.2
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of households	1,850	6,832	421	3,090	1,633	3,161	378	8,682

Note: Table is based on the *de jure* population.

Just over half of all households (52 percent) are nuclear family households (consisting of an unmarried adult living alone or a married person or couple and their unmarried children, if any). Nuclear households are somewhat more common in urban areas than in rural areas, but even in rural areas, half of households are nuclear. The average household size is 6.2 persons (6.3 in rural areas and 6.1 in urban areas). The average household size ranges from 5.5 persons in the Hill Region to 6.5 in the Western Region.

2.4 Educational Level

The level of education of household members may affect reproductive behaviour, contraceptive use, the health of children, and proper hygienic practices. Table 2.6 shows the percent distribution of the *de facto* household population by literacy and educational level, according to age, residence, and sex. (This table and all subsequent tables and figures in this report are based on the *de facto* sample, unless otherwise specified.)

In Uttar Pradesh, 57 percent of females and 28 percent of males age six and above are illiterate. Comparable figures from NFHS-1 are 69 percent of females and 36 percent of males, indicating a substantial increase in literacy in only six years. The literacy gap between males and females has narrowed over time, but even at age 10–14 there is still a gap of 16 percentage points (although the gap at that age has decreased from 27 percentage points in NFHS-1). The rapid increases in educational attainment over time can also be seen by examining the differences in educational levels by age. For example, the proportion of males completing at least high school rises from 17 percent at age 50 and above to 41 percent at ages 20–29. For females, the proportion completing at least high school is negligible (only 3 percent) at age 50 and above but reaches a level of 18 percent at ages 20–29.

A higher percentage of males than of females have completed each level of schooling. The median number of years of schooling is 5.0 for males, whereas the majority of females have never been to school, implying a median of zero. The proportion illiterate is lowest at age 10–14 and highest at age 50 and above for both females and males.

Education levels are much higher in urban areas than in rural areas. The proportion illiterate is almost twice as high for rural females (64 percent) and males (31 percent) as for urban females (34 percent) and males (17 percent).

Table 2.7 and Figure 2.2 show school attendance rates for the school-age household population by age, sex, and residence. In Uttar Pradesh as a whole, 77 percent of children age 6–14 are attending school, up from 61 percent in NFHS-1. The attendance rate drops off sharply (to 46 percent) at age 15–17. For the age group 6–17, the attendance rate is 77 percent for males, 61 percent for females, and 70 percent for the state as a whole. Overall, attendance rates for males are about the same in urban and rural areas, whereas attendance rates for females are much higher in urban areas than in rural areas. In urban areas, attendance rates at ages below 15 are slightly higher for males than females, whereas at age 15–17 females have a slight edge. In rural areas, however, attendance rates are considerably higher for males than females at all ages, and the gap is particularly pronounced at ages 15–17.

Table 2.6 Educational level of the household population

Percent distribution of the household population age 6 and above by literacy and level of education, and median number of completed years of schooling, according to age, residence, and sex, Uttar Pradesh, 1998-99

Age	Educational level ¹							Total percent	Number of persons	Median number of years of schooling
	Illiterate	Literate, < primary school complete	Primary school complete	Middle school complete	High school complete	Higher secondary complete and above	Missing			
URBAN										
Male										
6-9	26.4	73.4	0.2	0.0	0.0	0.0	0.0	100.0	556	1.2
10-14	9.3	38.9	40.9	10.2	0.8	0.0	0.0	100.0	824	5.1
15-19	13.9	6.1	19.7	31.2	18.9	10.3	0.0	100.0	720	8.9
20-29	13.0	3.4	10.0	20.1	15.4	38.0	0.1	100.0	953	10.3
30-39	15.3	3.6	9.5	11.8	16.5	43.4	0.0	100.0	705	10.6
40-49	19.6	4.4	12.1	10.8	15.0	38.0	0.0	100.0	593	10.2
50+	26.0	11.4	11.2	7.6	13.2	30.6	0.0	100.0	649	8.5
Total	16.8	18.6	15.7	13.9	11.6	23.3	0.0	100.0	4,999	7.8
Female										
6-9	32.2	66.6	1.0	0.0	0.0	0.0	0.2	100.0	552	1.3
10-14	15.0	33.7	40.0	10.0	1.2	0.0	0.0	100.0	693	5.1
15-19	19.5	5.2	16.6	20.9	21.9	15.8	0.0	100.0	673	8.7
20-29	28.4	3.5	9.7	10.1	11.5	36.7	0.0	100.0	936	9.0
30-39	39.9	2.0	13.2	8.8	8.0	28.0	0.0	100.0	729	5.8
40-49	46.1	4.8	12.5	9.9	10.8	15.7	0.2	100.0	491	4.8
50+	63.7	5.0	11.5	6.4	6.4	6.7	0.4	100.0	623	0.0
Total	33.9	15.7	15.2	9.7	8.8	16.5	0.1	100.0	4,698	5.1
Total										
6-9	29.3	70.0	0.6	0.0	0.0	0.0	0.1	100.0	1,108	1.3
10-14	11.9	36.5	40.5	10.1	1.0	0.0	0.0	100.0	1,517	5.1
15-19	16.6	5.7	18.2	26.2	20.4	13.0	0.0	100.0	1,393	8.8
20-29	20.6	3.5	9.9	15.2	13.4	37.4	0.1	100.0	1,889	10.1
30-39	27.8	2.8	11.4	10.3	12.2	35.6	0.0	100.0	1,435	9.1
40-49	31.6	4.6	12.3	10.4	13.1	27.9	0.1	100.0	1,084	8.2
50+	44.4	8.3	11.3	7.0	9.9	18.9	0.2	100.0	1,271	4.3
Total	25.1	17.2	15.5	11.9	10.3	20.0	0.1	100.0	9,697	6.0

Table 2.6 Educational level of the household population (contd.)

Percent distribution of the household population age 6 and above by literacy and level of education, and median number of completed years of schooling, according to age, residence, and sex, Uttar Pradesh, 1998-99

Age	Educational level ¹							Total percent	Number of persons	Median number of years of schooling
	Illiterate	Literate, < primary school complete	Primary school complete	Middle school complete	High school complete	Higher secondary complete and above	Missing			
RURAL										
Male										
6-9	32.5	66.5	0.9	0.0	0.0	0.0	0.2	100.0	2,669	1.1
10-14	15.3	45.8	31.8	7.0	0.2	0.0	0.0	100.0	3,007	4.1
15-19	17.2	9.1	21.3	34.3	12.3	5.7	0.1	100.0	2,195	8.2
20-29	24.6	5.3	13.1	20.5	16.8	19.5	0.1	100.0	2,901	8.6
30-39	34.6	6.5	15.1	16.5	12.3	15.0	0.0	100.0	2,357	5.9
40-49	38.2	7.8	15.4	14.6	11.5	12.3	0.1	100.0	1,693	5.4
50+	56.8	10.1	13.0	8.4	6.7	4.8	0.1	100.0	2,987	0.0
Total	31.3	23.0	15.9	13.7	8.1	7.8	0.1	100.0	17,813	4.1
Female										
6-9	42.3	57.3	0.2	0.0	0.0	0.0	0.2	100.0	2,294	0.0
10-14	33.4	40.3	22.1	3.9	0.2	0.0	0.0	100.0	2,534	2.8
15-19	49.3	6.2	17.2	17.0	6.9	3.3	0.0	100.0	2,196	2.5
20-29	67.0	3.7	11.2	8.3	4.2	5.6	0.1	100.0	3,408	0.0
30-39	79.4	3.6	9.4	3.6	2.0	2.0	0.0	100.0	2,320	0.0
40-49	85.1	2.8	7.0	3.1	0.9	1.1	0.0	100.0	1,616	0.0
50+	93.5	1.7	3.4	0.6	0.4	0.2	0.2	100.0	2,557	0.0
Total	63.8	16.3	10.3	5.3	2.2	2.0	0.1	100.0	16,930	0.0
Total										
6-9	37.1	62.2	0.5	0.0	0.0	0.0	0.2	100.0	4,963	0.0
10-14	23.6	43.3	27.4	5.6	0.2	0.0	0.0	100.0	5,541	3.5
15-19	33.2	7.7	19.2	25.7	9.6	4.5	0.1	100.0	4,391	6.0
20-29	47.5	4.4	12.1	13.9	10.0	12.0	0.1	100.0	6,309	3.9
30-39	56.8	5.1	12.3	10.1	7.2	8.6	0.0	100.0	4,677	0.0
40-49	61.1	5.3	11.3	9.0	6.4	6.8	0.1	100.0	3,309	0.0
50+	73.8	6.2	8.6	4.8	3.8	2.6	0.2	100.0	5,544	0.0
Total	47.1	19.7	13.2	9.6	5.2	5.0	0.1	100.0	34,743	1.2

Table 2.6 Educational level of the household population (contd.)

Percent distribution of the household population age 6 and above by literacy and level of education, and median number of completed years of schooling, according to age, residence, and sex, Uttar Pradesh, 1998-99

Age	Educational level ¹							Total percent	Number of persons	Median number of years of schooling
	Illiterate	Literate, < primary school complete	Primary school complete	Middle school complete	High school complete	Higher secondary complete and above	Missing			
TOTAL										
Male										
6-9	31.5	67.6	0.7	0.0	0.0	0.0	0.1	100.0	3,225	1.1
10-14	14.0	44.3	33.7	7.6	0.3	0.0	0.0	100.0	3,831	4.3
15-19	16.4	8.4	20.9	33.6	13.9	6.9	0.1	100.0	2,914	8.3
20-29	21.8	4.8	12.4	20.4	16.4	24.1	0.1	100.0	3,854	9.0
30-39	30.1	5.8	13.8	15.4	13.3	21.5	0.0	100.0	3,062	8.0
40-49	33.4	6.9	14.6	13.6	12.4	19.0	0.1	100.0	2,286	6.2
50+	51.3	10.4	12.7	8.3	7.9	9.4	0.1	100.0	3,636	0.0
Total	28.2	22.0	15.9	13.8	8.9	11.2	0.1	100.0	22,812	5.0
Female										
6-9	40.4	59.1	0.3	0.0	0.0	0.0	0.2	100.0	2,846	0.0
10-14	29.5	38.9	26.0	5.2	0.4	0.0	0.0	100.0	3,227	3.3
15-19	42.3	6.0	17.1	17.9	10.4	6.3	0.0	100.0	2,869	5.2
20-29	58.7	3.6	10.9	8.7	5.8	12.3	0.1	100.0	4,344	0.0
30-39	69.9	3.2	10.3	4.8	3.4	8.3	0.0	100.0	3,049	0.0
40-49	76.0	3.2	8.3	4.7	3.2	4.5	0.1	100.0	2,107	0.0
50+	87.7	2.3	5.0	1.7	1.6	1.4	0.2	100.0	3,180	0.0
Total	57.3	16.2	11.4	6.3	3.6	5.1	0.1	100.0	21,628	0.0
Total										
6-9	35.7	63.6	0.5	0.0	0.0	0.0	0.2	100.0	6,071	1.0
10-14	21.1	41.8	30.2	6.5	0.4	0.0	0.0	100.0	7,058	3.9
15-19	29.2	7.2	19.0	25.8	12.2	6.6	0.1	100.0	5,783	7.2
20-29	41.3	4.2	11.6	14.2	10.8	17.8	0.1	100.0	8,198	5.6
30-39	50.0	4.5	12.1	10.1	8.4	14.9	0.0	100.0	6,112	2.0
40-49	53.8	5.1	11.6	9.3	8.0	12.0	0.1	100.0	4,393	0.0
50+	68.3	6.6	9.1	5.2	4.9	5.7	0.2	100.0	6,815	0.0
Total	42.3	19.2	13.7	10.1	6.3	8.3	0.1	100.0	44,440	2.2

Note: This table and all the subsequent tables (unless otherwise indicated) are based on the *de facto* population. Illiterate persons may have been to school, but they cannot read and write. Total includes 1 female from an urban area and 3 males and 6 females from rural areas with missing information on age, who are not shown separately.

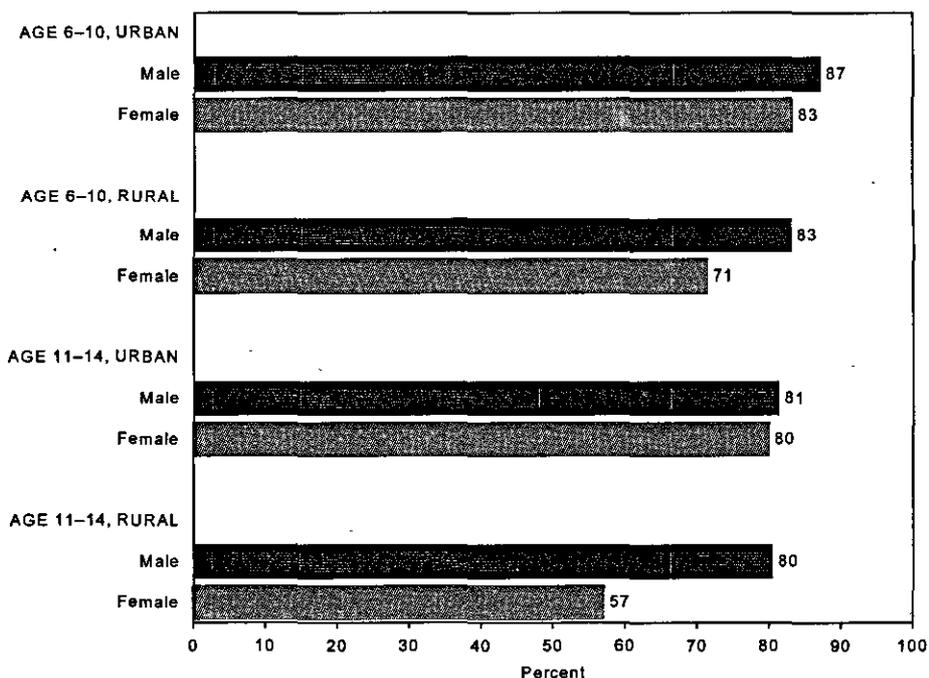
¹In this report, 'primary school complete' means 5-7 completed years of education, 'middle school complete' means 8-9 completed years of education, 'high school complete' means 10-11 completed years of education, and 'higher secondary complete and above' means 12 or more completed years of education.

Table 2.7 School attendance

Percentage of the household population age 6–17 years attending school by age, sex, and residence, Uttar Pradesh, 1998–99

Age	Male			Female			Total		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
6–10	87.1	83.0	83.7	83.3	71.4	73.7	85.3	77.6	79.0
11–14	81.3	80.4	80.6	80.0	57.1	62.4	80.7	69.9	72.3
15–17	56.5	58.1	57.7	61.1	24.7	32.9	58.7	41.9	45.8
6–14	84.5	82.0	82.5	81.9	66.2	69.4	83.3	74.8	76.5
6–17	77.7	77.3	77.3	77.0	57.3	61.4	77.3	68.0	69.9

Figure 2.2 School Attendance by Age, Sex, and Residence



NFHS-2, Uttar Pradesh, 1998–99

Table 2.8 shows reasons for children never attending school or not currently attending school (for those who have dropped out of school), as reported by the respondent to the Household Questionnaire. For both boys and girls, the main reasons for never attending school are that school costs too much, the children are not interested in studies, and education is not considered to be necessary. For children who used to attend school, but have dropped out, the main reason for not currently attending school is that the child is not interested in studies. Other important reasons are that school costs too much (cited slightly more often for boys than for girls) and that the child is needed for household work. One in seven girls and one in eight boys are not currently attending school because they are required for household work. In Uttar Pradesh, the need for children to remain out of school in order to work on a family farm or in a family business or to work outside for payment in cash or kind is not mentioned frequently as the

Table 2.8 Reasons for children not attending school						
Percent distribution of children age 6–17 years who never attended school by the main reason for never attending school and percent distribution of children age 6–17 years who have dropped out of school by the main reason for not currently attending school, according to residence and sex, Uttar Pradesh, 1998–99						
Reason	Urban		Rural		Total	
	Male	Female	Male	Female	Male	Female
Main reason for never attending school¹						
School too far away	1.2	2.5	5.4	9.6	4.7	8.8
Transport not available	0.0	0.6	0.9	1.2	0.7	1.1
Education not considered necessary	7.2	14.8	6.3	10.6	6.4	11.1
Required for household work	5.6	6.2	3.9	9.8	4.2	9.4
Required for work on farm/family business	0.3	0.0	2.3	1.4	1.9	1.2
Required for outside work for payment in cash or kind	3.8	2.0	0.8	0.4	1.3	0.6
Costs too much	38.2	34.9	28.1	23.4	29.8	24.6
No proper school facilities for girls	0.0	1.5	0.0	4.1	0.0	3.8
Required for care of siblings	0.6	0.0	0.6	1.8	0.6	1.6
Not interested in studies	14.7	9.7	22.7	11.2	21.3	11.1
Other	25.8	23.7	26.1	22.8	26.1	22.9
Don't know/missing	2.7	4.3	2.9	3.7	2.9	3.8
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of children	187	228	912	1,864	1,099	2,092
Main reason for not currently attending school²						
School too far away	0.0	0.8	1.0	10.5	0.8	8.9
Transport not available	0.2	0.9	0.0	2.5	0.1	2.2
Further education not considered necessary	2.9	5.7	2.9	7.5	2.9	7.2
Required for household work	12.5	11.5	11.7	15.3	11.9	14.7
Required for work on farm/family business	3.0	0.0	5.1	0.7	4.6	0.6
Required for outside work for payment in cash or kind	5.5	0.9	3.7	0.3	4.1	0.4
Costs too much	16.0	28.1	15.1	7.7	15.4	11.0
No proper school facilities for girls	0.0	1.2	0.0	6.8	0.0	5.9
Required for care of siblings	0.7	1.9	1.2	1.2	1.1	1.3
Not interested in studies	46.7	30.9	44.3	23.8	44.9	25.0
Repeated failures	0.2	0.4	0.6	0.2	0.5	0.2
Got married	0.0	4.4	0.0	5.1	0.0	5.0
Other	7.7	10.4	8.6	10.4	8.3	10.4
Don't know/missing	4.5	2.9	5.9	8.1	5.5	7.3
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of children	208	130	587	688	795	818
¹ For children who never attended school						
² For children who have dropped out of school						

main reason for never attending school or not currently attending school for either boys or girls. Some girls are not in school because they got married, but this is cited as the main reason for not currently attending school for only 1 in 20 girls who have dropped out of school. Three other reasons mentioned more often for girls than for boys are that (further) education is not considered necessary, the school is too far away, or there are no proper school facilities for girls.

2.5 Housing Characteristics

Table 2.9 provides information on housing characteristics by residence and region. Thirty-seven percent of households in Uttar Pradesh have electricity (up from 32 percent in NFHS-1). The proportion of households with electricity is 88 percent in urban areas and 23 percent in rural

Table 2.9 Housing characteristics

Percent distribution of households by housing characteristics, according to residence and region, Uttar Pradesh, 1998-99

Housing characteristic	Residence		Region					Total
	Urban	Rural	Hill	Western	Central	Eastern	Bundelkhand	
Electricity								
Yes	87.5	22.8	54.9	40.6	34.2	33.2	22.0	36.6
No	12.5	77.2	45.1	59.4	65.8	66.8	78.0	63.4
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Source of drinking water								
Piped	42.9	5.5	53.7	12.7	12.8	8.8	16.5	13.5
Hand pump	55.2	76.7	15.7	82.6	69.3	73.7	48.7	72.1
Well water	1.7	15.7	1.0	4.6	17.8	17.0	34.8	12.7
Surface water	0.1	2.0	28.5	0.1	0.0	0.4	0.0	1.6
Other	0.1	0.1	1.0	0.0	0.1	0.0	0.0	0.1
Missing	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Time to get drinking water								
Percentage < 15 minutes	92.9	84.7	61.1	88.5	86.5	90.1	67.7	86.5
Median time (minutes)	0.0	0.0	6.5	0.0	4.0	0.0	4.9	0.0
Method of drinking water purification¹								
Strains water by cloth	1.7	0.9	0.3	0.7	1.6	1.1	1.9	1.0
Uses alum	0.2	0.1	0.2	0.0	0.1	0.1	0.3	0.1
Uses water filter	8.0	0.4	11.8	1.2	2.1	1.5	1.3	2.0
Boils water	5.0	0.9	7.3	1.7	2.4	0.8	0.8	1.8
Uses electronic purifier	0.6	0.1	0.5	0.1	0.6	0.0	0.4	0.2
Uses other method	0.4	0.4	0.6	0.3	0.2	0.5	0.8	0.4
Does not purify water	85.4	97.5	81.7	96.3	93.5	96.0	94.9	94.9
Missing	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Sanitation facility								
Flush toilet	38.8	2.5	23.2	17.1	5.8	3.7	12.5	10.2
Pit toilet/latrine	44.6	8.6	13.7	21.0	22.9	9.4	9.4	16.3
Other	0.1	0.3	0.5	0.1	0.5	0.2	0.6	0.2
No facility	16.5	88.6	62.6	61.8	70.7	86.7	77.4	73.3
Missing	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Main type of fuel used for cooking								
Wood	29.5	73.0	63.7	47.9	58.0	82.7	59.0	63.7
Crop residues	0.7	5.4	0.6	4.5	9.9	2.3	1.6	4.4
Dung cakes	4.0	17.5	1.8	28.4	8.6	4.3	29.2	14.6
Coal/coke/lignite/charcoal	3.3	0.3	0.0	0.9	2.6	0.3	0.8	1.0
Kerosene	11.9	0.8	3.5	2.5	4.8	2.9	2.5	3.1
Electricity	0.8	0.1	0.1	0.3	0.5	0.1	0.0	0.2
Liquid petroleum gas	49.0	2.8	29.7	15.3	15.4	7.0	7.0	12.6
Biogas	0.6	0.1	0.5	0.1	0.3	0.3	0.0	0.2
Other	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Type of house								
Kachha	8.4	53.2	17.2	36.3	46.0	51.9	54.8	43.7
Semi-pucca	16.3	35.2	34.9	33.8	28.4	30.2	25.9	31.2
Pucca	75.1	11.2	47.0	29.4	25.6	17.7	18.8	24.8
Missing	0.2	0.4	0.9	0.6	0.1	0.2	0.5	0.4
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Persons per room								
< 3	57.1	53.7	65.8	46.0	53.5	60.3	66.3	54.4
3-4	21.2	26.7	21.2	28.2	24.3	24.5	22.6	25.5
5-6	12.7	11.6	8.3	14.6	13.4	9.3	7.8	11.8
7+	8.7	7.6	4.5	11.0	7.9	5.7	2.7	7.8
Don't know/missing	0.2	0.4	0.2	0.2	0.9	0.3	0.6	0.4
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Mean number of person per room	3.1	3.1	2.6	3.6	3.1	2.8	2.5	3.1
Number of households	1,850	6,832	421	3,090	1,633	3,161	378	8,682

¹Total may add to more than 100.0 because households may use more than one method of purification.

areas. The proportion of households with electricity ranges from 22 percent in the Bundelkhand Region to 55 percent in the Hill Region.

Water sources and sanitation facilities have an important influence on the health of household members, especially children. NFHS-1 and NFHS-2 included questions on sources of drinking water and types of sanitation facilities. NFHS-2 found that 14 percent of households use piped drinking water (down from 18 percent in NFHS-1), 72 percent drink water from hand pumps, and 13 percent drink water from wells. As in the case of electricity, there are large urban-rural differences in sources of drinking water. The proportion of households with piped drinking water is 43 percent in urban areas but only 6 percent in rural areas. Across regions, the use of piped drinking water is most widespread in the Hill Region (54 percent) and least common in the Eastern Region (9 percent). Most households have fairly easy access to drinking water. Eighty-seven percent of households either have a source of drinking water in their residence/yard or take less than 15 minutes to get drinking water, including the time to go to the source, get water, and come back. Only a small proportion of households purify their drinking water by any method (15 percent in urban areas and 3 percent in rural areas). The use of water purification ranges from 4 percent in the Western and Eastern Regions to 18 percent in the Hill Region. In urban areas, the most popular methods of water purification are filtering and boiling water.

Regarding sanitation facilities, only 10 percent of households have a flush toilet (using either piped water or water from a bucket for flushing), 16 percent have a pit toilet or latrine, and 73 percent have no facility. Again there are large urban-rural and regional differences: 39 percent of urban households have a flush toilet, whereas 89 percent of rural households have no toilet facility at all. The proportion of households with a flush toilet ranges from 4 percent in the Eastern Region to 23 percent in the Hill Region.

Several types of fuel are used for cooking in Uttar Pradesh, with wood as the most common type. In the state as a whole, 64 percent of households rely mainly on wood, 15 percent on dung cakes, 13 percent on liquid petroleum gas, and 3 percent on kerosene. Again there are large urban-rural differences. Sixty-one percent of urban households rely mainly on liquid petroleum gas or kerosene, whereas 96 percent of rural households rely mainly on wood, dung cakes, or crop residues. The proportion of households using liquid petroleum gas or kerosene as the main fuel for cooking ranges from 10 percent in the Eastern and Bundelkhand Regions to 33 percent in the Hill Region.

Regarding type of house construction, 44 percent of households live in houses that are *kachha* (made with mud, thatch, or other low-quality materials—down from 53 percent in NFHS-1), 31 percent live in semi-*pucca* houses (using partly low-quality and partly high-quality materials), and 25 percent live in *pucca* houses (made with high-quality materials throughout, including the roof, walls, and floor). Seventy-five percent of households in urban areas live in *pucca* houses, compared with 11 percent of households in rural areas. Across regions, the proportion of households living in *pucca* houses varies from 18–19 percent in the Eastern and Bundelkhand Regions to 47 percent in the Hill Region.

Crowded housing conditions may affect health as well as the quality of life. Forty-five percent of households in Uttar Pradesh live in houses with three or more persons per room. The mean number of persons per room is 3.1 (almost the same as in NFHS-1). The mean number of

persons per room does not vary by residence, but it ranges from 2.5 in the Bundelkhand Region to 3.6 in the Western Region.

Table 2.10 shows a number of measures related to the socioeconomic status of the household (ownership of land, house, and livestock). Overall, 35 percent of households do not own any agricultural land, almost the same percentage as in NFHS-1. The proportion without agricultural land ranges from 28 percent in the Eastern Region to 43 percent in the Western Region. Twenty-four percent of households in rural areas do not own agricultural land, compared with 77 percent in urban areas. In rural areas, among those who own agricultural land, 97 percent have at least some irrigated land. The proportion of households owning a house is 84 percent in urban areas, 98 percent in rural areas, and 95 percent overall (with very little variation across regions). The proportion of households owning livestock is 18 percent in urban areas, 76 percent in rural areas, and 64 percent overall. The proportion owning livestock ranges from 57 percent in the Central Region to 71 percent in the Bundelkhand Region.

The possession of durable goods is another indicator of a household's socioeconomic level, although these goods may also have other benefits. For example, having access to a radio or television may expose household members to innovative ideas or important information about health and family welfare; a refrigerator prolongs the wholesomeness of food; and a means of transportation allows greater access to many services outside the local area. Table 2.11 shows that the majority of households in Uttar Pradesh have a cot or bed (97 percent), a bicycle (63 percent), a clock or watch (60 percent), and a mattress (54 percent). Other durable goods often found in households are electric fans (33 percent), radios/transistors (32 percent), chairs (30 percent), tables or pressure cookers (29 percent each), sewing machines (24 percent), and black and white televisions (23 percent), with smaller proportions owning water pumps (9 percent), motorcycles or scooters or mopeds (8 percent), refrigerators (8 percent), bullock carts (7 percent), colour televisions or threshers (5 percent each), telephones (4 percent), tractors (3 percent), or cars (1 percent). Urban households are much more likely than rural households to own most of these durable goods. However, a higher proportion of households in rural areas than in urban areas own a water pump, a bullock cart, a thresher, or a tractor, all of which are used mainly for cultivation. Seventy-seven percent of households use mainly stainless steel kitchenware, and almost all of the rest use aluminium kitchenware. Aluminium kitchenware is more popular in rural areas (24 percent) than in urban areas (10 percent), and the highest usage of aluminium kitchenware is in the Eastern Region (37 percent).

Table 2.11 shows a summary household measure called the standard of living index (SLI), which is calculated by adding the following scores:

House type: 4 for *pucca*, 2 for semi-*pucca*, 0 for *kachha*;

Toilet facility: 4 for own flush toilet, 2 for public or shared flush toilet or own pit toilet, 1 for shared or public pit toilet, 0 for no facility;

Source of lighting: 2 for electricity, 1 for kerosene, gas, or oil, 0 for other source of lighting;

Main fuel for cooking: 2 for electricity, liquid petroleum gas, or biogas, 1 for coal, charcoal, or kerosene, 0 for other fuel;

Table 2 10 Household ownership of agricultural land, house, and livestock

Percent distribution of households owning agricultural land and percentage owning a house and livestock by residence and region, Uttar Pradesh, 1998-99

Asset	Residence		Region					Total
	Urban	Rural	Hill	Western	Central	Eastern	Bundelkhand	
No agricultural land	76.9	23.7	34.3	42.9	35.0	27.9	31.1	35.0
Irrigated land only								
< 1 acre	5.9	25.9	16.5	12.1	22.9	32.5	9.6	21.7
1-5 acres	9.7	35.3	13.9	31.2	31.5	30.8	22.4	29.9
6+ acres	3.1	6.2	2.1	7.1	5.5	4.2	7.8	5.5
Nonirrigated land only								
< 1 acre	0.1	1.0	7.3	0.6	0.1	0.1	3.9	0.8
1-5 acres	0.4	1.1	6.3	0.8	0.1	0.1	7.2	1.0
6+ acres	0.1	0.1	1.2	0.1	0.0	0.0	1.3	0.1
Both irrigated and nonirrigated land								
< 1 acre	0.2	1.0	2.2	0.4	0.6	1.2	0.8	0.9
1-5 acres	0.7	2.9	3.1	2.0	2.5	2.2	7.0	2.4
6+ acres	0.5	1.2	0.7	1.2	0.8	0.6	4.7	1.0
Missing	2.3	1.5	12.4	1.7	1.0	0.3	4.2	1.7
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Percentage owning a house	84.2	97.6	94.4	94.4	92.1	96.1	97.3	94.7
Percentage owning livestock	18.4	75.7	65.7	60.4	57.0	68.7	71.1	63.5
Number of households	1,850	6,832	421	3,090	1,633	3,161	378	8,682

Source of drinking water: 2 for pipe, hand pump, or well in residence/yard/plot, 1 for public tap, hand pump, or well, 0 for other water source;

Separate room for cooking: 1 for yes, 0 for no;

Ownership of house: 2 for yes, 0 for no;

Ownership of agricultural land: 4 for 5 acres or more, 3 for 2.0-4.9 acres, 2 for less than 2 acres or acreage not known, 0 for no agricultural land;

Ownership of irrigated land: 2 if owns at least some irrigated land, 0 for no irrigated land;

Ownership of livestock: 2 if owns livestock, 0 if does not own livestock;

Ownership of durable goods: 4 each for a car or tractor, 3 each for a moped/scooter/motorcycle, telephone, refrigerator, or colour television, 2 each for a bicycle, electric fan, radio/transistor, sewing machine, black and white television, water pump, bullock cart, or thresher, 1 each for a mattress, pressure cooker, chair, cot/bed, table, or clock/watch.

Index scores range from 0-14 for a low SLI to 15-24 for a medium SLI to 25-67 for a high SLI. By this measure, 34 percent of households in Uttar Pradesh have a low standard of living, 49 percent have a medium standard of living, and 15 percent have a high standard of living. The proportion with a low standard of living is much lower in urban areas (12 percent)

Table 2.11 Household ownership of durable goods and standard of living								
Percentage of households owning selected durable goods and percent distribution of households by type of kitchenware and the standard of living index, according to residence and region, Uttar Pradesh, 1998-99								
Asset	Residence		Region					Total
	Urban	Rural	Hill	Western	Central	Eastern	Bundelkhand	
Durable goods								
Mattress	82.4	45.7	80.1	69.2	45.4	37.1	67.5	53.5
Pressure cooker	76.9	15.8	60.5	35.0	29.9	19.6	16.4	28.9
Chair	64.9	20.0	55.1	36.6	24.6	22.8	21.8	29.6
Cot/bed	96.5	97.4	83.5	97.2	98.0	98.4	97.9	97.2
Table	65.6	19.1	53.2	36.8	24.4	22.0	17.2	29.0
Clock/watch	89.1	52.5	69.8	62.0	63.1	56.8	53.2	60.3
Electric fan	82.2	19.4	31.4	41.1	31.6	26.5	23.5	32.7
Bicycle	64.4	62.8	22.6	57.2	69.1	72.1	56.2	63.1
Radio/transistor	49.6	27.2	42.4	31.3	33.0	31.4	26.8	32.0
Sewing machine	55.4	15.6	37.3	33.1	19.1	17.1	16.3	24.1
Telephone	16.5	1.0	7.5	5.7	4.6	2.5	3.4	4.3
Refrigerator	31.0	1.3	13.0	9.9	9.8	3.9	4.1	7.6
Television (black and white)	55.0	14.5	32.3	28.6	23.4	17.1	17.6	23.1
Television (colour)	17.4	1.1	10.6	5.3	5.0	3.1	2.4	4.6
Moped/scooter/motorcycle	23.4	4.2	10.0	9.4	9.2	6.8	6.5	8.3
Car	3.3	0.4	1.7	1.1	1.3	0.8	1.0	1.0
Water pump	5.5	10.4	2.2	10.0	10.4	9.4	7.3	9.4
Bullock cart	1.1	8.5	2.2	10.6	7.9	2.1	18.1	6.9
Thresher	1.2	5.7	1.2	4.4	4.0	5.6	6.9	4.7
Tractor	1.4	3.2	1.4	4.4	2.8	1.3	5.4	2.9
None of the above	0.2	0.5	5.0	0.2	0.2	0.3	0.1	0.4
Main type of kitchenware used								
Clay	0.0	0.3	0.0	0.2	0.2	0.0	1.8	0.2
Aluminium	10.3	24.0	13.0	12.5	12.3	36.8	6.5	21.1
Cast iron	0.0	0.1	0.9	0.0	0.1	0.1	0.0	0.1
Brass/copper	0.4	1.6	2.2	0.7	0.6	2.3	0.5	1.3
Stainless steel	89.2	73.9	83.7	86.4	86.8	60.6	91.2	77.2
Don't know/missing	0.1	0.1	0.1	0.2	0.0	0.1	0.0	0.1
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Standard of living index								
Low	11.6	39.6	23.5	27.7	37.2	38.3	39.0	33.6
Medium	44.8	50.2	46.0	50.6	47.4	49.2	46.0	49.1
High	42.2	7.9	20.3	19.3	14.7	11.2	10.6	15.2
Missing	1.4	2.3	10.3	2.5	0.6	1.2	4.4	2.1
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of households	1,850	6,832	421	3,090	1,633	3,161	378	8,682

than in rural areas (40 percent), and the proportion with a high standard of living is much higher in urban areas (42 percent) than in rural areas (8 percent). The proportion of households with a high standard of living ranges from 11 percent in the Eastern and Bundelkhand Regions to 20 percent in the Hill Region.

2.6 Lifestyle Indicators

The NFHS-2 Household Questionnaire asked about certain aspects of the lifestyle of household members. Table 2.12 shows the percentages of men and women age 15 and above who chew *paan masala* or tobacco, drink alcohol, or smoke. These lifestyle indicators are of considerable interest because the use of *paan masala*, tobacco, and alcohol all have detrimental effects on health.

Table 2.12 Lifestyle indicators

Percentage of usual household members age 15 and above who chew *paan masala* or tobacco, drink alcohol, currently smoke, or have ever smoked by selected background characteristics and sex, Uttar Pradesh, 1998-99

Background characteristic	Chew <i>paan masala</i> or tobacco	Drink alcohol	Currently smoke	Ever smoked ¹	Number of household members
MALE					
Age					
15-19	10.6	1.4	6.2	6.5	3,024
20-24	24.8	6.1	18.4	19.2	2,164
25-29	36.7	11.7	32.5	34.5	1,845
30-39	44.5	17.4	45.9	48.9	3,165
40-49	47.5	20.9	52.8	56.9	2,361
50-59	46.5	14.9	51.3	57.5	1,430
60+	51.8	10.2	40.0	47.8	2,292
Residence					
Urban	27.5	9.7	21.9	24.3	3,671
Rural	38.9	12.1	37.5	41.0	12,610
Education					
Illiterate	45.8	14.1	49.6	54.6	5,005
Literate, < middle school complete	37.0	12.7	36.9	40.4	3,599
Middle school complete	30.7	9.8	25.1	27.0	2,946
High school complete and above	29.4	9.1	20.8	22.9	4,720
Standard of living index					
Low	43.4	15.3	46.4	50.6	4,278
Medium	36.9	10.9	33.2	36.4	8,545
High	25.7	7.8	19.0	21.2	3,089
Total	36.3	11.6	34.0	37.2	16,281
FEMALE					
Age					
15-19	0.7	0.1	0.4	0.6	2,801
20-24	3.0	0.0	0.6	0.7	2,238
25-29	5.6	0.0	1.8	1.9	1,991
30-39	10.9	0.2	2.5	2.9	3,107
40-49	17.5	0.4	5.1	5.7	2,139
50-59	22.9	0.4	7.9	8.7	1,312
60+	28.6	0.7	6.8	7.2	1,926
Residence					
Urban	10.6	0.2	0.8	1.1	3,436
Rural	11.6	0.2	3.8	4.1	12,077
Education					
Illiterate	14.5	0.2	4.5	4.9	10,298
Literate, < middle school complete	7.2	0.2	0.8	1.0	2,164
Middle school complete	4.9	0.2	0.2	0.3	1,186
High school complete and above	2.8	0.2	0.2	0.3	1,845
Standard of living index					
Low	14.8	0.3	4.9	5.6	4,103
Medium	11.5	0.2	2.9	3.1	8,061
High	6.9	0.2	1.2	1.4	2,997
Total	11.4	0.2	3.1	3.5	15,513
Total male and female	24.2	6.0	18.9	20.8	31,794
<p>Note: Total includes 12 males and 19 females with missing information on education and 369 males and 352 females with missing information on the standard of living index, who are not shown separately. ¹Includes household members who currently smoke</p>					

The respondent to the Household Questionnaire reported on these lifestyle indicators for all persons in the household and, therefore, the results should be interpreted with caution because the household respondent may not be aware of use that takes place outside the household environs. In addition, to the extent that social stigma may be attached to the use of some of the substances, underreporting is likely.

Twenty-four percent of persons age 15 and above are reported to chew *paan masala* or tobacco. This proportion rises steadily with age from 11 percent and 1 percent for men and women, respectively, at age 15–19 to 52 percent and 29 percent, respectively, at age 60 and above. Chewing of *paan masala* or tobacco is more common in rural areas than in urban areas, particularly for men. It is inversely related to both education and the standard of living.

Twelve percent of men age 15 and above drink alcohol, but only a negligible proportion of women drink alcohol (0.2 percent). The proportion of men who drink alcohol rises with age up to age 40–49, where it reaches a high of 21 percent, then falls to 10 percent among those age 60 and above. The proportion of men who drink is slightly higher in rural areas (12 percent) than in urban areas (10 percent). Alcohol consumption is higher among illiterate men than among literate men. Men in households with a low standard of living are almost twice as likely to drink alcohol as men in households with a high standard of living.

Among men age 15 and above, 34 percent currently smoke. This proportion rises from 6 percent at age 15–19 to 53 percent at age 40–49 and then falls to 40 percent at age 60 and above. Smoking among men is much more common in rural areas (38 percent) than urban areas (22 percent). Smoking is more than twice as high among illiterate men than among men who have completed at least high school, and is also more than twice as high among men with a low standard of living than among men with a high standard of living. Ninety-one percent of men who ever smoked were still smokers at the time of the survey. The pattern of differentials for ever-smokers closely resembles the pattern for current smokers. Less than 4 percent of women are reported to have ever smoked.

2.7 Availability of Facilities and Services to the Rural Population

The NFHS-2 Village Questionnaire collected information from the *sarpanch*, other village officials, or other knowledgeable persons in the village on facilities and services in the village. One important set of questions was on the distance of the village from various types of health facilities, including Primary Health Centres (PHCs), sub-centres, hospitals, and dispensaries or clinics. Table 2.13 summarizes findings on distance from a health facility. The unit of analysis is ever-married women age 15–49 who reside in rural areas. Only 5 percent of rural women live in a village with a Primary Health Centre, 18 percent live in a village with a sub-centre, and 19 percent live in a village with either a PHC or a sub-centre. The proportions who live in a village with other health facilities are 5 percent for hospitals and 25 percent for dispensaries or clinics. Thirty-eight percent of women live in a village that has some kind of health facility. Median distances from particular health facilities are 6.2 km from a Primary Health Centre, 7.9 km from a hospital, and 2.8 km from a dispensary or a clinic. Ten percent of rural women need to travel at least 5 kilometres to reach the nearest health facility.

Table 2.13 Distance from the nearest health facility

Percent distribution of ever-married rural women age 15–49 by distance from the nearest health facility, Uttar Pradesh, 1998–99

Distance	Health facility					Any health facility
	Primary Health Centre	Sub-centre	Either PHC or sub-centre	Hospital ¹	Dispensary/clinic	
Within village	4.5	18.2	19.0	5.2	25.4	37.5
< 5 km	34.9	47.6	51.3	24.3	51.4	52.4
5–9 km	31.7	20.0	19.6	30.9	12.7	5.8
10+ km	27.8	12.5	9.4	38.9	9.9	3.7
Don't know/missing	1.1	1.8	0.7	0.7	0.7	0.7
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Median distance (in km)	6.2	3.4	3.3	7.9	2.8	1.4

Note: The category '< 5 km' excludes cases where the facility is within the village. When median distance is calculated, 'within village' cases and cases with a facility less than 1 km from the village are assigned a distance of zero.
 PHC: Primary Health Centre
¹Includes community health centre, rural hospital, government hospital, and private hospital

Table 2.14 shows the proportion of residents of rural areas of Uttar Pradesh who live in villages that have various facilities and services. Seventy-five percent of rural residents live in villages that have a primary school, 32 percent live in villages with a middle school, 12 percent live in villages that have a secondary school, and 10 percent live in villages with a higher secondary school. Thirty-nine percent of rural residents live in villages that have an *anganwadi*² (a nursery school for children age 3–6), and 19 percent live in villages with an adult education centre. More than half of rural residents live in villages that have a private doctor and 26 percent live in villages with a visiting doctor. More than three-quarters live in villages that are at least partly electrified.

Although only 7 percent live in villages with an STD booth (for long distance telephoning within India), 49 percent live in villages that have at least one household with a private telephone. Only 5 percent of rural residents live in villages that have cable television service (compared with 28 percent nationwide) and 10 percent live in villages that have a community television set, providing further evidence that exposure to electronic mass media is limited in rural Uttar Pradesh. Nine percent of rural residents live in villages with a *mahila mandal*, a women's community group. Other facilities that are available in villages where more than half of rural residents live are *kirana* shops (small grocery stores), fair price shops, and *paan* shops. The most widely available rural development programmes as reported by the respondents to the Village Questionnaire are the Indira Awas Yojana and the Integrated Rural Development Programme.

²*Anganwadi* workers provide integrated child development services and may also engage in the promotion of family planning.

Table 2.14 Availability of facilities and services

Percentage of rural residents living in villages that have selected facilities and services, Uttar Pradesh, 1998-99

Facility/service	Percentage of residents	Facility/service	Percentage of residents
Primary school	75.1	At least one village household has a telephone	49.4
Middle school	31.9	Mill/small-scale industry	17.0
Secondary school	12.0	Credit cooperative society	12.8
Higher secondary school	9.7	Agricultural cooperative society	15.5
College	1.0	Fishermen's cooperative society	2.4
<i>Anganwadi</i>	39.3	Milk cooperative society	14.1
Adult education centre	18.8	<i>Kirana</i> /general market shop	64.5
Primary Health Centre	4.4	Weekly market	23.2
Sub-centre	18.0	Fair price shop	55.7
Hospital ¹	5.3	<i>Paan</i> shop	50.7
Dispensary/clinic	25.2	Pharmacy/medical shop	15.3
Private doctor	51.8	<i>Mahila mandal</i>	8.7
Visiting doctor	26.0	Youth club	18.5
Village health guide	39.0	Community centre	14.7
Traditional birth attendant	48.2	Community television set	9.7
Mobile health unit	3.4	Cable connection	5.1
Electricity	75.8	Integrated Rural Development Programme (IRDP)	45.1
Bank	11.0	National Rural Employment Programme (NREP)	10.4
Post office	31.7	Training Rural Youth for Self-Employment (TRYSEM)	19.6
Telegraph office	5.1	Employment Guarantee Scheme (EGS)	9.3
STD (Subscriber Trunk Dialling) phone booth	7.2	Development of Women and Children of Rural Areas (DWACRA)	14.4
		Indira Awas Yojana (IAY)	67.0
		Sanjay Gandhi Niradhar Yojana (SGNY)	11.7
		Total population	42,973

Note: Table is based on the *de jure* population.

¹Includes community health centre, rural hospital, government hospital, and private hospital

CHAPTER 3

BACKGROUND CHARACTERISTICS OF RESPONDENTS

Women's demographic and health-seeking behaviour is associated with several characteristics including their age, marital status, religion, and caste. Modernizing influences such as education and exposure to mass media are also important catalysts for demographic and socioeconomic change. In addition, women's status and autonomy are critical in promoting change in reproductive attitudes and behaviour, especially in patriarchal societies (Dyson and Moore, 1983; Das Gupta, 1987; Jeffery and Basu, 1996). The National Population Policy, 2000, of the Government of India identifies the low status of women in India, typified by factors such as discrimination against the girl child and female adolescents, early age at marriage, and high rates of maternal mortality, as an important barrier to the achievement of population and maternal and child welfare goals (Ministry of Health and Family Welfare, 2000).

This chapter presents a profile of the demographic and socioeconomic characteristics of ever-married women age 15–49 who were identified in the NFHS-2 Household Questionnaire as eligible respondents for the Woman's Questionnaire. In addition, data are presented on the extent to which women in Uttar Pradesh enjoy autonomy as measured by their participation in household decisionmaking, freedom of movement, and access to money they can spend as they wish. Finally, data on women's attitudes towards the acceptance of spousal violence under specific circumstances and their experience of physical violence are discussed.

3.1 Background Characteristics

Table 3.1 presents the percentage distribution of ever-married women age 15–49 by age, marital status, coresidence with husband, education, religion, caste/tribe, work status, and husband's education. The proportion of respondents in five-year age groups increases from 12 percent in the age group 15–19 years to 20 percent in the age group 20–24 years, and then falls steadily to 8 percent in the age group 45–49 years. The initial increase reflects the increasing share of ever-married women in these age groups. The decline after age 20–24 (an age by which most women have been married) reflects the normal pyramid shape of the population's age distribution. More than half the respondents are in the early reproductive age group of 15–29. The concentration is particularly high in the high fertility age group of 20–29, which contains almost 40 percent of respondents. The age distribution of women is similar in all regions except the Hill Region, which is socioeconomically and demographically more advanced than other regions. Only 23 percent of women in the Hill Region are in the 15–24 age group, compared with 32 percent in the state as a whole. This age pattern is largely a consequence of the higher age at marriage in this region. For the same reason, the share of ever-married women in the younger ages of 15–29 years is much lower in urban areas than in rural areas.

Ninety-six percent of respondents are currently married, 3 percent are widowed, and the remaining 1 percent are either divorced, separated, or deserted. The distribution of respondents by marital status varies marginally by region and urban-rural place of residence. The proportion of respondents living with their husbands (86 percent) varies somewhat by region and urban-rural residence. A particularly large proportion of women in the Eastern Region are not living

Table 3.1 Background characteristics of respondents

Percent distribution of ever-married women age 15–49 by selected background characteristics, according to residence and region, Uttar Pradesh, 1998–99

Background characteristic	Residence		Region					Total	Number of women	
	Urban	Rural	Hill	West-ern	Cen-tral	East-ern	Bundel-khand		Weighted	Unweighted
Age										
15–19	5.6	13.6	6.0	9.9	13.8	14.0	11.5	12.0	1,117	1,082
20–24	18.0	20.0	16.7	20.0	19.4	19.7	20.6	19.6	1,825	1,814
25–29	17.9	19.3	20.5	19.2	18.5	19.3	16.2	19.0	1,769	1,763
30–34	18.3	15.7	16.9	16.8	14.9	16.0	18.5	16.2	1,509	1,522
35–39	17.5	13.0	16.5	14.1	15.2	12.9	13.2	13.9	1,291	1,302
40–44	12.8	10.6	14.2	11.5	10.5	10.4	11.0	11.0	1,025	1,042
45–49	10.0	7.7	9.1	8.5	7.8	7.7	9.0	8.1	756	767
Marital status										
Currently married	95.5	96.1	93.0	95.9	95.0	96.8	96.8	96.0	8,918	8,906
Widowed	3.4	3.0	5.2	3.3	3.3	2.6	2.2	3.0	283	291
Divorced	0.1	0.2	0.5	0.1	0.2	0.1	0.0	0.1	13	15
Separated	0.5	0.4	1.3	0.6	0.4	0.2	0.5	0.4	40	45
Deserted	0.5	0.4	0.0	0.1	1.0	0.4	0.6	0.4	36	35
Coreidence with husband										
Living with husband	90.6	84.5	82.1	90.3	90.6	78.9	92.1	85.8	7,968	7,973
Not living with husband	4.9	11.6	11.0	5.6	4.4	17.9	4.7	10.2	950	933
Not currently married	4.5	3.9	7.0	4.1	5.0	3.2	3.2	4.0	374	386
Education										
Illiterate	42.5	77.1	52.7	70.2	65.7	74.1	72.0	70.2	6,523	6,452
Literate, < primary school complete	3.1	2.6	2.6	2.6	3.2	2.5	3.4	2.7	252	255
Primary school complete	10.3	8.8	12.7	9.1	8.7	9.1	7.8	9.1	850	861
Middle school complete	10.4	5.9	9.4	6.6	8.8	5.6	9.3	6.8	635	658
High school complete	10.5	2.7	9.2	4.8	4.9	3.0	3.2	4.3	395	415
Higher secondary complete and above	23.2	2.8	13.3	6.7	8.6	5.7	4.2	6.9	637	650
Missing	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0	1
Religion										
Hindu	68.3	86.7	94.0	76.2	85.9	85.4	94.5	83.0	7,715	7,844
Muslim	30.3	12.4	3.6	22.4	12.9	14.0	5.3	16.0	1,483	1,351
Christian	0.2	0.1	0.8	0.2	0.0	0.0	0.0	0.1	11	14
Sikh	0.8	0.5	1.4	1.0	0.7	0.1	0.1	0.6	55	57
Buddhist/Neo-Buddhist	0.1	0.0	0.1	0.0	0.2	0.0	0.0	0.0	4	4
Jain	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	2	2
No religion	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	3	3
Other	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0	1
Missing	0.2	0.2	0.0	0.1	0.3	0.3	0.1	0.2	17	16
Caste/tribe										
Scheduled caste	12.0	21.3	13.4	16.5	24.0	21.2	16.2	19.4	1,805	1,757
Scheduled tribe	1.0	2.3	4.9	1.7	0.3	2.8	2.6	2.1	191	209
Other backward class	17.3	30.5	5.0	21.1	27.1	37.3	29.0	27.9	2,591	2,477
Other	66.2	41.0	75.7	58.3	37.4	35.4	41.4	46.0	4,276	4,409
Don't know/missing	3.4	4.9	1.0	2.3	11.2	3.4	10.7	4.6	429	440
Work status										
Working in family farm/business	3.7	14.8	15.4	5.3	11.5	17.9	26.3	12.5	1,166	1,259
Employed by someone else	5.9	7.6	3.4	4.7	5.9	10.1	12.3	7.2	672	674
Self-employed	4.7	3.2	7.5	2.5	3.9	3.7	3.1	3.5	322	344
Not worked in past 12 months	85.7	74.4	73.6	87.4	78.6	68.1	58.3	76.6	7,121	7,005
Missing	0.1	0.1	0.1	0.1	0.1	0.2	0.0	0.1	11	10

Contd...

Table 3.1 Background characteristics of respondents (contd.)										
Percent distribution of ever-married women age 15–49 by selected background characteristics, according to residence and region, Uttar Pradesh, 1998–99										
Background characteristic	Residence		Region					Total	Number of women	
	Urban	Rural	Hill	West- ern	Cent- ral	East- ern	Bundel- khand		Weighted	Unweighted
Husband's education										
Illiterate	18.1	32.1	12.8	30.2	32.0	29.6	24.9	29.3	2,718	2,608
Literate, < primary school complete	4.4	5.6	3.6	5.0	5.2	5.9	5.4	5.3	497	486
Primary school complete	9.8	13.7	14.9	12.7	12.3	12.9	15.0	12.9	1,201	1,226
Middle school complete	13.2	17.1	18.1	15.7	17.5	15.7	20.2	16.3	1,517	1,551
High school complete	16.5	15.0	19.8	17.5	11.0	14.9	14.0	15.3	1,424	1,442
Higher secondary complete and above	37.6	16.0	29.8	18.4	21.2	20.8	20.2	20.4	1,892	1,934
Missing	0.5	0.5	1.0	0.5	0.8	0.3	0.2	0.5	43	45
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	NA	NA
Number of women										
Weighted	1,860	7,432	420	3,320	1,620	3,505	427	9,292	9,292	NA
Unweighted	1,813	7,479	945	2,934	1,438	3,105	870	9,292	NA	9,292
NA: Not applicable										

with their husbands. Similarly, the proportion coresident with their husbands is lower in rural areas (85 percent) than in urban areas (91 percent).

The educational levels of respondents and their husbands have an important influence on demographic and health-seeking behaviour. Seventy percent of ever-married women age 15–49 in Uttar Pradesh are illiterate, compared with 58 percent of women in India as a whole. The level of illiteracy for women declined in Uttar Pradesh from 76 percent at the time of NFHS-1 to 70 percent at the time of NFHS-2. Between the two surveys, illiteracy declined for both rural women (from 83 percent to 77 percent) and urban women (from 48 percent to 43 percent). The level of illiteracy is lower in the Hill Region (53 percent) than in any other region (66–74 percent). Among women who are literate, the largest proportion are those who have completed primary school (but not middle school). Only 11 percent of women have completed at least high school, up slightly from 9 percent at the time of NFHS-1. Thirty-four percent of urban respondents have attained that level of education, compared with only 6 percent of rural respondents.

Although 70 percent of women are illiterate, only 29 percent of their husbands are illiterate (down from 35 percent in NFHS-1). The decline in illiteracy for husbands is due to declines in illiteracy in both urban areas (from 22 percent to 18 percent) and rural areas (from 39 percent to 32 percent). In NFHS-2, the proportion of respondents with illiterate husbands is almost twice as high in rural areas (32 percent) as in urban areas (18 percent). At the other educational extreme, 36 percent of women have husbands who have completed at least high school (up from 31 percent in NFHS-1), and the percentage is much higher in urban areas (54 percent) than in rural areas (31 percent). By contrast, there are only small differences by residence in the proportion of women with husbands who have completed primary or middle school.

Eighty-three percent of the respondents in Uttar Pradesh are Hindu, 16 percent are Muslim, and only 1 percent belong to other religious groups. The proportion of women who are Muslim is much higher in urban areas (30 percent) than in rural areas (12 percent). The proportion of women who are Muslim is highest in the Western Region (22 percent), followed by the Eastern Region (14 percent) and the Central Region (13 percent). Only a small proportion of women (4–5 percent) in the Hill Region and the Bundelkhand Region are Muslim.

Twenty-eight percent of respondents belong to other backward classes, 19 percent belong to scheduled castes, and only 2 percent belong to scheduled tribes. Almost half of women (46 percent) do not belong to any of these groups. Disproportionately large percentages of women from scheduled castes and other backward classes are found in rural areas. The proportion of women belonging to scheduled castes is highest in the Central Region and the proportion belonging to other backward classes is highest in the Eastern Region.

More than three-quarters of respondents in Uttar Pradesh (77 percent) did not participate in work other than their regular housework during the 12 months preceding the survey, and the proportion is particularly high in urban areas (86 percent) and the Western Region (87 percent). Thirteen percent of women work on the family farm or in a family business, 4 percent are self-employed, and 7 percent are employed by someone else.

3.2 Educational Level

Table 3.2 presents the percent distribution of ever-married women age 15–49 by the highest level of education attained, according to age, religion, caste/tribe, and husband's education. The educational distribution of women in different age groups illustrates the progress in the spread of education over a period of about three decades. As expected, the level of illiteracy declines with declining age from 79 percent at age 45–49 to 64 percent at age 20–24, but rises to 70 percent for women age 15–19 (undoubtedly because illiterate women are more likely than literate women to marry at young ages). Therefore, even though illiteracy is declining, about two-thirds of women even in the youngest cohorts of ever-married women are illiterate. At the other end of the educational spectrum, the proportion of women who have completed at least high school, although very low, is twice as high among women age 20–24 and 25–29 (14 percent each) than among women age 45–49 (3 percent). The level of illiteracy is somewhat higher among Muslims (75 percent) than Hindus (70 percent), but it is relatively low among Sikhs (40 percent). The proportion of women who are illiterate is highest among women from scheduled castes (85 percent), followed by women from other backward classes (79 percent) and scheduled tribes (77 percent), while it is only 57 percent for women who do not belong to any of these groups.

Ninety-five percent of women with illiterate husbands are themselves illiterate. Notably, 57 percent of women whose husbands have completed high school (but not higher secondary school) and 31 percent of women whose husbands have completed higher secondary school are illiterate. The table shows that husbands at each level of education are more likely to have wives with a lower level of education than with an equal or higher level of education. Specifically, the proportion of women who have less education than their husbands is 87 percent for women whose husbands are literate but have not completed primary school, the same percent for women whose husbands have completed primary school but have not completed middle school, 88 percent for women whose husbands have completed either middle school or high school, and 71 percent for women whose husbands have completed higher secondary school.

Table 3.2 Respondent's level of education by background characteristics								
Percent distribution of ever-married women age 15–49 by highest level of education attained, according to selected background characteristics, Uttar Pradesh, 1998–99								
Background characteristic	Respondent's level of education						Total percent	Number of women
	Illiterate	Literate, < primary school complete	Primary school complete	Middle school complete	High school complete	Higher secondary complete and above		
Age								
15–19	70.0	2.9	9.6	11.0	4.1	2.4	100.0	1,117
20–24	63.7	3.0	9.8	9.6	6.2	7.6	100.0	1,825
25–29	67.5	2.6	9.3	6.6	4.4	9.8	100.0	1,769
30–34	70.5	2.9	9.6	5.0	4.4	7.6	100.0	1,509
35–39	73.2	2.7	8.8	4.8	2.6	7.9	100.0	1,291
40–44	76.0	2.1	9.2	4.1	3.7	4.9	100.0	1,025
45–49	79.0	2.5	6.2	5.3	2.7	4.2	100.0	756
Religion								
Hindu	69.6	2.4	9.0	7.4	4.4	7.2	100.0	7,715
Muslim	74.8	4.5	9.4	3.7	3.7	4.0	100.0	1,483
Sikh	40.1	4.2	21.7	3.6	5.0	25.4	100.0	55
Caste/tribe								
Scheduled caste	85.0	2.3	5.4	3.9	1.7	1.7	100.0	1,805
Scheduled tribe	76.7	2.1	8.6	6.5	2.9	3.2	100.0	191
Other backward class	79.1	2.0	7.7	5.5	2.7	3.0	100.0	2,591
Other	57.2	3.3	11.7	9.2	6.6	12.1	100.0	4,276
Husband's education								
Illiterate	94.7	1.4	2.7	0.7	0.3	0.3	100.0	2,718
Literate, < primary school complete	87.2	5.4	3.7	1.8	1.7	0.2	100.0	497
Primary school complete	83.6	3.2	8.5	3.5	0.9	0.3	100.0	1,201
Middle school complete	71.2	3.8	13.2	7.9	2.9	1.1	100.0	1,517
High school complete	56.8	3.2	14.4	13.9	7.1	4.5	100.0	1,424
Higher secondary complete and above	31.4	2.3	13.0	12.8	11.8	28.7	100.0	1,892
Total	70.2	2.7	9.1	6.8	4.3	6.9	100.0	9,292

Note: Total includes 21 women belonging to other religions and 17, 429, and 43 women with missing information on religion, caste/tribe, and husband's education, respectively, who are not shown separately.

3.3 Age at First Marriage

Table 3.3 provides information on age at first marriage for all women. The table shows the percentage of women who first married by specified exact ages, and the median age at first marriage and first cohabitation by current age and residence. The median age of first marriage/cohabitation with husband for a cohort of women is the age by which 50 percent of the cohort marries/cohabits. Although there is an early age pattern of marriage in Uttar Pradesh, the table provides evidence of a steady rise in the age at first marriage. The proportion married before they reach age 15 falls from 57 percent for women age 45–49 to 20 percent for women age 15–19. Even more remarkable is the fact that the proportion falls from 36 percent for women age 20–24 to 20 percent for women age 15–19, who are on average only five years younger. The large recent decline in the proportion of women married by age 15 is evident in both rural and urban areas. For example, in rural areas, the proportion declines from 44 percent among women age 20–24 to 24 percent among women age 15–19; the corresponding decline in urban areas is from 11 percent to 4 percent. The practice of very early marriage (by age 13) has virtually

Table 3.3. Age at first marriage								
Percentage of women married by specific exact ages, median age at first marriage, and median age at first cohabitation with husband, according to current age and residence, Uttar Pradesh, 1998–99								
Current age ¹	Percentage ever married by exact age						Median age at first marriage	Median age at first cohabitation with husband
	13	15	18	20	22	25		
URBAN								
15–19	1.5	4.4	NA	NA	NA	NA	NC	NC
20–24	4.2	10.8	30.3	48.5	NA	NA	NC	NC
25–29	3.9	13.7	39.8	61.1	75.3	85.8	18.7	18.9
30–34	7.4	21.2	47.2	69.8	82.7	92.6	18.2	18.5
35–39	12.4	30.9	56.4	70.2	82.1	91.0	17.1	17.9
40–44	10.1	22.6	63.4	81.5	90.2	95.9	16.7	17.5
45–49	10.1	29.7	65.5	77.5	88.4	93.3	16.4	17.4
20–49	7.3	19.6	46.5	64.7	NA	NA	18.3	18.6
25–49	8.4	22.8	52.3	70.6	82.7	91.2	17.7	18.2
RURAL								
15–19	9.9	24.2	NA	NA	NA	NA	NC	NC
20–24	20.7	43.8	72.1	84.7	NA	NA	15.4	16.7
25–29	25.1	50.1	82.5	93.5	97.0	98.6	15.0	16.2
30–34	32.1	57.7	87.4	95.0	98.2	99.2	14.4	15.9
35–39	35.9	59.3	90.5	96.8	99.0	99.5	14.3	15.9
40–44	40.9	64.4	91.2	97.6	99.5	99.6	13.8	15.8
45–49	43.2	65.6	92.7	99.0	99.7	99.8	13.6	15.8
20–49	30.3	54.3	83.9	93.0	NA	NA	14.7	16.1
25–49	33.5	57.8	87.8	95.8	98.4	99.2	14.4	16.0
TOTAL								
15–19	8.0	19.8	NA	NA	NA	NA	NC	NC
20–24	16.8	36.0	62.4	76.5	NA	NA	16.2	17.4
25–29	20.8	42.6	73.7	86.7	92.4	95.8	15.5	16.6
30–34	26.4	49.2	78.1	89.1	94.6	97.6	15.1	16.3
35–39	30.0	52.2	81.9	90.1	94.7	97.4	14.8	16.2
40–44	33.7	54.7	84.8	93.9	97.4	98.8	14.6	16.2
45–49	35.1	56.8	86.1	93.8	97.0	98.2	14.4	16.1
20–49	25.0	46.3	75.3	86.6	NA	NA	15.3	16.5
25–49	27.7	49.7	79.6	89.9	94.7	97.3	15.0	16.3
NA: Not applicable								
NC: Not calculated because less than 50 percent of women in the age group 15–19 or 20–24 have married or started living with their husband by age 15 or 20								
¹ The current age groups include both never-married and ever-married women.								

disappeared in urban areas, but in rural areas 10 percent of women age 15–19 still marry before age 13.

The median age at first marriage has also risen over the past three decades. In rural areas, the median age at first marriage is almost two years higher for women age 20–24 than for women age 45–49, and in urban areas it is more than two years higher for women age 25–29 than for women age 45–49. (The median age at first marriage could not be calculated for women age 15–19 and 20–24 in urban areas and for women age 15–19 in rural areas because more than half of the women in these age groups were not married at the time of the survey). For women age 25–29, the median age at first marriage is almost four years higher in urban areas than in rural areas.

Despite the evidence of a rising age at marriage in Uttar Pradesh, Table 3.3 shows that three-quarters of women age 20–49 in Uttar Pradesh married before reaching the legal minimum age at marriage of 18 years for women, as set by the Child Marriage Restraint Act of 1978. Even among younger women, age 20–24, more than 60 percent still marry before reaching the legal minimum age at marriage (72 percent in rural areas and 30 percent in urban areas).

Table 3.3 also provides information on the median age at first cohabitation with husband. This, along with age at first marriage, shows the gap between formal marriage and the time when a wife starts living with her husband, which typically takes place after the *gauna* ceremony. Currently, there is a gap of slightly more than one year between the median age at first marriage and the median age at first cohabitation. The median age at first cohabitation has been rising more slowly than the median age at first marriage in the state as a whole, and consequently the gap between the median age at first marriage and the median age at first cohabitation has been gradually narrowing over time. In fact, in urban areas, there is now almost no delay between marriage and cohabitation.

3.4 Exposure to Mass Media

In a state like Uttar Pradesh, where a large majority of women are illiterate or have little formal education, informal channels such as the mass media can play an important role in bringing about modernization. In NFHS-2, women were asked questions about whether they read a newspaper or magazine, watch television, or listen to the radio at least once a week, and whether they visit the cinema or theatre at least once a month. Table 3.4 gives information on women's exposure to these forms of mass media by selected background characteristics.

In Uttar Pradesh, the majority of women (55 percent) are not regularly exposed to any of these media. As expected, the percentage not regularly exposed to the media is much higher among rural women, illiterate women, and women with a low standard of living than among other women. Sixty-nine percent of illiterate women are not exposed to any media, compared with only 6 percent of women who have completed at least a high school education. The percentage not regularly exposed to any media is 82 percent among women with a low standard of living and only 13 percent among those with a high standard of living. Sixty-three percent of rural women are not regularly exposed to any media, compared with only 20 percent of urban women. There are no consistent differences in media exposure by age, and the differences by region are not substantial, but women in the Hill Region are more likely to be exposed to any media than women in other parts of the state. The proportion of women not regularly exposed to any media is the same for Hindu and Muslim women (55 percent), but much lower for Sikh women (33 percent). Almost two-thirds of women from scheduled castes, scheduled tribes, and other backward classes are not regularly exposed to any media, compared with 45 percent of other women.

Among the different types of mass media, 32 percent of women are regularly exposed to television, up sharply from 19 percent in NFHS-1. Thirty percent of women mentioned that they usually listen to the radio at least once a week, the same percentage as in NFHS-1. Television has the greatest reach in urban areas, but exposure to radio is slightly more common than exposure to television in rural areas. Only 13 percent of women read a newspaper or magazine at least once a week and only 4 percent of women visit the cinema or theatre at least once a month. Therefore, although mass media can be an important means of spreading health and family

Table 3.4 Exposure to mass media

Percentage of ever-married women age 15–49 who usually read a newspaper or magazine, watch television, or listen to the radio at least once a week, who usually visit a cinema/theatre at least once a month, or who are not regularly exposed to any of these media by selected background characteristics, Uttar Pradesh, 1998–99

Background characteristic	Exposure to mass media					Number of women
	Reads a newspaper or magazine at least once a week	Watches television at least once a week	Listens to the radio at least once a week	Visits the cinema/theatre at least once a month	Not regularly exposed to any media	
Age						
15–19	9.6	26.9	29.7	2.6	56.0	1,117
20–24	14.3	34.0	32.5	5.6	51.6	1,825
25–29	14.8	32.4	30.5	4.3	54.0	1,769
30–34	12.5	30.8	26.5	3.0	57.3	1,509
35–39	12.4	32.2	28.3	2.7	55.5	1,291
40–44	11.3	33.5	27.4	2.0	55.5	1,025
45–49	10.6	34.7	30.1	2.9	55.0	756
Residence						
Urban	33.9	74.7	43.8	11.7	20.2	1,860
Rural	7.3	21.4	25.9	1.5	63.4	7,432
Region						
Hill	23.2	41.9	34.5	4.6	46.6	420
Western	13.8	36.4	29.1	4.4	53.3	3,320
Central	13.7	33.1	30.9	3.8	54.3	1,620
Eastern	10.2	27.0	28.6	2.2	56.7	3,505
Bundelkhand	8.8	25.9	28.6	5.9	59.4	427
Education						
Illiterate	0.0	19.1	19.7	0.9	69.4	6,523
Literate, < middle school complete	23.1	45.8	43.2	3.8	33.0	1,101
Middle school complete	35.9	57.0	49.4	6.9	20.0	635
High school complete and above	67.0	84.2	64.5	18.1	6.4	1,032
Religion						
Hindu	12.9	31.4	30.2	3.5	55.0	7,715
Muslim	10.4	34.5	24.7	3.5	54.6	1,483
Sikh	20.6	50.5	46.5	6.8	33.1	55
Caste/tribe						
Scheduled caste	5.5	21.7	24.4	1.9	64.0	1,805
Scheduled tribe	11.6	20.9	25.7	1.1	65.5	191
Other backward class	7.1	24.2	25.1	2.0	62.2	2,591
Other	19.8	42.8	35.6	5.5	44.6	4,276
Standard of living index						
Low	1.9	8.7	11.2	0.6	82.4	2,598
Medium	8.4	29.1	29.3	1.9	53.8	4,887
High	42.3	79.7	59.3	13.3	12.6	1,612
Total	12.6	32.1	29.5	3.5	54.7	9,292

Note: Total includes 21 women belonging to other religions and 17, 429, and 195 women with missing information on religion, caste/tribe, and the standard of living index, respectively, who are not shown separately.

welfare messages, as well as exposing women to modern views in general, innovative programmes will be necessary to reach the majority of women who are not regularly exposed to any form of mass media.

3.5 Women's Employment

Labour force participation not only gives women an opportunity to earn income, but also exposes them to the outside world and to authority structures and networks other than kin-based ones (Dixon-Mueller, 1993). In a developing country such as India, however, where women's workforce participation is often motivated by poverty, these benefits are likely to be mediated by the social context of women's work and their total work burden (Bardhan, 1985; Desai and Jain, 1994). In addition, the empowering effects of employment for women are likely to depend on their occupation, the continuity of their workforce participation, and whether they earn income. It is generally expected that women who work at a regular job, who earn money, and who perceive that their contribution is a substantial part of total family earnings are more likely to be empowered than other employed and unemployed women (Youssef, 1982; Sen, 1990; Mahmud and Johnston, 1994). The National Population Policy adopted by the Government of India in 2000 (Ministry of Health and Family Welfare, 2000) explicitly recognizes the importance of women's paid employment in achieving the goal of population stabilization in India and also specifies measures that will encourage paid employment and self-employment of women.

Table 3.5 provides information on these aspects of women's employment for ever-married women age 15-49 according to residence. In Uttar Pradesh, three out of four women (77 percent) report that they did not work during the 12 months preceding the survey, aside from doing their own housework. Current employment of women increased substantially from 13 percent in NFHS-1 to 21 percent in NFHS-2. Twenty-six percent of rural women, but only 14 percent of urban women, worked at any time in the 12 months preceding the survey. Among women who worked during that period, the majority of women (61 percent) worked throughout the year. Although a smaller proportion of women in urban areas than in rural areas work, urban women who do work are more likely to work throughout the year. In rural areas, where women are predominantly engaged in agricultural activity, one-third of working women are engaged in seasonal work. More than three-quarters of rural working women (79 percent) are agricultural workers. The occupational diversity is much greater in urban areas, where 34 percent of urban working women are engaged in production work, another 25 percent are professionals, and 13 percent are sales workers.

Methods of payment for female workers are also quite diverse. Thirty-one percent of working women are paid only in cash, 20 percent are paid only in kind, and 15 percent receive both cash and in-kind payments. One-third of women are not paid for their work at all. In urban areas, 90 percent of working women receive at least some cash for their work.

A significant feature of women's work participation in Uttar Pradesh is their substantial contribution to family earnings. In NFHS-2, women who earned cash for their work in the past 12 months were asked how much their earnings contribute to the total family earnings. Sixteen percent of these women (22 percent in urban areas and 14 percent in rural areas) say the family is entirely dependent on their earnings. Another 23 percent report that they contribute at least half of the total family earnings. Forty percent contribute less than half of family earnings and 20 percent say their earnings contribute almost nothing to the total family earnings.

Table 3.5 Employment

Percent distribution of ever-married women age 15–49 by employment characteristics, according to residence, Uttar Pradesh, 1998–99

Employment characteristic	Urban	Rural	Total
Employment status			
Currently working	13.5	23.1	21.2
Worked in past 12 months (not currently working)	0.8	2.5	2.2
Not worked in past 12 months	85.7	74.4	76.6
Continuity of employment¹			
Throughout the year	80.4	58.5	61.2
Seasonally/part of the year	10.9	33.3	30.6
Once in a while	8.3	7.6	7.7
Missing	0.4	0.6	0.6
Type of earning¹			
Cash only	86.6	23.1	30.9
Cash and kind	3.7	16.0	14.5
Kind only	2.6	23.0	20.4
Not paid	6.7	37.5	33.7
Missing	0.4	0.4	0.4
Occupation¹			
Professional	25.1	2.4	5.2
Sales worker	12.6	1.8	3.1
Service worker	2.9	0.3	0.7
Production worker	33.5	5.9	9.3
Agricultural worker	4.9	78.6	69.6
Other worker	16.9	9.9	10.7
Don't know/missing	4.1	1.1	1.5
Earnings contribution to total family earnings²			
Almost none	18.2	21.1	20.4
Less than half	34.2	42.3	40.3
About half	18.8	17.2	17.6
More than half	6.7	5.4	5.8
All	22.1	13.6	15.7
Missing	0.0	0.3	0.3
Total percent	100.0	100.0	100.0
Number of women	1,860	7,432	9,292
Number of employed women ¹	266	1,904	2,171
Number of women earning cash	241	745	986

¹For currently working women and women who have worked in the past 12 months

²For women earning cash

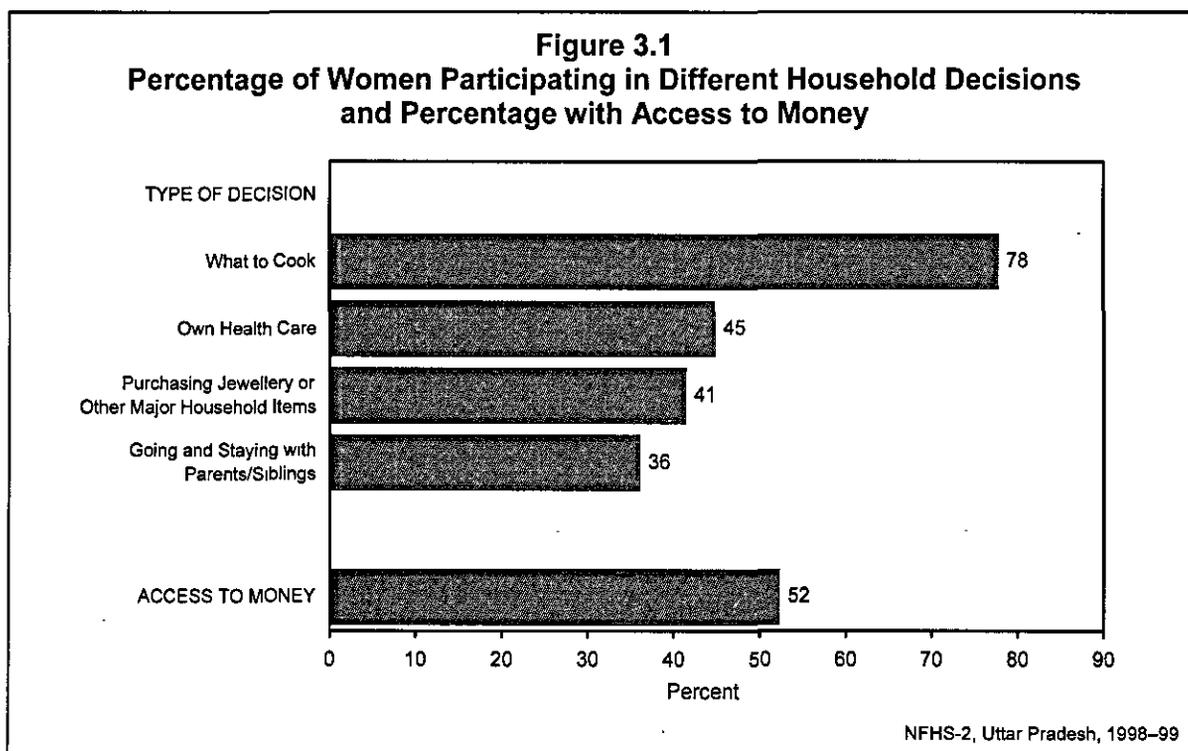
3.6 Women's Autonomy

Education, work participation, and exposure to mass media are some of the means by which women gain status and autonomy, both important aspects of their empowerment. To measure women's autonomy and empowerment more directly, NFHS-2 asked about women's participation in household decisionmaking, their freedom of movement, and access to money that they can spend as they wish. Women's autonomy is likely to have a significant impact on the demographic and health-seeking behaviour of couples by altering women's relative control over fertility and contraceptive use, and by influencing their attitudes (for example, attitudes towards the sex composition of children) and abilities (for example, the ability to obtain health services for themselves and their children) (Sen and Batliwala, 1997).

Table 3.6 Household decisionmaking							
Percent distribution of ever-married women by person who makes specific household decisions, according to residence, Uttar Pradesh, 1998-99							
Household decision	Respondent only	Husband only	Respondent with husband	Others in household only	Respondent with others in household	Missing	Total percent
URBAN							
What items to cook	67.4	3.7	8.1	13.0	7.8	0.1	100.0
Obtaining health care for herself	29.1	36.3	15.9	11.8	6.9	0.0	100.0
Purchasing jewellery or other major household items	8.8	33.3	29.0	16.6	12.4	0.0	100.0
Going and staying with her parents or siblings	10.0	40.0	24.0	15.7	10.1	0.2	100.0
How the money she earns will be used ¹	73.8	6.0	16.6	0.7	2.5	0.4	100.0
RURAL							
What items to cook	62.9	4.6	6.5	18.9	7.0	0.1	100.0
Obtaining health care for herself	24.9	39.8	12.1	17.2	6.0	0.0	100.0
Purchasing jewellery or other major household items	6.8	35.0	22.7	25.7	9.7	0.1	100.0
Going and staying with her parents or siblings	8.0	40.4	17.6	25.2	8.5	0.2	100.0
How the money she earns will be used ¹	42.8	30.4	19.6	2.2	3.4	1.5	100.0
TOTAL							
What items to cook	63.8	4.4	6.8	17.7	7.2	0.1	100.0
Obtaining health care for herself	25.7	39.1	12.9	16.1	6.2	0.0	100.0
Purchasing jewellery or other major household items	7.2	34.7	24.0	23.9	10.2	0.0	100.0
Going and staying with her parents or siblings	8.4	40.3	18.9	23.3	8.8	0.2	100.0
How the money she earns will be used ¹	50.3	24.5	18.9	1.8	3.2	1.3	100.0
¹ For women earning cash							

In order to measure women's participation in household decisionmaking, NFHS-2 asked women to report who in their households makes decisions about the following: what items to cook, obtaining health care for themselves, purchasing jewellery or other major household items, and their going and staying with parents or siblings. The survey also asked women who earn cash who decides how the money they earn is spent. Table 3.6 gives the percent distribution of the person (or persons) who makes each of the specified household decisions, according to residence.

As expected, ever-married women in Uttar Pradesh are most likely to participate in the decision about what items to cook: 64 percent of women make this decision on their own and another 14 percent make this decision jointly with their husband or someone else in the household (see Figure 3.1). One in every five women, however, is not involved at all in decisions about what to cook. More than half of women are not involved at all in decisions about seeking health care (55 percent), purchasing jewellery or other major household items (59 percent), and going and staying with parents or siblings (64 percent). Among these three types of decisions,



the decision that women are most likely to take on their own is the decision about their own health care (26 percent). Although there are no sharp differences by residence in the proportion of women participating in the different types of decisions, urban women are slightly more likely to be involved in each of the decisions than their rural counterparts. Also, a larger proportion of rural women than urban women report that these decisions are taken by others in the household only, that is, neither the respondent nor her husband is involved in the decisions.

More than one-quarter of women who earn cash report that only their husbands or only others make the decision about how the money they earn will be used. Half of the women make that decision on their own, and 22 percent make the decision together with their husband or someone else. The proportion of women who do not participate at all in the decision about how the money they earn will be used is substantially higher in rural areas (33 percent) than in urban areas (7 percent), and the proportion who make this decision alone is much higher in urban areas (74 percent) than in rural areas (43 percent).

Women's involvement in decisionmaking, alone or jointly with others in the household, increases with age, suggesting that autonomy also increases with age (Table 3.7). Specifically, among women age 35 and over, only 5-7 percent do not participate in any decisionmaking, compared with 37 percent of women age 15-19. Participation in each of the four specified decisions increases more or less steadily with age.

Urban women are somewhat more likely to participate in decisionmaking than rural women. There is also some regional variation in women's participation in decisionmaking. Women in the Western and Hill Regions are more likely to be involved in decisionmaking than women in the other regions. The proportion of women not involved in any decisionmaking does not vary much or systematically by education, religion, caste/tribe, or the standard of living. Women who worked for cash during the last year are more likely to be involved in each type of

Table 3.7 Women's autonomy

Percentage of ever-married women involved in household decisionmaking, percentage with freedom of movement, and percentage with access to money by selected background characteristics, Uttar Pradesh, 1998-99

Background characteristic	Percentage not involved in any decision-making	Percentage involved in decisionmaking on:				Percentage who do not need permission to:		Percentage with access to money	Number of women
		What to cook	Own health care	Purchasing jewellery, etc.	Staying with her parents/siblings	Go to the market	Visit friends/relatives		
Age									
15-19	36.6	54.5	33.0	33.8	30.7	5.5	4.1	43.1	1,117
20-24	26.0	66.0	37.7	36.5	32.4	8.4	5.8	46.5	1,825
25-29	15.6	78.6	43.3	41.6	36.0	14.5	9.4	52.8	1,769
30-34	11.7	84.3	46.4	41.0	35.4	19.0	12.9	54.6	1,509
35-39	7.4	88.7	51.5	45.2	40.2	25.1	17.3	57.1	1,291
40-44	4.6	90.5	55.5	47.7	40.0	27.3	21.9	57.0	1,025
45-49	5.7	89.5	53.6	49.4	43.0	33.4	25.7	59.7	756
Residence									
Urban	10.6	83.2	51.9	50.1	44.2	27.8	18.7	70.3	1,860
Rural	17.8	76.4	43.0	39.2	34.1	14.7	10.9	47.8	7,432
Region									
Hill	10.0	79.3	61.6	61.8	57.5	32.4	22.1	49.6	420
Western	9.9	80.8	49.9	51.9	46.4	19.5	12.8	43.7	3,320
Central	14.8	82.2	41.2	38.8	32.5	13.8	10.8	69.5	1,620
Eastern	24.0	72.4	41.8	31.7	27.1	16.1	12.7	52.0	3,505
Bundelkhand	16.1	79.8	26.4	29.3	24.2	9.4	4.1	59.6	427
Education									
Illiterate	15.9	79.1	43.6	39.6	34.4	16.1	12.0	46.8	6,523
Literate, < middle school complete	16.6	76.2	45.2	44.3	39.5	14.2	10.7	59.3	1,101
Middle school complete	21.5	71.5	46.4	40.2	35.5	17.2	10.3	59.6	635
High school complete and above	15.7	75.2	50.6	50.5	43.7	28.7	18.4	75.4	1,032
Religion									
Hindu	17.0	77.1	44.2	40.6	35.3	17.2	12.3	51.1	7,715
Muslim	13.2	81.5	47.2	44.2	39.6	17.8	12.8	58.8	1,483
Sikh	11.8	75.1	58.6	70.8	52.7	32.7	13.4	49.1	55
Caste/tribe									
Scheduled caste	16.4	77.8	39.7	39.0	33.0	16.7	12.8	45.1	1,805
Scheduled tribe	15.6	75.3	43.6	40.9	43.2	18.2	11.9	40.9	191
Other backward class	20.0	75.6	43.3	36.8	32.6	15.5	11.0	52.3	2,591
Other	14.6	78.6	48.6	45.3	39.7	19.4	13.6	55.7	4,276
Cash employment									
Working for cash	7.5	89.0	53.9	47.0	42.3	28.9	22.2	63.9	986
Working but not for cash	12.9	82.9	49.5	38.1	31.9	19.0	14.3	52.7	1,176
Not worked in past 12 months	18.1	75.4	42.8	41.2	36.0	15.5	10.8	50.7	7,121
Standard of living index									
Low	13.7	81.5	43.9	40.5	33.9	16.8	12.5	43.6	2,598
Medium	17.9	76.8	44.4	40.1	35.9	15.7	11.1	51.2	4,887
High	16.0	74.9	47.0	46.3	40.2	23.3	16.0	69.8	1,612
Total	16.4	77.8	44.8	41.4	36.1	17.4	12.4	52.3	9,292

Note: Total includes 21 women belonging to other religions and 17, 429, 9, and 195 women with missing information on religion, caste/tribe, cash employment, and the standard of living index, respectively, who are not shown separately.

decision than working women who did not work for cash or women who were not employed at all.

NFHS-2 also collected information on two other dimensions of women's autonomy, namely, women's freedom of movement and their access to money that they can spend as they wish. With regard to freedom of movement, respondents were asked whether they need permission to go to the market or to visit friends or relatives. Women's access to spending money was measured by asking respondents, 'Are you allowed to have some money set aside that you can use as you wish?'

Table 3.7 shows that freedom of movement is limited for the majority of ever-married women in Uttar Pradesh. Only 17 percent of women say they do not need permission to go to the market and only 12 percent say they do not need permission to visit friends or relatives. Freedom of movement increases substantially with age. For example, only 6 percent of women age 15-19 do not need permission to go to the market, compared with 33 percent of women age 45-49. Women who have completed at least high school have more freedom of movement than less educated or illiterate women. Freedom of movement is also relatively high in urban areas, in the Hill Region, for Sikh women, and for women living in households with a high standard of living. Women who earn cash have more freedom of movement than other women. Freedom of movement does not vary much by caste or tribe. Even in the groups with the greatest freedom of movement, however, only one-third of women do not need permission to go to the market and only one-quarter of women do not need permission to visit friends or relatives. There is substantial variation in women's access to money by background characteristics. Overall, 52 percent of women say that they are allowed to have some money set aside that they can spend as they wish. Access to money increases with age, from 43 percent of women age 15-19 to 60 percent for women age 45-49. The percentage of women with access to money is higher in urban areas (70 percent) than in rural areas (48 percent). Access to money also increases with education (from 47 percent of illiterate women to 75 percent of women who have completed at least a high school education) and with the standard of living (from 44 percent of women with a low standard of living to 70 percent of women with a high standard of living). Muslim women have greater access to money than Hindu or Sikh women. Scheduled-tribe women have somewhat less access to money than women in any other category in the table. As can be expected, women who earn cash for their work have greater access to money than women who are either working but not for cash or who did not work during the past 12 months.

3.7 Women's Educational Aspirations for Children

The desire to invest in improving the quality of children, including investing in their education, is important for bringing about transition to lower levels of fertility and improved health. In order to obtain information on this subject, NFHS-2 asked ever-married women for their opinion about how much education should be given to a boy or a girl. Women's responses to these questions also provide an indication of the degree of son preference prevailing at the time of the survey.

As shown in Table 3.8, 47 percent of women believe that a boy should be given as much education as he desires, compared with only 34 percent who believe that a girl should be given as much education as she desires. Twenty-six percent of women believe that an education above high school (higher secondary school, graduate and above, or professional degree) is appropriate for boys, whereas 17 percent feel that it is appropriate for girls. Notably, only 1 percent of

Table 3.8 Perceived educational needs of girls and boys			
Percent distribution of ever-married women by their opinion on how much education should be given to girls and boys, according to residence, Uttar Pradesh, 1998-99			
Educational level	Urban	Rural	Total
Education for girls			
No education	0.0	0.5	0.4
Less than primary school	0.0	0.9	0.7
Primary school	2.5	9.2	7.8
Middle school	5.5	12.6	11.2
High school	11.9	20.4	18.7
Higher secondary school	7.5	11.2	10.5
Graduate and above	6.9	4.3	4.9
Professional degree	3.9	1.2	1.8
As much as she desires	53.6	28.8	33.7
Depends	7.7	8.9	8.7
Don't know	0.4	1.8	1.5
Missing	0.1	0.0	0.0
Total percent	100.0	100.0	100.0
Education for boys			
No education	0.0	0.1	0.0
Less than primary school	0.0	0.1	0.0
Primary school	0.1	0.7	0.6
Middle school	1.3	3.2	2.8
High school	5.1	11.6	10.3
Higher secondary school	7.6	13.8	12.6
Graduate and above	7.9	9.6	9.3
Professional degree	5.9	3.8	4.2
As much as he desires	61.9	43.5	47.2
Depends	9.9	12.3	11.8
Don't know	0.2	1.5	1.2
Missing	0.1	0.0	0.0
Total percent	100.0	100.0	100.0

women feel that girls should not be given any education or should be given less than a primary school education. Twenty percent of women feel that girls should be given an education but not beyond middle school. The corresponding proportion for boys is only 3 percent. It is notable that educational aspirations for both girls and boys are quite similar in Uttar Pradesh and in India as a whole.

Table 3.8 indicates that there are sharp urban-rural differences in women's educational aspirations for girls and boys. Rural respondents are more likely than urban respondents to say that a child should be given less than a high school education. Rural respondents are also much less likely than urban respondents to say that girls and boys should be given as much education as they desire. It is notable, however, that even in rural areas almost two-thirds of women say that girls should be given at least a high school education or as much education as they desire.

3.8 Domestic Violence: Attitudes and Prevalence

In recent years, there has been increasing concern about violence against women in general, and domestic violence in particular, in both developed and developing countries (United Nations General Assembly, 1991). Not only has domestic violence against women been acknowledged worldwide as a violation of the basic human rights of women, but an increasing amount of research highlights the health burdens, intergenerational effects, and demographic consequences of such violence (Heise et al., 1998; 1994; Jejeebhoy, 1998; Ramasubban and Singh, 1998; Rao

and Bloch, 1993). In patriarchal societies such as India, women are not only socialized into being silent about their experience of violence but traditional norms teach them to accept, tolerate, and even rationalize domestic violence (Jaisingh, 1995; Hegde, 1996; Prasad, 1999). The recent IndiaSAFE multi-site study of family violence in India, conducted at about the same time as NFHS-2, finds violence by husbands to be fairly widespread (International Clinical Epidemiology Network, 2000). Both tolerance of and experience of domestic violence are significant barriers to the empowerment of women, with consequences for women's health, their health-seeking behaviour, their adoption of a small family norm, and the health of their children. In NFHS-2, an attempt was made to assess whether women view wife-beating as justified and to measure the prevalence of violence against women including, but not limited to, violence committed by a woman's husband. Special training was provided to interviewers to sensitize them to the issue of domestic violence and impress upon them the necessity of ensuring privacy when asking these questions.

In order to assess women's attitudes towards wife-beating, before asking about personal experience with domestic violence, the survey asked all respondents whether they thought that a husband is justified in beating his wife for each of the following reasons: if he suspects her of being unfaithful; if her natal family does not give expected money, jewellery, or other items; if she shows disrespect for her in-laws; if she goes out without telling him; if she neglects the house or children; or if she does not cook food properly. These reasons, which range from reasons that involve suspicions about a wife's moral character to those that may be considered more trivial, such as not cooking properly, were chosen to provide variation in the perceived seriousness of behavioural-norm violation. Table 3.9 gives the percentages of ever-married women who agree with various reasons for wife-beating by background characteristics.

Three out of five women in Uttar Pradesh accept at least one reason as justification for wife-beating. Women are most likely to agree that wife-beating is justified if there is a suspicion that the wife is unfaithful (48 percent), and least likely to agree that wife-beating is justified if her natal family does not give expected money or other items (5 percent). If a wife goes out without telling her husband, 39 percent of women say that the husband would be justified in beating her. About one-third of women agree that wife-beating is justified if the wife neglects the house or children (35 percent), if she shows disrespect for in-laws (33 percent), or if she does not cook food properly (29 percent).

Table 3.9 indicates that there are no sharp differences by age or marital duration in women's attitudes towards wife-beating, although the percentages justifying wife-beating are somewhat lower than average for women who are not currently married. There are notable urban-rural and regional differences in these attitudes. Not only do a higher proportion of rural women (64 percent) than urban women (48 percent) agree with at least one reason justifying wife-beating, but rural women are also more likely than urban women to agree with each specific reason. Justification for wife-beating is most common in the Bundelkhand Region (76 percent) and least common in the Hill Region (32 percent). Agreement with at least one reason and with each of the different reasons for wife-beating declines sharply with education. Sixty-six percent of illiterate women agree with at least one reason justifying wife-beating, compared with 35 percent of women who have completed at least high school.

Table 3.9 Reasons given for justifying a husband beating his wife

Percentage of ever-married women who agree with specific reasons for justifying a husband beating his wife by selected background characteristics, Uttar Pradesh, 1998-99

Background characteristic	Percentage who agree with specific reasons							Number of women
	Percentage who agree with at least one reason	Husband suspects wife is unfaithful	Natal family does not give expected money or other items	Wife shows disrespect for in-laws	Wife goes out without telling husband	Wife neglects house or children	Wife does not cook food properly	
Age								
15-19	62.6	47.0	5.7	36.5	41.7	36.2	30.9	1,117
20-29	60.6	48.1	5.3	33.1	38.7	35.1	29.5	3,594
30-39	61.8	48.3	5.0	33.7	40.4	35.2	29.5	2,800
40-49	58.0	47.9	5.4	31.5	35.9	30.9	26.8	1,781
Marital duration (in years)								
< 5	58.6	45.7	5.5	33.0	36.8	32.5	27.1	2,196
5-9	60.3	48.0	4.5	32.1	38.6	34.1	28.3	1,387
10 or more	62.2	49.1	5.3	33.9	40.3	35.5	30.3	5,333
Not currently married	53.9	45.6	6.3	32.9	36.0	32.3	28.1	374
Residence								
Urban	47.9	38.6	1.8	24.7	27.6	23.1	19.0	1,860
Rural	63.9	50.3	6.1	35.5	41.9	37.3	31.7	7,432
Region								
Hill	32.3	21.1	1.8	10.6	14.8	13.2	10.0	420
Western	56.5	45.4	5.2	28.2	34.8	27.6	23.4	3,320
Central	67.2	53.1	4.7	45.2	47.6	45.7	41.4	1,620
Eastern	63.2	49.7	6.3	33.7	39.9	35.8	28.9	3,505
Bundelkhand	76.4	61.1	1.9	48.3	56.6	54.9	48.6	427
Education								
Illiterate	65.5	52.0	6.5	36.5	43.3	38.4	33.7	6,523
Literate, < middle school complete	59.6	46.5	4.1	32.9	38.4	32.8	24.1	1,101
Middle school complete	54.5	42.0	1.8	29.7	34.3	29.6	23.7	635
High school complete and above	35.2	28.3	0.7	16.0	15.6	14.3	9.5	1,032
Religion								
Hindu	60.5	47.8	5.5	33.5	39.3	35.0	29.5	7,715
Muslim	62.9	50.0	4.0	33.1	39.2	32.5	28.6	1,483
Sikh	35.0	20.4	0.0	24.8	14.8	12.5	6.5	55
Caste/tribe								
Scheduled caste	64.0	51.1	6.7	35.2	43.3	38.6	33.6	1,805
Scheduled tribe	61.7	48.5	2.3	33.7	41.4	39.3	31.1	191
Other backward class	65.6	52.9	6.3	36.6	42.4	36.6	31.0	2,591
Other	55.2	42.8	4.0	29.0	33.7	29.5	24.5	4,276
Cash employment								
Working for cash	61.9	48.6	5.1	35.4	39.6	38.9	33.2	986
Working but not for cash	67.4	52.6	8.6	35.9	43.4	40.4	36.3	1,176
Not worked in past 12 months	59.4	47.2	4.7	32.7	38.3	32.9	27.4	7,121
Standard of living index								
Low	67.1	53.9	6.9	37.9	45.6	41.3	36.5	2,598
Medium	62.7	49.1	5.4	35.0	40.3	35.1	29.8	4,887
High	44.8	35.4	2.1	21.7	25.2	21.9	15.8	1,612
Total	60.7	48.0	5.3	33.4	39.1	34.5	29.2	9,292

Note: Total includes 21 women belonging to other religions and 1,17, 429, 9, and 195 women with missing information on marital duration, religion, caste/tribe, cash employment, and the standard of living index, respectively, who are not shown separately

As expected, the proportion of women who agree that wife-beating is justified declines as the standard of living increases. The difference is greatest between women with a low or medium standard of living (63–67 percent) and women with a high standard of living (45 percent). However, the expectation that women who work, especially those who work for cash, would be less likely than other women to justify wife-beating, is not borne out. Overall, the majority of women in almost all groups agree with at least one reason for wife-beating. This finding attests to the widespread socialization of women in norms that give husbands the right to use force to discipline wives who are perceived to be violating traditional gender norms.

In order to assess the prevalence of domestic violence, NFHS-2 asked women if they had been beaten or mistreated physically since age 15.¹ Women who reported being beaten or physically mistreated were asked who beat or physically mistreated them. Interviewers recorded all the persons mentioned by the respondent. As mentioned earlier, there is a culture of silence surrounding the topic of domestic violence that makes the collection of data on this sensitive topic particularly difficult. Even women who want to speak about their experience with domestic violence may find it difficult because of feelings of shame or fear. This may be more true if violence occurred recently (for example, in the preceding 12 months) than in the more distant past. In addition, depending on the varied cultural meanings ascribed to different acts, there may be women who do not report their experience of domestic violence because they do not view it as violence or physical mistreatment. For these reasons, NFHS-2 results on the prevalence of domestic violence need to be interpreted with caution.

Table 3.10 presents results on the prevalence of beatings or physical mistreatment since age 15 by women's background characteristics. Prevalence is also shown according to the person(s) who beat or physically mistreated them—their husbands, their in-laws, or other persons.

According to the reports of respondents, 22 percent of women in Uttar Pradesh have experienced violence since age 15 (almost the same as the national average of 21 percent), and 21 percent have been beaten or physically mistreated by their husbands. Two percent have been beaten or physically mistreated by in-laws and 2 percent by other persons. This implies that among women who were beaten, more than 9 out of 10 (93 percent) have been beaten by their husbands and 1 out of 12 have been beaten by their in-laws. A survey of married men conducted in five districts of Uttar Pradesh in 1995–96 also found high levels of reported domestic violence. In that study, 30 percent of husbands said they had ever physically beaten or mistreated their wives, and 65 percent of those who remembered when the last violent episode took place said that they had committed violence against their wives in the last year (EVALUATION Project, 1997).

Women age 15–19 are less likely than older women to have been beaten, but because of their young age they have had less time to be exposed to the risk of being beaten since age 15. Similarly, women who have been married for less than five years are less likely to have been beaten (15 percent) than women who have been married longer (22–26 percent). Urban women

¹The question does not limit women to reporting only domestic violence, but almost all women who report any violence report beatings or physical mistreatment only by husbands or relatives.

Table 3.10 Women's experience with beatings or physical mistreatment

Percentage of ever-married women who have been beaten or physically mistreated by their husband, in-laws, or other persons since age 15, according to selected background characteristics, Uttar Pradesh, 1998-99

Background characteristic	Percentage beaten or physically mistreated since age 15	Percentage beaten or physically mistreated since age 15 by:			Number of women
		Husband	In-laws	Other persons	
Age					
15-19	16.4	13.8	1.0	3.2	1,117
20-29	22.4	20.8	1.8	2.3	3,594
30-39	25.2	24.0	2.1	1.6	2,800
40-49	21.9	20.3	2.2	2.5	1,781
Marital duration (in years)					
<5	15.2	12.9	0.8	3.3	2,196
5-9	21.6	19.7	1.8	2.1	1,387
10 or more	25.6	24.4	2.1	1.9	5,333
Not currently married	23.0	19.7	6.0	2.0	374
Residence					
Urban	16.8	15.0	2.2	2.2	1,860
Rural	23.8	22.2	1.8	2.3	7,432
Region					
Hill	9.5	7.6	1.4	2.3	420
Western	17.2	15.5	1.9	2.8	3,320
Central	26.4	25.1	1.1	2.0	1,620
Eastern	27.2	25.5	2.4	1.9	3,505
Bundelkhand	21.3	20.3	1.5	1.6	427
Education					
Illiterate	25.5	24.1	2.2	2.0	6,523
Literate, < middle school complete	19.2	17.9	0.9	2.2	1,101
Middle school complete	17.0	14.2	2.1	3.2	635
High school complete and above	9.7	7.0	1.1	3.1	1,032
Religion					
Hindu	22.4	20.8	1.8	2.3	7,715
Muslim	23.4	21.7	2.2	1.8	1,483
Sikh	10.8	8.0	0.0	2.8	55
Caste/tribe					
Scheduled caste	27.6	26.6	2.2	1.9	1,805
Scheduled tribe	25.2	22.6	5.5	3.7	191
Other backward class	22.2	20.7	1.5	2.1	2,591
Other	19.3	17.4	1.8	2.4	4,276
Household type					
Nuclear household	27.8	26.2	2.4	1.9	3,648
Non-nuclear household	18.9	17.3	1.6	2.5	5,643
Cash employment					
Working for cash	32.6	29.9	4.0	2.6	986
Working but not for cash	31.1	29.4	2.8	2.1	1,176
Not worked in past 12 months	19.5	18.1	1.5	2.2	7,121

Contd...

Table 3.10 Women's experience with beatings or physical mistreatment (contd.)

Percentage of ever-married women who have been beaten or physically mistreated by their husband, in-laws, or other persons since age 15, according to selected background characteristics, Uttar Pradesh, 1998–99

Background characteristic	Percentage beaten or physically mistreated since age 15	Percentage beaten or physically mistreated since age 15 by:			Number of women
		Husband	In-laws	Other persons	
Standard of living index					
Low	29.9	28.3	2.5	2.4	2,598
Medium	21.9	20.5	1.8	2.1	4,887
High	12.5	10.1	1.3	2.6	1,612
Living children					
No living children	14.5	11.9	1.7	2.9	1,247
Only daughters	21.8	20.5	1.9	2.4	1,048
Only sons	22.7	21.0	2.1	2.5	1,603
Both daughters and sons	24.3	22.9	1.9	2.0	5,393
Total	22.4	20.8	1.9	2.2	9,292

Note: Total includes 21 woman belonging to other religions and 1, 17, 429, 9, and 195 women with missing information on marital duration, religion, caste/tribe, cash employment, and the standard of living index, respectively, who are not shown separately.

(17 percent) are less likely than rural women (24 percent) to experience violence and illiterate women (26 percent) are much more likely to have experienced violence than women who have completed at least high school (10 percent). The prevalence of domestic violence decreases substantially as the standard of living increases. Specifically, 30 percent of women with a low standard of living have experienced violence, compared with 22 percent of women with a medium standard of living and 13 percent of women with a high standard of living.

Women from nuclear households are more likely than women from non-nuclear households to experience domestic violence. A similar finding was reported by Visaria (1999) among women in rural Gujarat. Working women, most of whom are agricultural workers, are much more likely than non-working women to experience violence.

In Uttar Pradesh, women with no living children are somewhat less likely than women with living children to have experienced violence (15 percent compared with 22–24 percent). This may be due in part to the fact that childless women tend to be younger women, and younger women have a lower prevalence of domestic violence than older women. There does not appear to be much variation in the prevalence of domestic violence by whether or not women have a son.

The proportions of women who have been beaten or physically mistreated by their husbands according to various background characteristics are similar to the proportions of all women who have experienced domestic violence. This is not surprising since, as already noted, more than 90 percent of women who report beatings are beaten by their husbands. The proportion of women who have been beaten or physically mistreated by their in-laws or by other persons is too small to allow a meaningful discussion of differentials by women's background

Table 3.11 Frequency of beatings and physical mistreatment

Percent distribution of ever-married women who report being beaten or physically mistreated since age 15 by frequency of beatings or physical mistreatment in the 12 months preceding the survey, according to selected background characteristics, Uttar Pradesh, 1998-99

Background characteristic	Beaten or physically mistreated in the past 12 months					Total percent	Number of women
	Many times	A few times	Once	Not beaten	Missing		
Age							
15-19	20.9	29.4	28.0	21.7	0.0	100.0	183
20-29	18.3	30.5	17.3	33.7	0.1	100.0	805
30-39	15.1	26.4	15.0	43.3	0.2	100.0	705
40-49	14.2	23.3	8.6	53.4	0.6	100.0	390
Marital duration (in years)							
< 5	17.9	33.1	24.9	23.7	0.3	100.0	334
5-9	19.7	32.4	17.8	30.0	0.0	100.0	300
10 or more	15.7	26.1	13.9	44.1	0.2	100.0	1,363
Not currently married	16.6	14.5	4.9	64.0	0.0	100.0	86
Residence							
Urban	15.2	23.3	12.6	48.9	0.0	100.0	313
Rural	16.9	28.5	16.4	37.9	0.3	100.0	1,770
Region							
Hill	20.3	54.3	12.0	13.4	0.0	100.0	40
Western	19.7	36.8	12.3	30.7	0.6	100.0	571
Central	14.3	16.6	22.0	47.1	0.0	100.0	428
Eastern	14.6	26.0	15.5	43.7	0.1	100.0	953
Bundelkhand	28.5	28.6	14.2	28.7	0.0	100.0	91
Education							
Illiterate	17.8	29.4	14.9	37.7	0.3	100.0	1,664
Literate, < middle school complete	15.0	19.1	18.9	47.0	0.0	100.0	212
Middle school complete	10.3	23.4	26.2	40.1	0.0	100.0	108
High school complete and above	8.6	21.7	14.6	55.1	0.0	100.0	100
Religion							
Hindu	17.0	26.5	16.6	39.8	0.2	100.0	1,728
Muslim	15.0	33.1	12.6	39.0	0.3	100.0	347
Caste/tribe							
Scheduled caste	17.7	28.9	16.1	37.1	0.2	100.0	499
Scheduled tribe	(13.5)	(37.5)	(14.2)	(32.6)	(2.2)	100.0	48
Other backward class	18.7	25.8	15.3	40.2	0.0	100.0	576
Other	15.3	27.6	16.9	40.0	0.3	100.0	827
Household type							
Nuclear household	16.1	29.9	14.1	39.7	0.2	100.0	1,015
Non-nuclear household	17.2	25.6	17.5	39.5	0.2	100.0	1,068
Cash employment							
Working for cash	22.1	20.8	14.9	41.9	0.4	100.0	321
Working but not for cash	14.2	21.9	11.7	51.9	0.3	100.0	365
Not worked in past 12 months	16.1	30.8	17.2	35.8	0.2	100.0	1,391
Standard of living index							
Low	20.9	28.5	13.4	36.9	0.3	100.0	778
Medium	14.5	28.0	17.6	39.7	0.2	100.0	1,068
High	11.7	22.4	15.4	50.5	0.0	100.0	201
Living children							
No living children	19.0	30.6	20.5	29.9	0.0	100.0	181
Only daughters	23.4	24.9	18.4	32.9	0.5	100.0	228
Only sons	20.7	28.6	15.9	34.6	0.3	100.0	364
Both daughters and sons	14.1	27.5	14.7	43.5	0.2	100.0	1,310
Total	16.7	27.7	15.8	39.6	0.2	100.0	2,083

Note: Total includes 6 and 3 women belonging to Sikh and 'other' religions, respectively, and 134, 6, and 36 women with missing information on caste/tribe, cash employment, and the standard of living index, respectively, who are not shown respectively.

() Based on 25-49 unweighted cases

characteristics. Nonetheless, it is notable that women who are not currently married (divorced, separated, deserted, or widowed) are more likely than currently married women to have been beaten by their in-laws.

NFHS-2 asked women who experienced violence since age 15 how often they were beaten or physically mistreated in the 12 months preceding the survey: many times, a few times, once, or not at all. Table 3.11 shows the frequency of beatings in the past 12 months for women who report beatings or physical mistreatment. Three out of five women who experienced violence were beaten at least once during the 12 months preceding the survey and more than two out of five (44 percent) were beaten more than once in this period. Among women who have been beaten or physically mistreated since age 15, younger women, women married less than five years, and women living in the Hill Region are most likely to have been beaten at least once in the last 12 months. Multiple beatings among ever-beaten women are particularly high in the Hill Region, the Bundelkhand Region, and the Western Region.

As mentioned earlier, largely due to the inherent tendency for underreporting of domestic violence, these results need to be interpreted with caution. Nevertheless, the NFHS-2 estimates set a lower bound on the proportion of women experiencing domestic violence in Uttar Pradesh: *at least* one in five ever-married women in Uttar Pradesh have experienced domestic violence since age 15, and *at least* one in eight have experienced domestic violence in the past 12 months.

CHAPTER 4

FERTILITY AND FERTILITY PREFERENCES

A major objective of NFHS-2 is to provide detailed information on fertility levels, differentials, and trends. This chapter presents a description of current and past fertility, cumulative fertility and family size, birth intervals, age at first cohabitation with husband, age at first and last birth, age at menopause, and durations of postpartum amenorrhoea, abstinence, and insusceptibility to pregnancy. Also discussed are fertility preferences, ideal and actual number of children, preference for sons or daughters, planning status of pregnancies, and wanted and actual total fertility rates.

Most of the fertility measures presented in this chapter are based on the complete birth histories collected from ever-married women age 15–49 years. Several measures and procedures were used to obtain complete and accurate reporting of births, deaths, and the timing of these events. First, women were asked a series of questions aimed at recording all the live births that had occurred in their lifetime. Second, for each live birth, the survey collected information on the age, sex, and survival status of the child. For dead children, age at death was recorded. Interviewers were given extensive training in probing techniques designed to help respondents report this information accurately. For example, interviewers were instructed to check any documents (such as horoscopes, school certificates, or vaccination cards) that might provide additional information on dates of birth and to probe for the reason for any birth interval of four or more years in order to prevent omission of births, especially of children who died soon after birth. Stillbirths, miscarriages, and induced abortions that occurred between live births were also recorded.

Despite these measures to improve data quality, NFHS-2 is subject to the same types of errors that are inherent in all retrospective sample surveys—namely, the omission of some births (especially births of children who died at a very young age) and the difficulty of determining the date of birth of each child accurately. These problems can bias estimates of fertility levels and trends.

4.1 Age at First Cohabitation

The number of children that a woman will have in her lifetime is strongly influenced by the age at which she marries. In Uttar Pradesh, however, formal marriage is not always immediately followed by cohabitation. Rather, the husband and the wife typically begin to cohabit only after the *gauna* ceremony. Even if *gauna* is not practised, a marriage may not be consummated immediately if it occurs at a very young age. In such instances, there is a difference between age at marriage and age at consummation of marriage. Age at consummation of marriage is, of course, what is relevant for fertility. NFHS-2 measured age at first cohabitation as a proxy for age at consummation of marriage. In Table 4.1, the median age at first cohabitation for a group of women is defined as the age by which half of the entire group began to cohabit, rather than the age by which half of all ever-cohabiting women in the group began to cohabit.

Table 4.1 shows that, in Uttar Pradesh, the median age at first cohabitation with the husband is 16.5 years for women age 20–49. The median age at first cohabitation increases

Table 4.1 Age at first cohabitation with husband							
Median age at first cohabitation with husband among women age 20–49 years by current age and selected background characteristics, Uttar Pradesh, 1998–99							
Background characteristic	Current age						
	20–24	25–29	30–34	35–39	40–49	20–49	25–49
Residence							
Urban	NC	18.9	18.5	17.9	17.4	18.6	18.2
Rural	16.7	16.2	15.9	15.9	15.8	16.1	16.0
Region							
Hill	19.5	17.8	17.6	17.1	16.7	17.8	17.3
Western	18.3	17.4	17.0	16.8	16.7	17.2	16.9
Central	16.7	16.5	15.7	15.6	15.7	16.0	15.9
Eastern	16.8	16.0	15.8	15.7	15.7	16.0	15.8
Bundelkhand	16.2	16.0	16.0	15.9	15.4	15.9	15.8
Education							
Illiterate	16.1	15.9	15.8	15.8	15.8	15.9	15.8
Literate, < middle school complete	17.8	16.8	16.8	16.1	16.5	16.8	16.6
Middle school complete	18.8	17.6	17.6	18.0	17.5	18.1	17.7
High school complete and above	NC	20.8	20.1	20.5	19.4	NC	20.3
Religion							
Hindu	17.3	16.5	16.3	16.1	16.0	16.4	16.2
Muslim	18.1	17.1	16.8	16.6	16.6	17.0	16.8
Sikh	*	*	*	*	*	18.9	(19.0)
Caste/tribe							
Scheduled caste	16.7	15.8	15.5	15.8	15.7	15.9	15.7
Scheduled tribe	(16.3)	(15.8)	(15.5)	(16.5)	(15.8)	15.9	15.8
Other backward class	16.7	16.0	15.9	15.7	15.7	16.0	15.8
Other	18.2	17.7	17.0	16.8	16.7	17.3	17.0
Standard of living index							
Low	15.7	15.8	15.5	15.8	15.6	15.7	15.7
Medium	17.2	16.5	16.2	15.9	16.0	16.4	16.1
High	NC	19.2	18.6	18.1	17.4	18.7	18.3
Total	17.4	16.6	16.3	16.2	16.1	16.5	16.3

NC: Not calculated because less than 50 percent of the women have started living with their husband by age 20
 () Based on 25–49 unweighted cases
 *Median not shown; based on fewer than 25 unweighted cases

steadily from 16.1 for women age 40–49 to 17.4 for women age 20–24, suggesting a modest increase in the median age at first cohabitation, particularly in recent years.

For women age 20–49, the median age at first cohabitation is two and a half years higher for women in urban areas than in rural areas. The median age at first cohabitation has risen faster in urban areas than in rural areas, so the urban-rural gap has been widening over time. There is also a wide variation among regions, with the median age at first cohabitation lowest in the Bundelkhand Region, the Central Region, and the Eastern Region (15.9–16.0) and highest in the Hill Region (17.8). The median age at first cohabitation rises sharply with women's level of education. The median is higher for Sikh women (18.9 years) than for Muslims (17.0 years) or Hindus (16.4 years). The median age at first cohabitation is lower for women from scheduled castes, scheduled tribes, and other backward classes (15.9–16.0 years) than for women who do

not belong to any of these groups (17.3 years). The median age at first cohabitation is three years higher for women living in households with a high standard of living than for women living in households with a low standard of living.

4.2 Current Fertility Levels

NFHS-2 provides estimates of age-specific fertility rates (ASFR), total fertility rates (TFR), and crude birth rates (CBR) for the three-year period preceding the survey, which in Uttar Pradesh corresponds roughly to the period 1996–98. This three-year period was chosen as a compromise between the need to obtain recent information (suggesting the use of a short period close to the survey date) and the need to reduce sampling variation and minimize problems related to displacement of births from recent years to earlier years (suggesting the use of a longer period). The ASFR for any specific age group is calculated by dividing the number of births to women in the age group during the period 1–36 months preceding the survey by the number of woman-years lived by women in the age group during the same three-year time period. The TFR is a summary measure, based on the ASFRs, that gives the number of children a woman would bear during her reproductive years if she were to experience the ASFRs prevailing at the time of the survey. Mathematically, the TFR is calculated as five times the sum of all the ASFRs for the five-year age groups. The CBR is defined as the annual number of births per 1,000 population.

Based on estimates for the three-year period before NFHS-2, the CBR for Uttar Pradesh is estimated at 31.1 live births per 1,000 population, and the TFR is estimated at 3.99 births per woman, as shown in Table 4.2. The TFR estimate for Uttar Pradesh appears to be too low, partly because of omission of births but mainly because of the considerable displacement of births from the three years before the survey to earlier years (Retherford et al., 2001).

Table 4.2 shows that NFHS-2 fertility estimates are much lower in urban areas than in rural areas. The CBR is 29 percent lower in urban areas than in rural areas, and the urban TFR is 33 percent lower than the rural TFR. ASFRs are lower in urban areas than in rural areas for all age groups, as shown in Figure 4.1. Sixty-four percent of total fertility in urban areas and 57 percent in rural areas is concentrated in the prime childbearing ages of 20–29. Fertility at age 15–19 accounts for 10 percent of total fertility in urban areas, 16 percent in rural areas, and 15 percent overall, indicating that there is a substantial amount of early childbearing. For the state as a whole, fertility at ages 35 and older accounts for 11 percent of total fertility.

Based on estimates for the three-year periods preceding NFHS-1 and NFHS-2, the CBR fell from 36.0 to 31.1 between the two surveys, a decline of 14 percent in approximately six years. Over the same period, the TFR fell from 4.82 to 3.99, a decline of 17 percent. Table 4.2 and Figure 4.2 show that fertility fell for all age groups except age 15–19.

NFHS-2 fertility estimates can be compared with estimates from the Sample Registration System (SRS), which is maintained by the Office of the Registrar General, India. Since the NFHS-2 rates refer to 1996–98, it is appropriate to compare them with the SRS estimates for 1997, which are also shown in Table 4.2. The NFHS-2 estimate of the CBR, at 31.1, is lower than the SRS estimate of 33.5. The NFHS-2 estimate of the TFR (3.99) is 0.8 children lower than the SRS estimate of 4.79. The differences between the NFHS-2 and SRS estimates may be caused partly by age misreporting in NFHS-2, which tends to result in the displacement of births

Table 4.2 Current fertility

Age-specific and total fertility rates and crude birth rates from NFHS-1, NFHS-2, and the SRS by residence, Uttar Pradesh

Age	NFHS-1 (1990-92)		NFHS-2 (1996-98)		SRS (1997)		
	Total	Urban	Rural	Total	Urban	Rural	Total
15-19	0.113	0.057	0.137	0.120	0.025	0.043	0.040
20-24	0.278	0.195	0.272	0.256	0.198	0.260	0.248
25-29	0.251	0.173	0.217	0.208	0.221	0.281	0.271
30-34	0.177	0.095	0.137	0.127	0.152	0.208	0.198
35-39	0.094	0.040	0.071	0.064	0.075	0.124	0.115
40-44	0.037	0.012	0.020	0.018	0.047	0.066	0.062
45-49	0.014	0.004	0.006	0.006	0.014	0.025	0.023
TFR 15-44	4.75	2.86	4.27	3.96	3.59	4.91	4.67
TFR 15-49	4.82	2.88	4.31	3.99	3.66	5.04	4.79
CBR	36.0	23.5	33.0	31.1	27.9	34.6	33.5

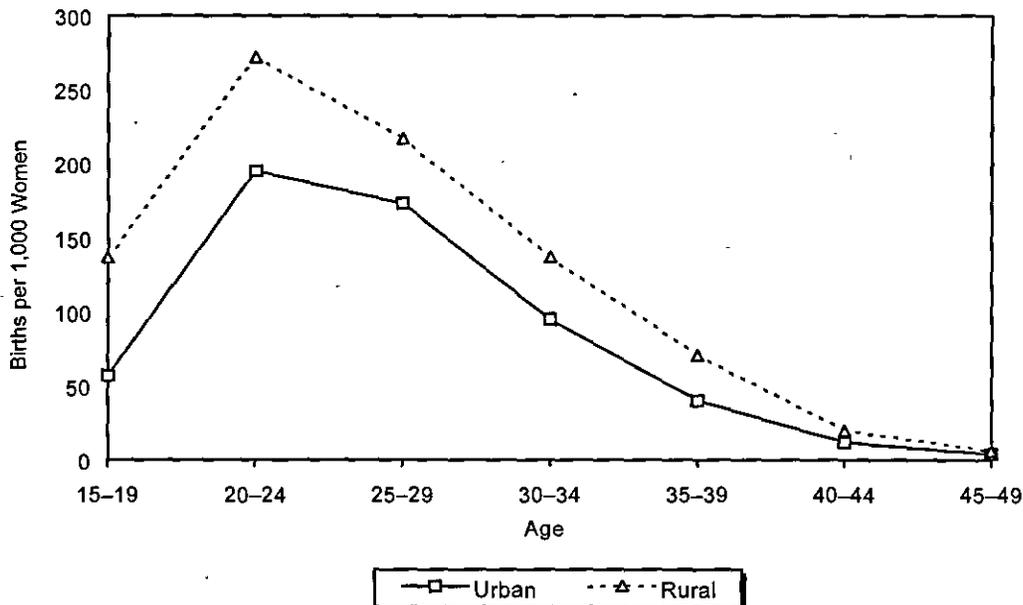
Note: Rates from NFHS-1 and NFHS-2 are for the period 1-36 months preceding the survey. Rates for the age group 45-49 might be slightly biased due to truncation. Rates from the SRS are for one calendar year. Age-specific and total fertility rates are expressed per woman.

TFR: Total fertility rate

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

Source for SRS: Office of the Registrar General, 1999a

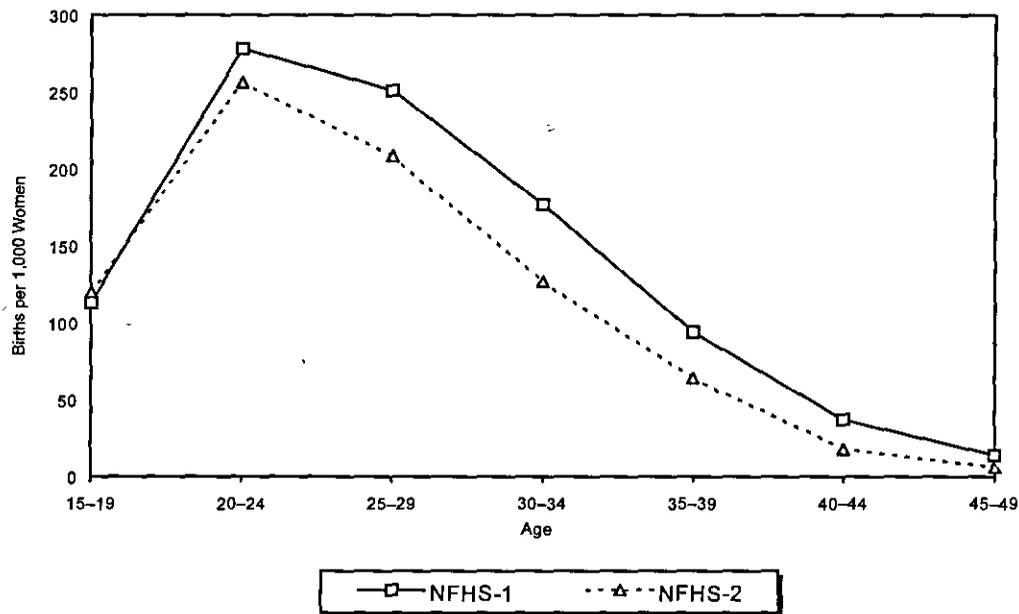
**Figure 4.1
Age-Specific Fertility Rates
by Residence**



Note: Rates are for the three years preceding the survey (1996-98)

NFHS-2, Uttar Pradesh, 1998-99

Figure 4.2
Age-Specific Fertility Rates
NFHS-1 and NFHS-2



Note: Rates are for the three years preceding the NFHS-1 (1990-92) and NFHS-2 (1996-98) surveys

Uttar Pradesh

further into the past. Retrospective surveys, such as NFHS-1 and NFHS-2, are subject to such displacement, whereas the SRS, in which births are recorded during the year in which they occur, is not. Narasimhan et al. (1997) compared NFHS-1 and SRS estimates of fertility and concluded that both are probably underestimates. However, the SRS estimates are likely to be closer to the true level of fertility than either the NFHS-1 or NFHS-2 estimates (Retherford et al., 2001).

4.3 Fertility Differentials and Trends

Table 4.3 and Figure 4.3 show how the TFR, the percentage currently pregnant, and the mean number of children ever born to women age 40-49 vary by selected background characteristics. In Uttar Pradesh, the TFR is more than two children higher among illiterate women than among women who have completed at least a high school education, nearly one child higher among Muslims than among Hindus, and more than two children higher among women in households with a low standard of living than among women in households with a high standard of living. The TFR is 4.8 among women from scheduled tribes, 4.4 among women from scheduled castes, 4.1 among women from other backward classes, and 3.8 among women who do not belong to any of these groups.

Fertility transitions in other countries have shown that fertility differentials typically diverge early in the transition and reconverge (though rarely completely) towards the end of the transition as fertility approaches the replacement level. Table 4.3 and Figure 4.3 indicate that in Uttar Pradesh there are still large fertility differentials, with the TFR and other fertility indicators varying widely among population groups. However, differentials are less pronounced for the

Table 4.3. Fertility by background characteristics

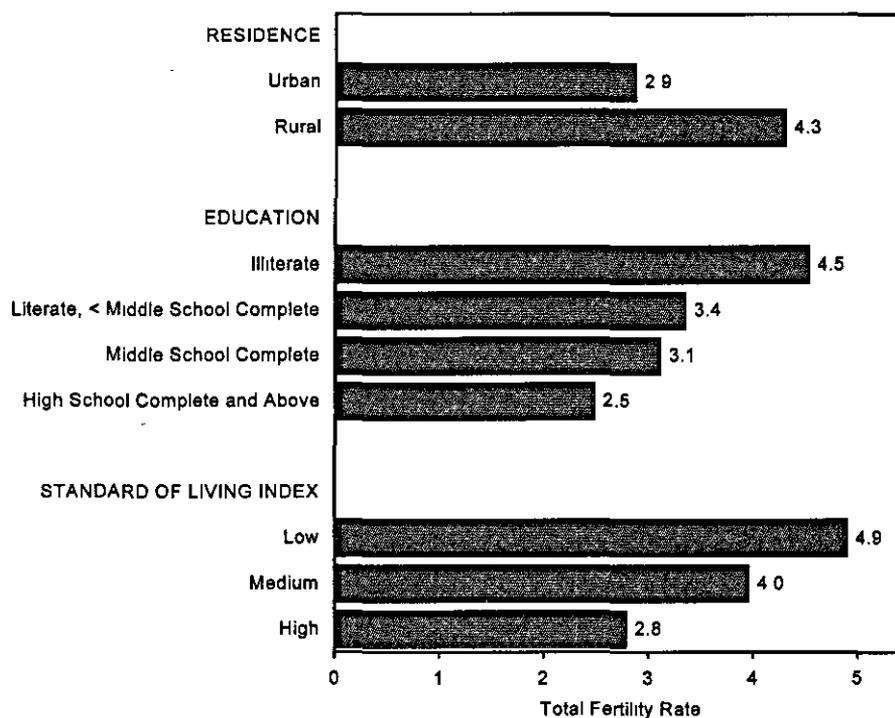
Total fertility rate for the three years preceding the survey, percentage of all women age 15–49 currently pregnant, and mean number of children ever born to ever-married women age 40–49 by selected background characteristics, Uttar Pradesh, 1998–99

Background characteristic	Total fertility rate ¹	Percentage currently pregnant ²	Mean number of children ever born to ever-married women age 40–49 years
Residence			
Urban	2.88	4.8	5.17
Rural	4.31	7.4	5.94
Region			
Hill	2.69	3.6	4.16
Western	4.17	7.7	5.74
Central	3.89	7.4	5.90
Eastern	4.02	6.1	5.94
Bundelkhand	3.95	6.5	5.84
Education			
Illiterate	4.54	7.7	6.13
Literate, < middle school complete	3.36	5.8	5.34
Middle school complete	3.12	5.0	4.46
High school complete and above	2.49	4.9	3.45
Religion			
Hindu	3.87	6.5	5.59
Muslim	4.76	8.3	6.81
Sikh	(2.34)	8.8	*
Caste/tribe			
Scheduled caste	4.44	6.8	5.90
Scheduled tribe	4.83	7.6	(6.20)
Other backward class	4.12	7.5	6.00
Other	3.77	6.5	5.44
Standard of living index			
Low	4.91	8.4	6.20
Medium	3.97	6.7	5.95
High	2.80	4.8	4.73
Total	3.99	6.8	5.76
() Based on 125–249 woman-years of exposure for the total fertility rate and 25–49 unweighted cases for the mean number of children ever born *Mean not shown; based on fewer than 25 unweighted cases ¹ Rate for women age 15–49 years ² For this calculation, it is assumed that women who are never married, widowed, divorced, separated, or deserted are not currently pregnant.			

mean number of children ever born to ever-married women age 40–49 than for the other two fertility variables in Table 4.3, undoubtedly because women in their forties had many of their births at an earlier stage of the fertility transition when fertility differentials were relatively small.

Overall, 7 percent of women in Uttar Pradesh report that they are currently pregnant (slightly higher than the national average of 6 percent). For the most part, differentials in the percentage currently pregnant follow a pattern similar to that for differentials in the TFR, but there are some exceptions. These exceptions may be due partly to the fact that the TFR is not

Figure 4.3
Total Fertility Rate by Selected Background Characteristics



Note: Rates are for the three years preceding the survey (1996-98)

NFHS-2, Uttar Pradesh, 1998-99

affected by the age structure, whereas the percentage currently pregnant is affected by the age structure.

The last column of Table 4.3 shows the mean number of children ever born to ever-married women age 40-49 at the time of the survey. The average number of children ever born for these women, who are at the end of their childbearing years, is 5.8. The substantial decline in fertility in Uttar Pradesh over time is evident from the difference of 1.8 children between the average number of children for women who are currently in their forties and the number of children women would have in their lifetime if they were subject to the current age-specific fertility rates (the last column and first column of Table 4.3). In most cases, the pattern of differentials in the mean number of children ever born parallels the pattern of differentials in the TFR. The differentials by region and caste/tribe are a partial exception. Exceptions can occur because the mean number of children ever born at age 40-49 reflects fertility in the past, whereas the TFR reflects fertility only in the three years preceding the survey.

The preceding section already discussed fertility trends based on estimates from NFHS-1 and NFHS-2 for the three-year period preceding each survey. Table 4.4 shows fertility trends for five-year time periods preceding NFHS-2, estimated solely from NFHS-2 birth histories. It is not possible to show TFRs in this table because of progressively greater age truncation as one goes back in time. For example, for the period 5-9 years preceding the survey, it is not possible to compute an ASFR for age 45-49 because the women in question would be 50-54 at the time of

Table 4.4 Fertility trends				
Age-specific fertility rates for five-year periods preceding the survey by residence, Uttar Pradesh, 1998–99				
Age	Years preceding survey			
	0–4	5–9	10–14	15–19
URBAN				
15–19	0.065	0.110	0.142	0.145
20–24	0.213	0.259	0.306	0.322
25–29	0.172	0.248	0.277	0.294
30–34	0.099	0.127	0.204	[0.258]
35–39	0.041	0.069	[0.123]	U
40–44	0.010	[0.018]	U	U
45–49	[0.004]	U	U	U
RURAL				
15–19	0.147	0.212	0.220	0.210
20–24	0.284	0.346	0.351	0.326
25–29	0.236	0.291	0.306	0.304
30–34	0.147	0.206	0.222	[0.258]
35–39	0.079	0.109	[0.140]	U
40–44	0.024	[0.055]	U	U
45–49	[0.008]	U	U	U
TOTAL				
15–19	0.129	0.190	0.203	0.194
20–24	0.269	0.327	0.340	0.325
25–29	0.222	0.280	0.299	0.302
30–34	0.135	0.187	0.217	[0.258]
35–39	0.070	0.100	[0.136]	U
40–44	0.021	[0.045]	U	U
45–49	[0.007]	U	U	U

Note: Age-specific fertility rates are expressed per woman.
U: Not available
[] Truncated, censored

the survey, whereas NFHS-2 only collected birth histories for women up to age 49. Similarly, for the period 10–14 years preceding the survey, it is not possible to compute ASFRs for women age 40–49, and for the period 15–19 years preceding the survey, it is not possible to compute ASFRs for women age 35–49. Thus Table 4.4 shows only the truncated trends in ASFRs. Results are shown separately for urban and rural areas as well as for the entire state. These results show substantial fertility declines in all age groups. As mentioned earlier, however, these trends are distorted by displacement of births to earlier years, and this displacement tends to exaggerate the extent of fertility decline.

For the periods 0–4 years and 5–9 years before the survey, it is possible to calculate truncated TFRs (more appropriately called cumulative fertility rates, or CFRs) for the age range 15–39, based on the ASFRs shown in Table 4.4. This is done by summing ASFRs for the age groups 15–19 through 35–39 and multiplying the sum by five. For the state as a whole, CFR(15–39) declined from 5.4 to 4.1 between these two five-year periods, a decline of 1.3 children. The decline was 1.1 children for urban areas and 1.4 children for rural areas, indicating that the absolute level of fertility fell somewhat more rapidly in rural areas than in urban areas.

Table 4.5 Fertility by marital duration				
Fertility rates for ever-married women by duration since first cohabitation with husband (in years) and residence for five-year periods preceding the survey, Uttar Pradesh, 1998-99				
Duration since first cohabitation (in years)	Years preceding survey			
	0-4	5-9	10-14	15-19
URBAN				
< 5	0.318	0.344	0.361	0.333
5-9	0.209	0.257	0.315	0.361
10-14	0.130	0.195	0.254	0.279
15-19	0.074	0.109	0.168	(0.232)
20-24	0.022	0.048	(0.146)	*
25-29	0.013	(0.016)	*	U
RURAL				
< 5	0.288	0.326	0.309	0.275
5-9	0.292	0.344	0.356	0.340
10-14	0.219	0.283	0.293	0.297
15-19	0.139	0.185	0.211	0.255
20-24	0.066	0.103	0.142	*
25-29	0.022	0.061	*	U
TOTAL				
< 5	0.294	0.329	0.320	0.287
5-9	0.276	0.326	0.348	0.345
10-14	0.201	0.265	0.284	0.293
15-19	0.126	0.168	0.202	0.251
20-24	0.056	0.092	0.143	*
25-29	0.020	0.054	*	U
Note: Duration-specific fertility rates are expressed per woman. The duration since first cohabitation with husband is defined as the difference between the woman's age at the specific time period and her age when she began living with her husband. U: Not available () Based on 125-249 woman-years of exposure *Rate not shown; based on fewer than 125 woman-years of exposure				

Another way of looking at fertility is to calculate fertility rates by the number of years since first cohabitation with the husband. These rates are measures of marital fertility, i.e., fertility within marriage. Table 4.5 shows fertility rates by duration since first cohabitation for ever-married women over the entire 20-year period preceding the survey.¹ Fertility has declined at all durations, but more at longer durations than at shorter durations.

It is also evident from Table 4.5 that marital fertility is lower in urban areas than in rural areas for most durations and time periods. During the first five years after cohabitation, however, urban women have higher fertility than rural women. This pattern is not uncommon in populations in which the age at first cohabitation is higher in urban areas than in rural areas, as is the case in Uttar Pradesh (Table 4.1). Women who marry when they are older tend to have their first birth sooner after marriage and concentrate their births earlier in their marriages than women

¹Since NFHS-2 collected information only on a woman's age at the time of first cohabitation and not on the year and month when she first began cohabiting with her husband, the exact number of months since first cohabitation cannot be calculated. For this reason, the first year since cohabitation contains only six months, on average, and the first five years since cohabitation contain only 4.5 years, on average.

who marry when they are younger (Basu, 1993; Pandey et al., 1990). In addition, because breastfeeding is shorter in urban areas (see Table 7.8), another contributing factor may be a shorter period of postpartum amenorrhoea, which results in shorter birth intervals in the absence of the use of contraception (which is rarely practised in Uttar Pradesh during the first few years of marriage). However, greater displacement of births in rural than in urban areas may account for some of the observed differences.

4.4 Children Ever Born and Living

The number of children a woman has ever borne is a cohort measure of fertility. Because it reflects fertility in the past, it provides a somewhat different picture of fertility levels, trends, and differentials than do period measures of fertility such as the CBR and the TFR. Table 4.6 shows the percent distribution of all women and currently married women by the number of children ever born (CEB). The table shows these distributions by the age of the woman at the time of the survey and also shows the mean number of children ever born and living children.

Among women age 15–49, the mean number of children ever born is 2.9 for all women and 3.6 for currently married women. The mean number of children ever born increases steadily with women's age, reaching a high of 5.8 children among all women age 45–49 and 5.9 among currently married women in this age group. The table also shows that early childbearing is fairly common in Uttar Pradesh. Eighteen percent of all women age 15–19 and 47 percent of currently married women age 15–19 have already had a child.

For women age 45–49, the number of children ever born is of particular interest because these women have virtually completed their childbearing. For all women in this age group, irrespective of marital status, the modal number of children ever born is six. Sixteen percent of all women age 45–49 and 17 percent of currently married women in this age group have reached the end of childbearing with six children ever born. More than half of currently married women in this age group (56 percent) have had six or more live births. Only 2 percent of currently married women age 45–49 have never given birth, suggesting that primary infertility (which is the proportion of couples who are unable to have any children) is very low in Uttar Pradesh.

For all women age 15–49, the average number of children who died is 0.49 per woman. For currently married women, the average number of dead children is 0.59, indicating that 17 percent of children ever born to currently married women have died. For currently married women, the proportion of children ever born who have died increases from 14 percent for women age 15–19 to 24 percent for women age 45–49.

4.5 Birth Order

The distribution of births by birth order is yet another way to view fertility. Table 4.7 shows the distribution of births during the three-year period preceding the survey by birth order for selected background characteristics. Overall, as expected, the proportion of births at each order is larger than the proportion of births at the next higher order. Twenty-two percent of all births are first-order births, 20 percent are second-order births, and 18 percent are third-order births. The high proportion of births of order four or higher (40 percent), compared with the national average of 28 percent, is another indication of the relatively high level of fertility in Uttar Pradesh.

Table 4.6. Children ever born and living

Percent distribution of all women and of currently married women by number of children ever born (CEB) and mean number of children ever born and living, according to age, Uttar Pradesh, 1998-99

Age	Children ever born											Total percent	Number of women	Mean number of CEB	Mean number of living children
	0	1	2	3	4	5	6	7	8	9	10+				
ALL WOMEN															
15-19	81.8	13.0	4.2	0.7	0.2	0.0	0.0	0.0	0.0	0.0	0.0	100.0	2,852	0.24	0.21
20-24	31.6	20.9	23.4	16.7	5.0	1.8	0.5	0.0	0.0	0.0	0.0	100.0	2,158	1.50	1.31
25-29	7.6	8.8	19.2	24.3	19.7	11.7	5.9	2.0	0.6	0.2	0.0	100.0	1,824	3.13	2.73
30-34	3.5	3.0	10.7	16.0	18.9	18.6	13.4	8.6	4.0	2.1	1.2	100.0	1,526	4.45	3.77
35-39	2.0	2.7	7.7	13.9	16.4	15.4	15.1	13.1	6.3	4.1	3.2	100.0	1,295	5.06	4.24
40-44	1.9	1.8	5.5	9.0	14.2	15.6	14.0	14.4	10.2	6.3	7.1	100.0	1,026	5.73	4.53
45-49	1.8	2.0	5.1	10.8	12.5	13.5	15.9	12.3	12.0	6.7	7.4	100.0	756	5.80	4.41
Total	28.6	9.6	11.7	12.4	10.6	8.7	6.9	5.1	3.0	1.8	1.6	100.0	11,438	2.91	2.42
CURRENTLY MARRIED WOMEN															
15-19	53.3	33.4	11.0	1.8	0.5	0.0	0.0	0.0	0.0	0.0	0.0	100.0	1,102	0.63	0.54
20-24	18.9	24.6	27.8	19.8	6.1	2.2	0.7	0.0	0.0	0.0	0.0	100.0	1,791	1.79	1.56
25-29	4.4	8.7	19.5	25.5	20.5	12.1	6.3	2.2	0.6	0.2	0.0	100.0	1,724	3.26	2.84
30-34	2.0	2.9	10.4	16.4	19.4	18.9	13.8	8.9	4.1	2.1	1.2	100.0	1,463	4.54	3.84
35-39	1.3	2.3	7.4	14.0	16.6	15.1	15.5	13.6	6.7	4.3	3.2	100.0	1,224	5.14	4.32
40-44	1.4	1.6	5.3	9.1	14.5	15.7	14.1	14.4	10.2	6.4	7.3	100.0	946	5.78	4.60
45-49	1.7	1.6	5.1	10.5	11.6	13.9	17.0	12.4	12.2	6.9	7.2	100.0	668	5.85	4.46
Total	12.0	11.8	14.4	15.5	13.1	10.7	8.5	6.2	3.7	2.2	2.0	100.0	8,918	3.57	2.98

Table 4.7. Birth order

Percent distribution of births during the three years preceding the survey by birth order, according to selected background characteristics, Uttar Pradesh, 1998-99

Background characteristic	Birth order				Total percent	Number of births
	1	2	3	4+		
Mother's current age						
15-19	71.6	23.1	4.3	1.0	100.0	552
20-29	20.1	26.2	24.6	29.2	100.0	2,765
30-39	1.2	4.6	9.6	84.6	100.0	1,013
40-49	0.0	2.3	2.7	95.0	100.0	101
Residence						
Urban	24.8	24.7	16.9	33.6	100.0	714
Rural	21.1	19.5	18.3	41.1	100.0	3,717
Region						
Hill	24.0	25.1	19.5	31.3	100.0	148
Western	21.3	20.8	17.7	40.2	100.0	1,695
Central	23.3	19.9	19.2	37.7	100.0	735
Eastern	21.2	19.8	17.9	41.0	100.0	1,664
Bundelkhand	21.6	18.9	18.2	41.2	100.0	189
Mother's education						
Illiterate	18.2	17.3	17.4	47.2	100.0	3,201
Literate, < middle school complete	21.9	22.9	22.5	32.8	100.0	496
Middle school complete	34.4	27.9	18.7	18.9	100.0	299
High school complete and above	38.8	34.2	18.3	8.7	100.0	436
Religion						
Hindu	22.5	20.7	18.6	38.2	100.0	3,536
Muslim	18.3	18.2	16.2	47.4	100.0	862
Caste/tribe						
Scheduled caste	19.6	18.3	17.3	44.8	100.0	947
Scheduled tribe	17.5	24.0	14.5	44.0	100.0	99
Other backward class	20.9	18.9	18.6	41.7	100.0	1,217
Other	23.7	22.2	18.3	35.8	100.0	1,961
Mother's work status						
Working in family farm/business	11.7	15.5	19.8	52.9	100.0	457
Employed by someone else	8.0	15.1	14.0	63.0	100.0	290
Self-employed	16.4	8.7	21.3	53.5	100.0	114
Not worked in past 12 months	24.3	21.8	18.1	35.8	100.0	3,565
Standard of living index						
Low	16.9	15.6	16.2	51.3	100.0	1,443
Medium	22.4	20.9	18.9	37.8	100.0	2,297
High	30.8	29.7	19.6	19.9	100.0	603
Total	21.7	20.3	18.1	39.9	100.0	4,432

Note: Total includes 17 and 9 births to Sikh women and women with 'other' religions and 8, 206, 5, and 89 births with missing information on religion, caste/tribe, mother's work status, and the standard of living index, respectively, which are not shown separately.

Over 70 percent of births to women age 15–19 are first-order births. By contrast, 85 percent of births to women age 30–39 and 95 percent of births to women age 40–49 are of order four or higher. The proportion of births that are of order four or higher is much lower in the Hill Region (31 percent) than in any other region (38–41 percent). The proportion of births that are of order four or higher is relatively large for births to rural women, illiterate women, Muslim women, scheduled-caste and scheduled-tribe women, working women, and women in households with a low standard of living. The range is particularly wide for education groups: 47 percent of births to illiterate women are of order four or higher, compared with 9 percent of births to women who have at least completed high school. The range is also wide according to the household standard of living: 51 percent of births to women in households with a low standard of living are of order four or higher, compared with 20 percent of births to women in households with a high standard of living. Only 36 percent of births to women who did not work during the 12 months preceding the survey are of order four or higher. This finding can be partly explained by the fact that nonworking women come disproportionately from urban areas, where fertility is relatively low.

4.6 Birth Intervals

A birth interval, defined as the length of time between two successive live births, indicates the pace of childbearing. Short birth intervals may adversely affect a mother's health and her children's chances of survival. Past research has shown that children born too close to a previous birth are at increased risk of dying, especially if the interval between the births is less than 24 months (Pandey et al., 1998; Govindasamy et al., 1993).

Table 4.8 shows the percent distribution of births during the five years preceding the survey by birth interval according to selected demographic and socioeconomic background characteristics. In Uttar Pradesh, 14 percent of births occur within 18 months of a previous birth and 29 percent occur within 24 months. Thirty-seven percent of births occur after an interval of three years or more.

The median birth interval in Uttar Pradesh is 30 months. The median birth interval ranges from 25 months for women age 15–19 to 34 months for women age 30–49. The relatively short birth interval for women age 15–19 may result partly from a selection effect: Only women who have had two or more births are included in the table, and women age 15–19 with more than one birth are likely to have shorter birth intervals due to high fecundity. Given the finding that the median birth interval increases with mother's age, it is surprising that it does not also increase substantially with the order of the previous birth. Perhaps this is due to the absence of the selection effect just noted. There may also be another type of selection effect operating: Mothers of higher-order births may be more fecund, on average, than mothers of lower-order births.

The median birth interval is about one and a half months longer if the previous birth was a boy than if it was a girl. This pattern may result partly from the shorter duration of breastfeeding for girls, which is indicative of son preference (Table 7.8). The median birth interval is six months shorter if the previous child died than if it survived. In part, this reflects the shortening of postpartum amenorrhoea that occurs when the preceding child dies in infancy and breastfeeding stops prematurely.

Table 4.8 Birth interval

Percent distribution of births during the five years preceding the survey by interval since previous birth and median number of months since previous birth, according to selected background characteristics, Uttar Pradesh, 1998-99

Background characteristic	Months since previous birth						Total percent	Median months since previous birth	Number of births
	< 12	12-17	18-23	24-35	36-47	48+			
Mother's current age									
15-19	4.1	23.4	16.8	35.8	18.5	1.4	100.0	25.1	172
20-29	3.3	12.3	16.2	35.7	20.1	12.3	100.0	28.6	3,595
30-39	2.8	8.1	12.4	30.7	22.1	23.9	100.0	34.3	2,012
40-49	4.0	8.8	12.8	28.4	17.3	28.7	100.0	33.7	267
Residence									
Urban	3.2	10.5	15.1	31.0	20.0	20.2	100.0	31.3	906
Rural	3.2	11.2	14.8	34.2	20.7	15.9	100.0	30.2	5,140
Region									
Hill	2.3	9.0	12.0	31.2	22.9	22.6	100.0	33.7	190
Western	4.6	12.8	14.9	32.1	19.9	15.7	100.0	29.4	2,295
Central	1.8	10.3	14.3	36.3	21.6	15.7	100.0	31.1	984
Eastern	2.6	9.7	15.4	34.7	20.4	17.3	100.0	30.7	2,312
Bundelkhand	2.8	12.7	14.1	31.3	22.2	17.0	100.0	30.8	265
Mother's education									
Illiterate	3.4	11.2	14.4	33.4	20.9	16.7	100.0	30.7	4,682
Literate, < middle school complete	2.1	10.2	16.5	36.3	19.6	15.3	100.0	29.3	673
Middle school complete	3.3	9.1	16.6	37.0	19.3	14.7	100.0	27.8	299
High school complete and above	2.7	12.2	15.9	30.6	19.9	18.7	100.0	30.3	393
Religion									
Hindu	3.1	10.4	14.7	33.6	21.4	16.8	100.0	30.9	4,794
Muslim	3.8	13.4	15.3	34.7	17.1	15.8	100.0	28.5	1,204
Sikh	(0.0)	(23.0)	(21.5)	(20.1)	(21.5)	(14.0)	100.0	(25.3)	27
Caste/tribe									
Scheduled caste	3.6	9.8	13.5	34.5	24.0	14.6	100.0	30.8	1,313
Scheduled tribe	2.7	9.6	16.1	38.6	17.1	15.9	100.0	29.5	134
Other backward class	2.3	10.3	15.9	33.8	19.8	17.9	100.0	30.6	1,702
Other	3.8	12.2	14.8	33.1	19.2	16.9	100.0	30.1	2,577
Standard of living index									
Low	3.5	10.4	15.4	34.6	20.5	15.7	100.0	30.2	2,160
Medium	3.2	11.6	14.2	33.7	20.6	16.7	100.0	30.4	3,104
High	2.2	11.2	16.5	30.1	20.7	19.3	100.0	30.9	660
Order of previous birth									
1	3.1	12.7	15.9	31.0	20.2	17.1	100.0	30.0	1,560
2	2.9	9.6	15.4	36.0	20.7	15.3	100.0	30.5	1,307
3	1.8	12.0	15.0	34.3	20.2	16.8	100.0	30.8	985
4+	4.1	10.4	13.7	34.0	20.9	16.9	100.0	30.4	2,194

Contd...

Table 4.8 Birth interval (contd.)

Percent distribution of births during the five years preceding the survey by interval since previous birth and median number of months since previous birth, according to selected background characteristics, Uttar Pradesh, 1998–99

Background characteristic	Months since previous birth						Total percent	Median months since previous birth	Number of births
	< 12	12–17	18–23	24–35	36–47	48+			
Sex of previous birth									
Male	3.1	10.9	14.3	33.0	21.5	17.3	100.0	31.3	2,991
Female	3.3	11.3	15.4	34.4	19.7	15.9	100.0	29.6	3,055
Survival of previous birth									
Living	2.6	9.5	14.5	34.5	21.7	17.3	100.0	31.4	5,232
Dead	7.1	21.4	17.2	28.9	13.3	12.0	100.0	25.0	814
Total	3.2	11.1	14.8	33.7	20.6	16.6	100.0	30.4	6,046

Note: Table includes only second- and higher-order births. The interval for multiple births is the number of months since the preceding pregnancy that ended in a live birth. Total includes 12 births whose mothers belong to other religions and 9, 320, and 122 births with missing information on religion, caste/tribe, and the standard of living index, respectively, which are not shown separately.
 () Based on 25–49 unweighted cases

Birth intervals are one month longer for births to women in urban areas than to women in rural areas. There is greater variation by region: Median birth intervals range from 29 months in the Western Region to 34 months in the Hill Region. Birth intervals vary irregularly by mother's education, with the highest median for illiterate women (31 months) and the lowest median for women who have completed middle school (28 months). The median birth interval is more than two months longer for births to Hindu women than for births to Muslim women. There is very little difference in birth intervals by caste/tribe group or the standard of living of the household.

4.7 Age at First and Last Birth

The ages at which women start and stop childbearing are important demographic determinants of fertility. A higher median age at first birth and a lower median age at last birth are indicators of lower fertility. Table 4.9 shows the median age at first birth for various age groups by selected background characteristics. In this table, the median age at first birth for any group of women is defined as the age by which half of all women in the group have had a first birth, rather than the age by which half of all mothers in the group have had a first birth. If the median age at first birth calculated for an age group lies above the lower limit of that age group, it is not valid because some younger women in the age group who have not yet had a first birth will not have reached the median age by the time of the survey. In such cases, the estimate of the median is not shown.

As shown in the last row of the table, the median age at first birth in Uttar Pradesh has varied irregularly over time. The median for women age 20–24, at 19.6 years, is almost the same as the median for women age 45–49, at 19.5 years. In between, the median is as low as 18.7 years for women age 30–34. For women age 25–49, the median age at first birth ranges from 18.5 years in the Bundelkhand Region to 20.1 years in the Hill Region. It is nearly the same for Muslim women (18.8) and Hindu women (19.0).

Table 4.9 Median age at first birth								
Median age at first birth among women age 20–49 years by current age and selected background characteristics, Uttar Pradesh, 1998–99								
Background characteristic	Current age							
	20–24	25–29	30–34	35–39	40–44	45–49	20–49	25–49
Residence								
Urban	NC	21.2	20.0	20.2	19.9	20.3	NC	20.3
Rural	19.1	18.6	18.4	18.9	18.5	19.3	18.8	18.7
Region								
Hill	NC	20.3	20.0	20.0	20.1	20.1	NC	20.1
Western	20.0	19.4	19.0	19.5	19.4	20.1	19.5	19.4
Central	19.4	19.2	18.5	18.8	18.6	19.0	18.9	18.8
Eastern	19.1	18.4	18.5	18.9	18.2	19.2	18.7	18.6
Bundelkhand	18.8	18.1	18.1	19.6	18.4	18.8	18.6	18.5
Education								
Illiterate	18.5	18.3	18.3	18.7	18.5	19.1	18.5	18.5
Literate, < middle school complete	19.3	19.0	19.0	19.3	18.7	20.1	19.2	19.1
Middle school complete	NC	19.5	19.1	20.6	(19.9)	(19.9)	NC	19.8
High school complete and above	NC	22.6	22.1	22.2	21.4	22.3	NC	22.3
Religion								
Hindu	19.6	18.9	18.7	19.2	18.8	19.5	19.1	19.0
Muslim	19.5	18.9	18.4	18.8	18.9	19.5	18.9	18.8
Sikh	*	*	*	*	*	*	NC	(21.1)
Caste/tribe								
Scheduled caste	18.8	18.2	18.2	19.0	18.1	19.4	18.5	18.5
Scheduled tribe	(19.5)	(18.8)	(17.6)	*	*	*	18.9	18.7
Other backward class	19.1	18.5	18.4	18.8	18.6	18.8	18.7	18.6
Other	NC	19.6	19.4	19.5	19.3	20.0	19.7	19.5
Standard of living index								
Low	18.0	18.0	17.9	19.0	18.5	18.8	18.2	18.2
Medium	19.3	18.9	18.7	18.9	18.6	19.5	19.0	18.9
High	NC	21.3	20.7	20.8	19.7	20.6	NC	20.7
Total	19.6	18.9	18.7	19.2	18.8	19.5	19.1	19.0
NC: Not calculated because less than 50 percent of women had their first birth by age 20								
() Based on 25–49 unweighted cases								
*Median not shown; based on fewer than 25 unweighted cases								

The median age at first birth is particularly low among women who live in rural areas, women who are illiterate, and women who live in households with a low standard of living. The median age at first birth is one and a half years lower in rural areas (18.7) than in urban areas (20.3) and nearly four years lower for illiterate women (18.5) than for women who have completed at least high school (22.3). The median is two and a half years lower for women in households with a low standard of living (18.2) than for women in households with a high standard of living (20.7).

For older women, the age at last childbirth is an indicator of cessation of childbearing. Table 4.10 presents the distribution of ever-married women age 40–49 by age at last birth, as well as the median age at last birth. Although a few of these women may have another birth later on, the very low fertility rates for women in this age group suggest that childbearing is virtually

Table 4.10 Age at last birth

Percent distribution of ever-married women age 40–49 years by age at last birth and median age at last birth, according to current age, Uttar Pradesh, 1998–99

Current age	No birth	Age at last birth							Total percent	Median age at last birth	Number of women
		< 20	20–24	25–29	30–34	35–39	40–44	45–49			
40–44	1.7	1.2	9.1	24.3	33.8	25.1	4.7	NA	100.0	32.1	1,025
45–49	1.7	0.5	7.9	20.2	32.6	25.2	10.4	1.4	100.0	32.4	756
40–49	1.7	0.9	8.6	22.6	33.3	25.2	7.1	0.6	100.0	32.2	1,781

NA: Not applicable

complete by these ages. Thirty-two percent of women in this age group had their last birth by age 30, 65 percent by age 35, and 91 percent by age 40. The median age at last birth is 32 years for women age 40–44 and women age 45–49. The typical reproductive age span (which is the difference between the median age at last birth and the median age of first birth for women who have ever had a birth) is considerably longer in Uttar Pradesh (13.4 years) than in India as a whole (9.9 years), consistent with the higher level of fertility in Uttar Pradesh (see International Institute for Population Sciences and ORC Macro, 2000: Table 4.15).

4.8 Postpartum Amenorrhoea, Abstinence, Insusceptibility, and Menopause

Among the factors that influence the risk of pregnancy following a birth are breastfeeding and sexual abstinence. Breastfeeding prolongs postpartum protection from conception through its effect on the period of amenorrhoea (the period prior to the return of menses) following a birth. Delaying the resumption of sexual relations following a birth also prolongs the period of postpartum protection. Women are defined as insusceptible to pregnancy following a birth if they are not at risk of conception because they are amenorrhoeic, abstaining from sexual relations, or both.

Table 4.11 shows the percentage of births occurring during the three years preceding the survey whose mothers are postpartum amenorrhoeic, abstaining, or insusceptible, by the number of months since the birth. These distributions are based on current status information, that is, on the proportions of births occurring within the 36 months before the survey whose mothers were amenorrhoeic, abstaining, or insusceptible. In other words, the table is based on cross-sectional data and does not represent the experience of a real cohort of births over time. The data are grouped in two-month intervals to minimize fluctuations in the distributions. The table also shows median and mean durations of amenorrhoea, abstinence, and insusceptibility. The prevalence/incidence mean is obtained by dividing the number of mothers who are amenorrhoeic, abstaining, or insusceptible by the average number of births per month over the 36-month period.

Eighty-five percent of women who had a birth less than two months before the survey and 76 percent of women who had a birth 2–3 months before the survey are still amenorrhoeic. The proportion amenorrhoeic gradually decreases as the number of months since the birth increases. About half of all women who had a birth 8–9 months before the survey are still amenorrhoeic, and the proportion amenorrhoeic declines rapidly thereafter. The proportion of women abstaining from sexual intercourse within two months after a birth is only slightly lower than the proportion

Table 4.11 Postpartum amenorrhoea, abstinence, and insusceptibility

Percentage of births during the three years preceding the survey whose mothers are postpartum amenorrhoeic, abstaining, or insusceptible by number of months since birth, and median and mean durations, Uttar Pradesh, 1998–99

Months since birth	Percentage of births whose mothers are:			Number of births
	Amenorrhoeic	Abstaining	Insusceptible	
< 2	85.1	78.3	96.2	214
2–3	76.2	40.9	83.9	354
4–5	63.2	26.6	68.1	269
6–7	60.7	18.1	65.5	257
8–9	50.5	17.6	55.7	225
10–11	42.6	14.2	48.6	170
12–13	33.5	6.6	36.1	257
14–15	25.7	7.8	30.0	288
16–17	18.4	4.7	21.2	319
18–19	9.8	3.2	12.6	208
20–21	10.4	3.6	12.5	179
22–23	14.4	3.7	16.5	187
24–25	8.6	4.5	11.6	228
26–27	3.1	2.6	5.4	297
28–29	4.0	4.0	6.9	298
30–31	2.7	3.4	5.8	267
32–33	0.9	0.6	1.4	194
34–35	5.2	3.0	7.6	188
Median ¹	9.0	2.3	9.8	NA
Mean	10.6	5.2	12.0	NA
Prevalence/incidence mean	10.6	5.0	12.0	NA

Note: Median and mean durations are based on current status. Insusceptible is defined as amenorrhoeic, abstaining, or both.
 NA: Not applicable
¹Based on a three-period moving average of percentages

amenorrhoeic, but only 41 percent of women are still abstaining 2–3 months after a birth, and this percentage declines rapidly thereafter. Overall, when amenorrhoea and abstinence are considered together, about half of women are susceptible to pregnancy 10–11 months after giving birth, and 70 percent are susceptible 14–15 months after giving birth.

The median and mean durations of insusceptibility are 10 and 12 months, respectively. Because the mean is affected by extreme values and the median is not, and because the distribution is skewed towards the higher durations, the mean is somewhat higher than the median. The median duration of amenorrhoea (9 months) is four times the median duration of abstinence (2 months). These results indicate that women in Uttar Pradesh remain insusceptible to pregnancy for about one year after a birth, primarily due to the effect of postpartum amenorrhoea.

Menopause is a primary limiting factor of fertility. It is the culmination of a gradual decline in fecundity with increasing age. After age 30, the risk of pregnancy declines with age as an increasing proportion of women become infecund. In NFHS-2, menopause is defined as the absence of menstruation for six or more months preceding the survey among currently married women. Women who report that they are menopausal or that they have had a hysterectomy are also included in this category. Women who are pregnant or postpartum amenorrhoeic are

Table 4.12 Menopause						
Percentage of currently married women age 30–49 years who are in menopause by age and residence, Uttar Pradesh, 1998–99						
Age	Urban		Rural		Total	
	Percentage	Number	Percentage	Number	Percentage	Number
30–34	2.6	329	2.0	1,133	2.1	1,463
35–39	8.2	309	7.0	915	7.3	1,224
40–41	16.2	89	21.2	342	20.2	431
42–43	25.5	96	33.3	278	31.3	374
44–45	38.5	79	43.5	250	42.3	329
46–47	66.9	70	55.6	206	58.5	276
48–49	67.8	53	69.2	151	68.8	205
30–49	18.1	1,025	17.7	3,276	17.8	4,301

Note: Percentage menopausal is defined as the percentage of currently married women who are not pregnant and not postpartum amenorrhoeic and who reported that their last menstrual period occurred six or more months preceding the survey or that they are menopausal or have had a hysterectomy.

assumed not to be menopausal. Table 4.12 presents data on menopause among women age 30–49 years. In Uttar Pradesh, menopause is not common among women in their thirties, but its incidence increases rapidly after age 40. By age 42–43, 31 percent of women are menopausal. The proportion menopausal rises to 59 percent by age 46–47 and to 69 percent by age 48–49.

4.9 Desire for More Children

In order to obtain information on fertility preferences, NFHS-2 asked nonsterilized, currently married, nonpregnant women: ‘Would you like to have (a/another) child or would you prefer not to have any (more) children?’ Pregnant women were asked, ‘After the child you are expecting, would you like to have another child or would you prefer not to have any more children?’ Women who expressed a desire for additional children were asked how long they would like to wait before the birth of their next child. The survey also collected information on the preferred sex of the next child and the ideal number of children by sex.

Table 4.13 and Figure 4.4 show future fertility preferences of currently married women. Thirty-eight percent of currently married women say that they do not want any more children, an additional 16 percent cannot have another child because either the wife or the husband has been sterilized, and 5 percent of women say that they cannot get pregnant (that is, they are ‘declared infecund’). More than one-third of women (37 percent) say that they would like to have another child (17 percent within two years, 18 percent after waiting at least two years, and 2 percent are undecided when they want the next child). Overall, 72 percent of women either want to space their next birth or do not want any more children, including women who are sterilized or whose husbands are sterilized. This proportion is 80 percent in urban areas and 69 percent in rural areas. Four percent of women say that the decision about having children is up to God.

Table 4.13 Fertility preferences

Percent distribution of currently married women by desire for children and preferred sex of additional child, according to number of living children and residence, Uttar Pradesh, 1998-99

Desire for children	Number of living children ¹					Total
	0	1	2	3	4+	
URBAN						
Desire for additional child						
Wants another soon ²	74.0	20.1	7.7	2.1	1.1	11.7
Wants another later ³	16.8	55.2	13.4	6.2	2.4	14.1
Wants another, undecided when	2.3	2.7	0.7	0.3	0.5	1.0
Undecided	0.0	0.6	1.3	1.3	1.1	1.0
Up to God	1.0	0.9	2.2	1.3	2.6	1.9
Wants no more	1.5	18.4	57.5	49.0	60.6	46.7
Sterilized	0.0	1.1	13.5	34.5	25.7	19.0
Declared infecund	4.0	0.5	3.3	4.5	5.7	4.1
Missing	0.3	0.5	0.4	0.7	0.3	0.4
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	153	246	399	341	637	1,776
Preferred sex of additional child⁴						
Boy	34.7	36.2	69.1	(49.5)	*	44.3
Girl	2.7	14.1	13.9	(16.3)	*	9.9
Doesn't matter	34.1	16.9	3.5	(16.2)	*	19.8
Up to God	28.5	32.9	13.5	(18.0)	*	26.0
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women wanting more ⁴	145	151	80	28	22	427
RURAL						
Desire for additional child						
Wants another soon ²	71.3	30.4	19.5	8.8	2.8	18.3
Wants another later ³	16.4	51.6	30.7	15.4	4.1	18.7
Wants another, undecided when	4.9	4.8	3.3	1.0	0.6	2.2
Undecided	0.0	0.3	1.5	1.4	1.7	1.2
Up to God	1.7	3.4	4.4	4.9	4.4	4.0
Wants no more	1.1	6.2	27.9	42.5	57.0	36.0
Sterilized	0.0	1.0	9.3	22.7	22.4	14.7
Declared infecund	4.6	2.1	3.3	3.2	6.8	4.6
Missing	0.1	0.2	0.1	0.1	0.2	0.2
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	807	1,013	1,176	1,324	2,823	7,142
Preferred sex of additional child⁴						
Boy	48.7	51.5	65.1	77.3	74.3	58.3
Girl	0.8	10.8	10.7	6.4	3.5	6.7
Doesn't matter	22.5	12.7	8.5	5.2	7.1	13.5
Up to God	28.0	25.0	15.6	11.1	15.1	21.5
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women wanting more ⁴	761	700	542	295	182	2,479

Table 4.13 Fertility preferences (contd.)

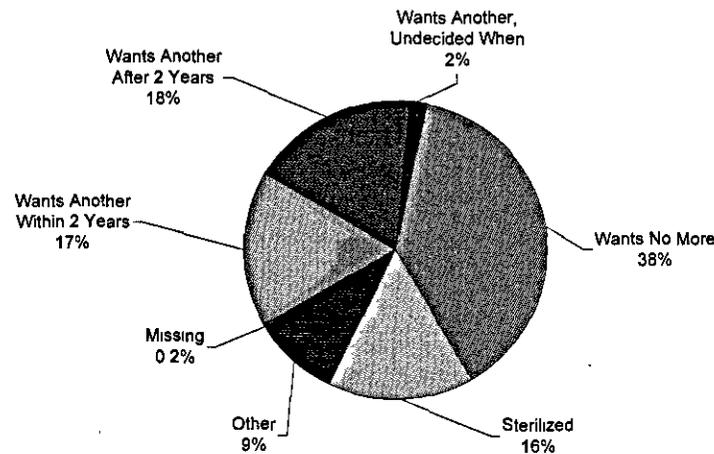
Percent distribution of currently married women by desire for children and preferred sex of additional child, according to number of living children and residence, Uttar Pradesh, 1998-99

Desire for children	Number of living children ¹					Total
	0	1	2	3	4+	
TOTAL						
Desire for additional child						
Wants another soon ²	71.7	28.4	16.5	7.4	2.5	17.0
Wants another later ³	16.5	52.3	26.3	13.5	3.8	17.8
Wants another, undecided when	4.5	4.4	2.6	0.9	0.6	2.0
Undecided	0.0	0.4	1.4	1.4	1.5	1.2
Up to God	1.6	2.9	3.8	4.1	4.0	3.6
Wants no more	1.2	8.5	35.4	43.9	57.7	38.1
Sterilized	0.0	1.0	10.4	25.1	23.0	15.6
Declared infecund	4.5	1.8	3.3	3.5	6.6	4.5
Missing	0.1	0.3	0.2	0.2	0.3	0.2
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	960	1,259	1,575	1,665	3,460	8,918
Preferred sex of additional child⁴						
Boy	46.5	48.8	65.6	74.9	73.5	56.3
Girl	1.1	11.4	11.1	7.3	3.7	7.1
Doesn't matter	24.3	13.5	7.9	6.2	7.4	14.4
Up to God	28.1	26.4	15.4	11.7	15.4	22.1
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women wanting more ⁴	906	852	622	322	204	2,906
() Based on 25-49 unweighted cases						
*Percentage not shown; based on fewer than 25 unweighted cases						
¹ Includes current pregnancy, if any						
² Wants next birth within 2 years						
³ Wants to delay next birth for 2 or more years						
⁴ Excludes currently pregnant women						

The desire to have a child within two years drops rapidly with the number of living children, from 72 percent of women with no living children to 7 percent or less for women with three or more living children. For women with one living child, 52 percent (55 percent in urban areas and 52 percent in rural areas) want to wait at least two years before having the next child. And yet, as will be seen in Chapter 5, very few women in Uttar Pradesh use any temporary method of contraception. These findings suggest that encouraging the use of temporary methods would lower overall fertility and population growth, as well as provide health benefits to mothers and their children through increased birth spacing.

More than half of women (56 percent) who want another child say that they want the next child to be a boy, only 7 percent say that they want a girl, and the rest say that the sex of the child is either up to God (22 percent) or does not matter (14 percent). Both the proportion of women expressing a desire for a child of a particular sex and the proportion expressing a desire for a son generally increase with the number of living children. Among women with no living children, 47 percent want their first child to be a son, 1 percent want a daughter, and 52 percent say that the sex of the child is up to God or does not matter. Among women with three living children, 75

Figure 4.4
Fertility Preferences Among Currently Married Women



Note. Percents add to more than 100.0 due to rounding

NFHS-2, Uttar Pradesh, 1998-99

percent want their next child to be a son, 7 percent want a daughter, and only 18 percent say that the sex of the child is up to God or does not matter.

Table 4.14 provides information about differentials in the desire to limit family size by selected background characteristics. In this table, women who are sterilized (or whose husbands are sterilized) are included among those who say that they want no more children. It is striking that almost half of women with two living children (46 percent) want no more children. As expected, older women are much more likely than younger women to want no more children. Already by age 25-34, 64 percent of women want no more children. At age 35 and above, 80 percent of women want no more children. The proportion who want no more children is higher among urban women (66 percent) than among rural women (51 percent) and ranges widely among regions—from 50 percent in the Eastern Region to 69 percent in the Hill Region. The proportion wanting no more children does not vary systematically with women's educational level, ranging from 50 percent among those who have completed middle school to 59 percent among those who have completed at least a high school education. A similar proportion of Hindu (54 percent) and Muslim (52 percent) women want no more children. The proportion is much higher among Sikhs (72 percent). The proportion wanting no more children ranges from 41 percent among scheduled-tribe women to 58 percent among women who do not belong to a scheduled caste, scheduled tribe, or other backward class. The proportion who want no more children increases with the standard of living, from 50 percent for women living in households with a low standard of living to 64 percent for women living in households with a high standard of living.

Table 4.14 Desire to have no more children by background characteristics						
Percentage of currently married women who want no more children by number of living children and selected background characteristics, Uttar Pradesh, 1998-99						
Background characteristic	Number of living children ¹					Total
	0	1	2	3	4+	
Age						
15-24	0.5	4.3	27.5	51.2	74.9	17.3
25-34	2.0	15.6	53.0	67.7	78.8	63.7
35-49	9.5	51.3	74.4	84.1	82.4	79.6
Residence						
Urban	1.5	19.5	71.0	83.6	86.3	65.8
Rural	1.1	7.2	37.2	65.2	79.4	50.7
Region						
Hill	1.0	24.8	76.9	88.4	90.4	69.1
Western	1.6	11.2	46.5	68.5	82.7	56.8
Central	0.6	7.9	46.2	67.2	83.7	51.3
Eastern	1.1	7.7	39.6	66.4	76.8	50.1
Bundelkhand	1.2	7.2	47.7	73.3	79.3	54.9
Education						
Illiterate	1.1	6.8	32.4	62.6	78.8	52.7
Literate, < middle school complete	0.0	8.8	51.9	69.8	87.9	57.5
Middle school complete	0.9	2.8	53.1	89.5	91.9	50.0
High school complete and above	2.6	22.6	76.3	91.8	90.5	58.6
Religion						
Hindu	1.0	9.8	46.7	71.4	81.5	53.9
Muslim	2.5	8.5	34.8	51.2	77.3	52.3
Sikh	*	*	*	*	*	72.2
Caste/tribe						
Scheduled caste	1.8	7.8	23.2	67.0	80.4	50.2
Scheduled tribe	(0.0)	(0.0)	(32.5)	(48.1)	72.2	41.3
Other backward class	0.8	6.5	40.6	63.0	79.7	51.1
Other	1.4	13.4	56.7	75.0	81.9	57.8
Standard of living index						
Low	0.6	5.6	25.3	60.3	78.2	49.7
Medium	1.0	6.9	43.3	66.4	80.3	52.2
High	2.2	21.8	69.9	86.4	88.6	64.2
Number of living sons²						
0	1.2	6.6	17.7	18.3	32.5	7.0
1	NA	14.6	45.9	59.5	68.8	45.3
2	NA	NA	67.6	82.5	83.9	80.1
3+	NA	NA	NA	79.8	85.0	84.4
Number of living daughters²						
0	1.2	14.6	67.6	79.8	86.5	29.9
1	NA	6.6	45.9	82.5	84.9	58.7
2	NA	NA	17.7	59.5	85.5	68.8
3+	NA	NA	NA	18.3	76.3	72.0
Total	1.2	9.6	45.7	69.0	80.7	53.7

Note: Women who have been sterilized or whose husbands have been sterilized are considered to want no more children.
NA: Not applicable
() Based on 25-49 unweighted cases
*Percentage not shown; based on fewer than 25 unweighted cases
¹Includes current pregnancy, if any
²Excludes pregnant women

The background characteristic with the strongest effect on women's desire to limit family size, however, is number of living sons. Only 7 percent of women with no living sons want no more children, compared with 84 percent of women with three or more living sons. Differences associated with the number of living daughters are also large, but not nearly as large as differences associated with the number of living sons, indicating a strong preference for sons. Thirty percent of women with no living daughters want no more children, compared with 72 percent of women with three or more living daughters. It is interesting to note that only 18 percent of women with two daughters and no sons do not want a third child, compared with 47 percent of women in India as a whole.

4.10 Ideal Number of Children

To assess women's ideal number of children, NFHS-2 asked each woman the number of children she would like to have if she could start over again. Women with no children were asked, 'If you could choose exactly the number of children to have in your whole life, how many would that be?' Women who already had children were asked, '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?' Some women found it difficult to answer these hypothetical questions, and hence the question sometimes had to be repeated to ensure that the meaning was understood. Yet 89 percent of women in Uttar Pradesh were able to give a numerical response.

Table 4.15 shows that 58 percent of ever-married women in Uttar Pradesh consider two or three to be the ideal number of children. Only 30 percent have an ideal that differs from two or three children. Among all women who gave a numeric response, the average number of children considered ideal is 3.1, ranging from 2.7–2.8 for women who have two or fewer children to 3.6 for women who have four or more children.

Asking a question on ideal family size is sometimes criticized on the grounds that women tend to adjust their ideal family size upward as their number of living children increases, in a process of rationalizing previously unwanted children as wanted. It is argued that the question on ideal family size prompts many women to state the actual number of children they already have as their ideal. It is evident from Table 4.15, however, that this is not so for many women in Uttar Pradesh. Among women with four or more living children, for example, 38 percent state that fewer than four children would be ideal. Similarly, among women with three living children, 21 percent state that their ideal family size is smaller than three children. It is evident from these results that a substantial proportion of women in Uttar Pradesh already have more children than they now consider ideal. This proportion may be taken as another indicator of surplus or unwanted fertility.

Table 4.16 shows the mean ideal number of children for ever-married women by age according to selected background characteristics. The mean ideal number of children increases gradually from 2.9 for women age 15–24 to 3.5 for women age 45–49. The average ideal number of children is lower in urban areas (2.6 children) than in rural areas (3.2 children), and it ranges widely by region, from 2.6 children in the Hill Region to 3.3 in the Eastern Region. The mean ideal number of children is more than one child higher for illiterate women than for women who have completed at least a high school education. The pattern is similar according to the education level of the husband, although the effect is not quite as large. The mean ideal number of children ranges from 2.4 for Sikhs to 3.1 for Hindus and 3.4 for Muslims. The ideal family size is half a

Table 4.15 Ideal and actual number of children						
Percent distribution of ever-married women by ideal number of children, and mean ideal number of children, by number of living children, Uttar Pradesh, 1998-99						
Ideal number of children	Number of living children ¹					Total
	0	1	2	3	4+	
0	0.3	0.3	0.2	0.5	1.0	0.6
1	3.8	5.1	2.1	1.5	0.5	2.0
2	37.0	38.3	41.4	19.4	10.8	24.5
3	34.3	36.2	32.6	47.7	26.1	33.6
4	11.4	8.4	12.8	17.1	31.1	19.9
5	3.6	2.9	2.9	3.2	8.0	5.0
6+	1.5	1.6	1.5	1.3	5.3	2.9
Non-numeric response	8.2	7.1	6.5	9.4	17.3	11.5
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	1,017	1,313	1,635	1,714	3,613	9,292
Mean ideal number ²	2.8	2.7	2.8	3.1	3.6	3.1
Number of women giving numeric response	934	1,220	1,529	1,552	2,989	8,224

¹Includes current pregnancy, if any
²Means are calculated excluding women who gave non-numeric responses.

child higher for scheduled-tribe women than for women who do not belong to a schedule caste, scheduled tribe, or other backward class, and the ideal is one child higher for women living in households with a low standard of living than for women living in households with a high standard of living. The mean ideal number of children does not vary widely by women's work status.

4.11 Sex Preference for Children

A strong preference for sons has been found to be pervasive in Indian society, affecting both attitudes and behaviour with respect to children (Arnold et al., 1998; Arnold, 1996; Basu, 1989; Das Gupta, 1987; Kishor, 1995; Koenig and Foo, 1992; Murthi et al., 1995; Nag, 1991; Parasuraman et al., 1994). In NFHS-2, women who gave a numerical response to the question on the ideal number of children were asked how many of these children they would like to be boys, how many they would like to be girls, and for how many the sex would not matter. Table 4.17 shows women's mean ideal number of sons and daughters, the percentages who want more children of a particular sex, the percentage who want at least one son, and the percentage who want at least one daughter, according to selected background characteristics. The table shows a consistent preference for sons over daughters. Overall, the average ideal family size of 3.1 children consists of 1.8 sons, 1.1 daughters, and 0.2 children of either sex. Fifty-three percent of women want more sons than daughters, but only 1 percent want more daughters than sons.

The indicator that shows the percentage of women who want at least one son and at least one daughter exhibits the weakest son preference. Although most women in Uttar Pradesh want more sons than daughters, a large majority (89 percent) of women also want at least one

Table 4.16 Ideal number of children by background characteristics

Mean ideal number of children reported by ever-married women, according to current age and selected background characteristics, Uttar Pradesh, 1998-99

Background characteristic	Current age							Total
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Residence								
Urban	2.5	2.4	2.5	2.7	2.8	2.8	3.0	2.6
Rural	3.0	3.0	3.2	3.3	3.5	3.5	3.6	3.2
Region								
Hill	2.4	2.3	2.5	2.7	2.7	2.7	3.3	2.6
Western	2.8	2.8	3.0	3.1	3.3	3.4	3.4	3.1
Central	3.0	2.9	3.0	3.2	3.3	3.1	3.4	3.1
Eastern	3.1	3.1	3.3	3.4	3.4	3.6	3.6	3.3
Bundelkhand	2.7	2.8	2.9	3.1	3.2	3.3	3.3	3.0
Education								
Illiterate	3.2	3.1	3.4	3.5	3.6	3.6	3.7	3.4
Literate, < middle school complete	2.5	2.7	2.8	3.0	3.0	3.0	3.1	2.9
Middle school complete	2.5	2.5	2.6	2.7	2.7	(2.9)	(2.8)	2.6
High school complete and above	2.3	2.2	2.1	2.2	2.3	2.5	(2.4)	2.2
Religion								
Hindu	2.9	2.9	3.0	3.2	3.2	3.3	3.4	3.1
Muslim	3.2	3.0	3.5	3.6	3.8	3.8	3.8	3.4
Sikh	*	*	*	*	*	*	*	2.4
Caste/tribe								
Scheduled caste	3.1	3.1	3.4	3.4	3.5	3.4	3.6	3.3
Scheduled tribe	(3.1)	(3.0)	(3.1)	(3.7)	*	*	*	3.4
Other backward class	3.0	3.0	3.2	3.3	3.5	3.5	3.6	3.2
Other	2.8	2.7	2.9	3.0	3.1	3.2	3.3	2.9
Work status								
Working in family farm/business	3.0	3.2	3.3	3.4	3.5	3.5	3.9	3.4
Employed by someone else	*	3.1	3.4	3.7	3.3	3.7	(3.5)	3.4
Self-employed	*	(2.7)	3.0	3.3	3.3	(2.7)	(3.4)	3.1
Not worked in past 12 months	2.9	2.8	3.0	3.1	3.3	3.3	3.4	3.1
Standard of living index								
Low	3.2	3.3	3.5	3.6	3.7	3.7	3.7	3.5
Medium	2.9	2.9	3.1	3.2	3.3	3.5	3.5	3.1
High	2.5	2.3	2.3	2.5	2.6	2.8	3.0	2.5
Husband's education								
Illiterate	3.2	3.3	3.6	3.6	3.7	3.8	3.7	3.6
Literate, < primary school complete	(3.4)	2.9	3.0	3.6	3.9	3.4	(3.9)	3.4
Primary school complete	3.0	3.1	3.4	3.4	3.6	3.4	3.5	3.3
Middle school complete	3.0	2.9	3.0	3.2	3.2	3.3	3.6	3.1
High school complete	2.7	2.7	2.9	3.1	3.1	3.1	3.1	2.9
Higher secondary complete and above	2.6	2.4	2.5	2.6	2.7	2.8	2.9	2.6
Total	2.9	2.9	3.1	3.2	3.3	3.4	3.5	3.1

Note: Means are calculated excluding women who gave non-numeric responses.

() Based on 25-49 unweighted cases

*Mean not shown; based on fewer than 25 unweighted cases

Table 4.17 Indicators of sex preference

Mean ideal number of sons, daughters, and children of either sex for ever-married women, percentage who want more sons than daughters, percentage who want more daughters than sons, percentage who want at least one son, and percentage who want at least one daughter by selected background characteristics, Uttar Pradesh, 1998-99

Background characteristic	Mean ideal number of:			Percentage who want more sons than daughters	Percentage who want more daughters than sons	Percentage who want at least one son	Percentage who want at least one daughter	Number of women
	Sons	Daughters	Either sex					
Residence								
Urban	1.5	1.0	0.2	40.0	1.1	88.9	84.3	1,650
Rural	1.9	1.2	0.1	56.6	1.4	95.4	90.6	6,573
Region								
Hill	1.5	1.0	0.1	41.6	1.0	92.0	84.4	383
Western	1.8	1.1	0.1	51.6	1.0	93.0	88.9	2,883
Central	1.8	1.1	0.1	54.5	1.3	96.2	91.2	1,548
Eastern	1.9	1.2	0.2	54.3	1.8	93.9	88.7	3,029
Bundelkhand	1.9	1.0	0.1	63.8	1.0	97.4	94.4	381
Education								
Illiterate	2.0	1.2	0.1	58.9	1.3	95.6	91.0	5,625
Literate, < middle school complete	1.6	1.1	0.2	50.4	1.6	93.6	89.8	1,004
Middle school complete	1.5	1.0	0.1	46.2	0.9	95.5	91.5	603
High school complete and above	1.1	0.8	0.3	28.8	1.9	85.0	77.9	991
Religion								
Hindu	1.8	1.1	0.1	54.0	1.3	94.6	89.8	7,002
Muslim	2.0	1.2	0.3	50.2	1.6	91.2	86.5	1,133
Sikh	1.3	1.0	0.1	32.3	4.9	95.4	90.4	53
Caste/tribe								
Scheduled caste	2.0	1.2	0.1	59.2	1.2	96.0	92.1	1,625
Scheduled tribe	2.1	1.2	0.1	56.0	3.5	98.4	93.1	174
Other backward class	1.9	1.2	0.2	57.2	0.9	95.0	91.3	2,295
Other	1.7	1.1	0.2	47.6	1.6	92.3	86.3	3,748
Work status								
Working in family farm/business	2.1	1.2	0.1	59.8	1.8	96.8	92.2	994
Employed by someone else	2.1	1.2	0.1	57.5	1.1	95.8	90.8	567
Self-employed	1.8	1.1	0.2	47.0	2.7	93.4	88.1	275
Not worked in past 12 months	1.8	1.1	0.2	52.1	1.3	93.5	88.8	6,379
Standard of living index								
Low	2.1	1.3	0.1	60.5	1.2	97.2	92.5	2,298
Medium	1.9	1.1	0.1	54.6	1.3	94.4	89.8	4,259
High	1.4	0.9	0.2	37.5	1.5	88.5	83.4	1,484
Husband's education								
Illiterate	2.2	1.3	0.1	60.9	1.0	95.7	91.0	2,276
Literate, < primary school complete	2.0	1.2	0.2	53.4	1.0	92.8	87.9	430
Primary school complete	1.9	1.2	0.2	53.1	1.8	94.9	91.0	1,033
Middle school complete	1.8	1.1	0.1	56.8	1.4	95.4	91.3	1,388
High school complete	1.7	1.1	0.1	52.2	1.6	93.9	88.7	1,292
Higher secondary school complete and above	1.5	1.0	0.2	41.7	1.2	90.9	85.1	1,763
Total	1.8	1.1	0.2	53.3	1.4	94.1	89.3	8,224

Note: Table excludes women who gave non-numeric responses to the questions on ideal number of children or ideal number of sons and daughters. Total includes 19 women belonging to other religions and 17, 382, 9, 183, and 42 women with missing information on religion, caste/tribe, work status, the standard of living index, and husband's education, respectively, who are not shown separately.

daughter. One reason that a substantial proportion of women want to have at least one daughter is to fulfil the Hindu religious obligation of *kanyadan* (giving a daughter away at the time of her marriage), which is one of the acts that enable the parents to acquire the highest level of merit (*punya*).

Son preference is relatively weak among women who live in urban areas, women who have at least completed high school, women whose husbands have at least completed high school, and women living in households with a high standard of living. Son preference is also relatively weak among Sikh women but does not vary widely between Hindus and Muslims. Women who belong to scheduled castes, scheduled tribes, or other backward classes have a stronger preference for sons than do other women. Women who are self-employed or who have not worked in the past 12 months show somewhat less son preference than other working women. Son preference varies widely by region: It is strongest in the Bundelkhand Region and weakest in the Hill Region. These variations notwithstanding, son preference is very strong among all population groups.

4.12 Fertility Planning

For each child born in the three years before the survey and for each current pregnancy, NFHS-2 asked women whether the pregnancy was wanted at that time (planned), wanted at a later time (mistimed), or not wanted at all. Because a woman may retrospectively describe an unplanned pregnancy as one that was wanted at that time, responses to these questions may lead to an underestimation of unplanned childbearing. Nevertheless, this information provides a potentially powerful indicator of the degree to which couples successfully control childbearing. It should be noted that the proportion of births that are unplanned is influenced not only by whether, and how effectively, couples use contraception, but also by the couple's ideal family size.

Table 4.18 shows the percent distribution of births during the three years preceding the survey and current pregnancies according to fertility planning status. One-quarter of all pregnancies that resulted in live births in the three years preceding the survey (including current pregnancies) were unplanned (that is, unwanted at the time the woman became pregnant). Eleven percent were wanted later and 14 percent were not wanted at all. The proportion of births that were unplanned is highest for women age 40–44 (58 percent) and lowest for women below age 20 (13 percent). Within the unplanned category, the proportion of births that were wanted later falls and the proportion that were not wanted at all rises as mother's age increases.

The proportion of births that were unplanned does not vary widely by socioeconomic characteristics. The proportion of births that were unplanned is almost the same in rural and urban areas and it also does not vary much by the woman's educational attainment or the household's standard of living. Unplanned births are less common in the Bundelkhand Region than in any other part of the state. The proportion of births that were unplanned is considerably larger for Muslim women (31 percent) than for Hindu women (23 percent) or Sikh women (22 percent). Not surprisingly, births of higher order are more likely than births of lower order to be unplanned. The proportion unplanned ranges from 11 percent for first-order births to 39 percent for births of order four or higher. The fact that 30 percent of births of order four or higher were not wanted at all indicates that the family welfare programme has failed to meet the needs of

Table 4.18 Fertility planning

Percent distribution of births during the three years preceding the survey and current pregnancies by fertility planning status, according to selected background characteristics, Uttar Pradesh, 1998-99

Background characteristic	Planning status of pregnancy				Total percent	Number of births and current pregnancies
	Wanted then	Wanted later	Not wanted at all	Missing		
Mother's age at birth¹						
< 20	87.3	11.1	1.4	0.2	100.0	1,129
20-24	80.5	13.1	6.2	0.2	100.0	1,821
25-29	71.8	10.5	17.3	0.4	100.0	1,246
30-34	59.7	6.4	33.8	0.1	100.0	668
35-39	50.5	5.7	43.4	0.4	100.0	261
40-44	40.9	4.4	53.9	0.8	100.0	60
Residence						
Urban	73.8	10.6	15.3	0.3	100.0	840
Rural	75.4	10.7	13.6	0.3	100.0	4,356
Region						
Hill	75.0	11.5	12.5	1.0	100.0	167
Western	74.9	9.6	15.1	0.4	100.0	2,005
Central	73.6	14.2	12.3	0.0	100.0	882
Eastern	75.6	10.4	13.9	0.1	100.0	1,921
Bundelkhand	80.8	8.4	10.1	0.7	100.0	221
Mother's education						
Illiterate	75.4	9.4	14.9	0.2	100.0	3,752
Literate, < middle school complete	71.1	15.0	13.4	0.6	100.0	585
Middle school complete	73.5	14.6	11.9	0.0	100.0	347
High school complete and above	79.1	12.3	8.5	0.2	100.0	512
Religion						
Hindu	76.8	10.3	12.7	0.2	100.0	4,126
Muslim	68.9	12.1	18.7	0.3	100.0	1,025
Sikh	(73.3)	(17.0)	(5.0)	(4.7)	100.0	23
Caste/tribe						
Scheduled caste	75.2	9.2	15.4	0.1	100.0	1,086
Scheduled tribe	68.8	16.4	13.7	1.1	100.0	116
Other backward class	76.9	10.5	12.7	0.0	100.0	1,443
Other	74.7	10.5	14.3	0.4	100.0	2,302
Standard of living index						
Low	74.5	9.8	15.5	0.2	100.0	1,690
Medium	75.2	10.6	13.9	0.3	100.0	2,689
High	75.9	12.9	10.9	0.3	100.0	705
Birth order²						
1	89.2	9.1	1.5	0.3	100.0	1,294
2	82.1	14.5	3.2	0.3	100.0	1,024
3	78.2	12.2	9.4	0.2	100.0	916
4+	60.9	9.1	29.7	0.3	100.0	1,961
Total	75.2	10.7	13.9	0.3	100.0	5,195

Note: Table includes only the two most recent births in the three years preceding the survey. Total includes 11 births to women age 45-49 at the time of birth, 12 births to women belonging to other religions, and 9, 248, and 111 births with missing information on religion, caste/tribe, and the standard of living index, respectively, which are not shown separately.

() Based on 25-49 unweighted cases

¹For current pregnancy, estimated maternal age at birth

²Includes current pregnancy, if any

Table 4.19 Wanted fertility rates		
Total wanted fertility rate and total fertility rate for the three years preceding the survey by selected background characteristics, Uttar Pradesh, 1998-99		
Background characteristic	Total wanted fertility rate	Total fertility rate
Residence		
Urban	2.01	2.88
Rural	3.06	4.31
Region		
Hill	1.88	2.69
Western	2.87	4.17
Central	2.65	3.89
Eastern	2.96	4.02
Bundelkhand	2.97	3.95
Education		
Illiterate	3.23	4.54
Literate, < middle school complete	2.31	3.36
Middle school complete	2.15	3.12
High school complete and above	1.92	2.49
Religion		
Hindu	2.74	3.87
Muslim	3.36	4.76
Sikh	(1.84)	(2.34)
Caste/tribe		
Scheduled caste	3.05	4.44
Scheduled tribe	3.50	4.83
Other backward class	2.96	4.12
Other	2.72	3.77
Standard of living index		
Low	3.34	4.91
Medium	2.89	3.97
High	2.01	2.80
Total	2.83	3.99
Note: Rates are based on births in the period 1-36 months preceding the survey to women age 15-49. The total fertility rates are the same as those presented in Table 4.3.		
() Based on 125-249 woman-years of exposure		

women who already have at least three children to control their fertility. The substantial proportion of women at all parities who would have liked to have their births later suggests that attention also needs to be given to the promotion of spacing methods of contraception.

The impact of unwanted fertility can be measured by comparing the total wanted fertility rate 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 4.19 are calculated in the same way as the TFR except that unwanted births are excluded from the numerator. In this case, a birth is considered unwanted if the number of living children at the time of conception was greater than or equal to the ideal number of children reported by the

respondent at the time of the survey. Women who did not give a numeric response to the question on ideal number of children are assumed to have wanted all the births they had.

Overall, the total wanted fertility rate of 2.83 in Uttar Pradesh is lower by 1.16 children (i.e., by 29 percent) than the total fertility rate of 3.99. This means that if unwanted births could be eliminated, the TFR would decrease about 60 percent of the way between its current level and the replacement level of fertility (approximately 2.1 children per woman). In fact, if all unwanted births were eliminated, women living in urban areas and in the Hill Region, women who completed at least high school, Sikh women, and women living in households with a high standard of living would all have below-replacement fertility. For other groups, the total wanted fertility rate is at least one child less than the actual TFR for the following groups: women in rural areas, women in the Western, Central, and Eastern Regions, women who are illiterate or have completed less than a middle school education, Hindu and Muslim women, women in all caste/tribe groups, and women in households with a low or medium standard of living.

CHAPTER 5

FAMILY PLANNING

The National Family Welfare Programme in India has traditionally sought 'to promote responsible and planned parenthood through voluntary and free choice of family planning methods best suited to individual acceptors' (Ministry of Health and Family Welfare, 1998a). In April 1996, the programme was renamed the Reproductive and Child Health Programme and given a new orientation to meet the health needs of women and children more completely. The programme now aims to cover all aspects of women's reproductive health throughout their lives. With regard to family planning, the new approach emphasizes the target-free promotion of contraceptive use among eligible couples, the provision to couples of a choice of contraceptive methods (including condoms, oral pills, IUDs, and male and female sterilization), and the assurance of high-quality care. An important component of the programme is the encouragement of adequate spacing of births, with at least three years between births (Ministry of Health and Family Welfare, n.d.).

The new National Population Policy, 2000, adopted by the Government of India has set as its immediate objective the task of addressing unmet need for contraception in order to achieve the medium-term objective of bringing the total fertility rate down to replacement level by the year 2010. One of the 14 national socio-demographic goals identified for this purpose is to achieve universal access to information/counselling and services for fertility regulation and contraception with a wide range of choices (Ministry of Health and Family Welfare, 2000).

Information about the knowledge and use of contraceptive methods provided in this chapter is designed to be of practical relevance to programme administrators and policymakers responsible for monitoring existing programmes and formulating new strategies to meet the health and family planning needs of the population. The chapter begins with an appraisal of women's knowledge of contraceptive methods and then discusses women's past and present use of contraception, as well as the sources of supply of modern contraceptive methods. Special attention is focused on reasons for discontinuation and nonuse of contraception and on intentions to use family planning methods in the future. The chapter also contains information on exposure to family planning messages through the media and on discussions about family planning with relatives and friends. It concludes with an assessment of the extent to which the need for family planning services in Uttar Pradesh is being met effectively.

5.1 Knowledge of Family Planning Methods

Lack of knowledge of contraceptive methods can be a major obstacle to their use. In NFHS-2, interviewers obtained information on knowledge and ever use of contraceptive methods by asking each respondent the following question: '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. For each method I mention, please tell me if you have ever heard of the method and whether you have ever used the method at any time in your life.' If a respondent did not recognize the name of a method, a short description was read. In this way, the survey assesses women's knowledge and ever use of seven contraceptive methods, namely the pill, condom, IUD, female sterilization, male sterilization, rhythm or safe-period method, and withdrawal. In addition, the survey

Table 5.1 Knowledge of contraceptive methods			
Percentage of currently married women who know any contraceptive method by specific method and residence, Uttar Pradesh, 1998-99			
Method	Urban	Rural	Total
Any method	99.7	98.0	98.4
Any modern method	99.7	97.9	98.3
Pill	97.1	81.7	84.7
IUD	92.9	68.7	73.5
Condom	96.6	79.7	83.1
Female sterilization	99.6	96.9	97.4
Male sterilization	97.7	91.2	92.5
Any traditional method	72.0	57.3	60.2
Rhythm/safe period	66.5	51.9	54.8
Withdrawal	47.6	29.4	33.0
Other method ¹	3.3	2.9	3.0
Number of women	1,776	7,142	8,918
¹ Includes both modern and traditional methods that are not listed separately			

collected information on respondents' knowledge and ever use of any other contraceptive methods (modern, traditional, or folkloric).

Table 5.1 shows the extent of knowledge of contraceptive methods among currently married women by specific method and urban-rural residence. Knowledge of contraceptive methods is nearly universal in Uttar Pradesh, with 98 percent of currently married women recognizing at least one method of contraception and at least one modern method of contraception.

Female sterilization is the most widely known method of contraception in Uttar Pradesh, followed by male sterilization. Overall, 97 percent of currently married women know about female sterilization and 93 percent know about male sterilization. There is little difference by residence in knowledge of female sterilization, but 98 percent of urban women know about male sterilization, compared with 91 percent of rural women. Knowledge of the officially-sponsored spacing methods (pill, IUD, and condom) is less widespread. The best-known spacing methods are the pill (85 percent) and the condom (83 percent). The IUD is known by only 74 percent of women. There are large differences in knowledge of spacing methods by residence. For example, only 69 percent of rural women know about the IUD, compared with 93 percent of urban women. Although knowledge of these spacing methods remains lower than knowledge of sterilization, knowledge of spacing methods has increased substantially since NFHS-1. At the time of NFHS-1, only 65 percent of currently married women knew about pills, 67 percent knew about condoms, and 56 percent knew about IUDs.

In Uttar Pradesh, a majority of currently married women know at least one traditional method (60 percent), up from 37 percent in NFHS-1. The rhythm/safe-period method is known more widely (55 percent) than withdrawal (33 percent). Knowledge of traditional methods is much higher in urban areas (72 percent) than in rural areas (57 percent).

Table 5.2 Ever use of contraception

Percentage of currently married women who have ever used any contraceptive method by specific method, according to age and residence, Uttar Pradesh, 1998-99

Age	Any method	Any modern method	Pill	IUD	Condom	Female sterilization	Male sterilization	Any traditional method	Rhythm/safe period	Withdrawal	Other method ¹	Number of women
URBAN												
15-19	11.9	7.3	3.9	0.0	3.9	0.0	0.0	6.2	3.5	2.8	0.0	101
20-24	36.5	27.9	8.1	6.7	19.2	2.4	0.0	12.7	9.6	6.3	1.1	329
25-29	57.2	50.8	15.0	11.6	29.9	10.9	0.0	16.3	10.4	9.6	1.8	322
30-34	68.5	59.7	12.9	12.8	32.7	22.5	0.0	21.4	14.9	11.6	2.1	329
35-39	74.7	67.7	13.9	16.2	33.7	25.4	1.1	19.2	14.3	8.1	0.9	309
40-44	64.6	57.3	12.7	10.0	17.4	33.7	2.7	15.1	10.3	7.9	2.0	223
45-49	57.7	54.3	7.6	7.3	15.4	30.2	5.8	7.9	6.9	1.7	1.4	164
Total	56.9	49.8	11.5	10.5	24.7	18.0	1.1	15.6	11.0	7.8	1.4	1,776
RURAL												
15-19	10.1	5.0	2.0	0.1	3.4	0.0	0.0	6.2	4.6	2.7	0.2	1,001
20-24	19.5	13.5	5.3	1.5	5.5	3.4	0.0	9.0	6.7	3.4	0.2	1,462
25-29	33.5	24.4	7.4	3.0	8.4	10.8	0.1	12.7	10.6	3.8	0.4	1,403
30-34	44.9	35.1	9.8	3.8	8.2	19.7	0.3	14.6	11.7	4.9	0.9	1,133
35-39	46.5	38.9	8.2	3.1	5.7	26.7	0.9	11.2	9.5	3.3	0.9	915
40-44	45.4	37.0	5.3	1.9	3.7	27.0	1.4	12.5	10.5	3.4	0.6	723
45-49	43.7	37.6	3.7	1.3	1.7	28.7	4.0	8.6	7.5	1.8	1.3	504
Total	32.8	25.2	6.2	2.2	5.8	14.1	0.6	10.8	8.8	3.5	0.6	7,142
TOTAL												
15-19	10.3	5.3	2.2	0.1	3.5	0.0	0.0	6.2	4.5	2.7	0.2	1,102
20-24	22.6	16.2	5.8	2.5	8.0	3.2	0.0	9.7	7.2	4.0	0.4	1,791
25-29	37.9	29.4	8.8	4.6	12.4	10.8	0.0	13.3	10.5	4.9	0.7	1,724
30-34	50.2	40.7	10.5	5.9	13.7	20.3	0.2	16.2	12.4	6.4	1.2	1,463
35-39	53.6	46.1	9.6	6.4	12.7	26.4	0.9	13.2	10.7	4.6	0.9	1,224
40-44	49.9	41.8	7.0	3.8	7.0	28.6	1.7	13.1	10.5	4.5	1.0	946
45-49	47.1	41.7	4.7	2.8	5.1	29.1	4.4	8.4	7.4	1.8	1.4	668
Total	37.6	30.1	7.3	3.9	9.6	14.9	0.7	11.8	9.2	4.4	0.8	8,918

¹Includes both modern and traditional methods that are not listed separately

5.2 Contraceptive Use

Ever Use of Family Planning Methods

NFHS-2 asked respondents if they had ever used each of the methods they knew about. Women who said they had not used any of the methods were asked if they had 'ever used anything or tried in any way to delay or avoid getting pregnant'. Table 5.2 presents the pattern of ever use of family planning methods for currently married women by age and residence.

Although nearly all currently married women know at least one method of contraception, only 38 percent have ever used a method, which is a substantial increase from 26 percent at the time of NFHS-1. Thirty percent of currently married women have ever used a modern method and 12

percent have ever used a traditional method. The most commonly used methods are female sterilization (15 percent), followed by the condom (10 percent), rhythm or safe-period method (9 percent), and pill (7 percent). Only 1 percent have adopted male sterilization and 4 percent have ever used the IUD or the withdrawal method. Ever use of any method is higher in urban areas (57 percent) than in rural areas (33 percent), as is ever use of each specific modern and traditional method.

Ever use of any method increases with women's age up to age 35–39 (peaking at 54 percent) and declines at older ages. The increase in contraceptive use up to age 35–39 reflects a life-cycle effect, with women increasingly adopting contraception as their fertility goals are met. Declining ever use of modern methods by older women reflects, at least in part, larger family size norms and lower levels of contraceptive prevalence in the past. The pattern of ever use by age is similar for urban and rural areas, although urban women are more likely than rural women to have used contraception at every age.

Current Use of Family Planning Methods

Table 5.3 provides information on current use of family planning methods for currently married women in Uttar Pradesh by age and urban-rural residence. Current contraceptive prevalence in Uttar Pradesh is very low, with only 28 percent of currently married women using some method of contraception (compared with the national average of 48 percent). Only two states (Meghalaya and Bihar) have lower contraceptive prevalence rates than Uttar Pradesh. The NFHS-2 estimates of current use in Uttar Pradesh, for both overall use and use of specific methods, are close to those obtained by the Rapid Household Survey (RHS) under the Reproductive and Child Health Project, which was carried out at about the same time as NFHS-2 (International Institute for Population Sciences, 2000). For women age 15–44, the use of modern methods was reported to be 21 percent in NFHS-2 and 23 percent in the RHS, and the use of traditional methods was reported by 6 percent of women in NFHS-2 and 7 percent of women in the RHS.

Tables 5.2 and 5.3 show that 75 percent of ever users of contraception are current users. More than three-quarters of current contraceptive users (78 percent) are using a modern method. In Uttar Pradesh, as in most of the states of India, sterilization dominates the contraceptive method mix. Fifteen percent of currently married women are sterilized, and female sterilization accounts for 53 percent of total current contraceptive prevalence. Less than 1 percent of women report male sterilization as their current method. In fact, female sterilizations outnumber male sterilizations by more than 20 to 1. The three officially-sponsored spacing methods together account for less than one-quarter (23 percent) of contraceptive prevalence. Specifically, condoms are used by 4 percent of women and pills and IUDs are each used by only 1 percent of women.

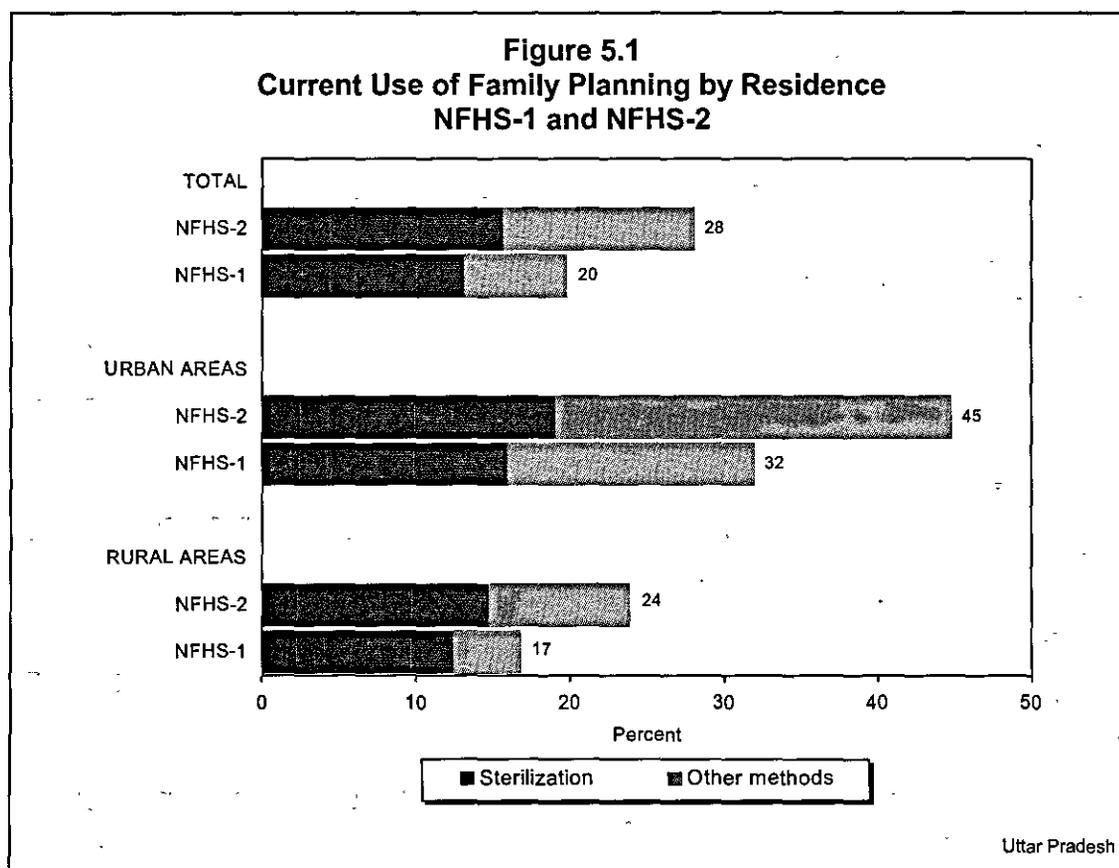
Current use of contraceptive methods is almost twice as high in urban areas (45 percent) as in rural areas (24 percent). Current use of each of the modern methods is higher in urban than in rural areas; however, the differential by residence is most pronounced for condoms, with 13 percent of urban women reporting condom use, compared with only 2 percent of rural women. Female sterilization is less prominent in the mix of methods used by women in urban areas (where it accounts for 40 percent of contraceptive prevalence) than in rural areas (where it accounts for 59 percent of contraceptive prevalence).

Table 5.3 Current use of contraception

Percent distribution of currently married women by contraceptive method currently used, according to age and residence, Uttar Pradesh, 1998-99

Age	Any method	Any modern method	Pill	IUD	Condom	Female sterilization	Male sterilization	Any traditional method	Rhythm/safe period	Withdrawal	Other method ¹	Not using any method	Total percent	Number of women
URBAN														
15-19	6.0	4.9	2.8	0.0	2.2	0.0	0.0	1.1	1.1	0.0	0.0	94.0	100.0	101
20-24	20.8	14.4	2.2	2.3	7.4	2.4	0.0	5.3	3.0	2.4	1.1	79.2	100.0	329
25-29	43.5	34.6	1.8	3.5	18.5	10.9	0.0	7.4	3.4	4.0	1.4	56.5	100.0	322
30-34	58.1	47.6	2.9	3.4	18.8	22.5	0.0	9.4	6.5	3.0	1.0	41.9	100.0	329
35-39	64.4	53.0	2.4	3.6	20.5	25.4	1.1	11.2	7.6	3.6	0.2	35.6	100.0	309
40-44	54.2	44.9	3.4	1.5	3.6	33.7	2.7	8.3	4.0	4.3	1.1	45.8	100.0	223
45-49	42.4	40.3	0.7	1.4	2.8	30.2	5.1	1.3	1.0	0.3	0.7	57.6	100.0	164
Total	44.8	36.6	2.3	2.6	12.6	18.0	1.0	7.3	4.3	2.9	0.9	55.2	100.0	1,776
RURAL														
15-19	5.4	2.3	0.6	0.0	1.6	0.0	0.0	3.0	1.9	1.1	0.1	94.6	100.0	1,001
20-24	10.5	6.7	0.9	0.3	2.1	3.4	0.0	3.6	2.6	1.1	0.2	89.5	100.0	1,462
25-29	21.9	15.8	1.0	0.8	3.2	10.8	0.1	5.8	4.4	1.4	0.3	78.1	100.0	1,403
30-34	33.7	25.1	1.5	1.1	2.4	19.7	0.3	8.1	6.1	1.9	0.5	66.3	100.0	1,133
35-39	39.2	31.9	1.5	0.8	1.9	26.7	0.9	7.1	5.8	1.3	0.3	60.8	100.0	915
40-44	37.0	30.7	0.8	0.3	1.2	27.0	1.4	6.0	4.5	1.5	0.3	63.0	100.0	723
45-49	36.6	33.4	0.0	0.2	0.5	28.7	4.0	2.9	2.4	0.5	0.2	63.4	100.0	504
Total	23.9	18.3	1.0	0.6	2.1	14.1	0.6	5.3	4.0	1.3	0.3	76.1	100.0	7,142
TOTAL														
15-19	5.4	2.5	0.8	0.0	1.7	0.0	0.0	2.8	1.8	1.0	0.1	94.6	100.0	1,102
20-24	12.4	8.1	1.1	0.7	3.1	3.2	0.0	3.9	2.6	1.3	0.3	87.6	100.0	1,791
25-29	25.9	19.3	1.2	1.3	6.0	10.8	0.0	6.1	4.2	1.9	0.5	74.1	100.0	1,724
30-34	39.2	30.1	1.8	1.6	6.1	20.3	0.2	8.4	6.2	2.2	0.7	60.8	100.0	1,463
35-39	45.6	37.2	1.7	1.5	6.6	26.4	0.9	8.1	6.2	1.9	0.2	54.4	100.0	1,224
40-44	41.1	34.1	1.4	0.6	1.8	28.6	1.7	6.5	4.4	2.1	0.5	58.9	100.0	946
45-49	38.0	35.1	0.2	0.5	1.0	29.1	4.3	2.5	2.1	0.5	0.3	62.0	100.0	668
Total	28.1	22.0	1.2	1.0	4.2	14.9	0.7	5.7	4.1	1.6	0.4	71.9	100.0	8,918

¹Includes both modern and traditional methods that are not listed separately



By age, current contraceptive use increases from 5 percent for women age 15–19 to 46 percent for women age 35–39 and decreases for older women. Condom use is highest (7 percent) among women age 35–39, whereas female sterilization is highest (29 percent) among women age 40–49. The majority of contraceptive users under age 30 currently use either a modern spacing method or a traditional method, whereas the majority of current users age 30 or above use female sterilization. The pattern of variation by age in contraceptive use is similar in urban areas (peaking at 64 percent) and rural areas (peaking at 39 percent). Notably, however, the majority of current users below age 40 in urban areas use either a modern spacing method or a traditional method rather than sterilization. In rural areas, by contrast, female sterilization accounts for more than half of contraceptive use among women age 30 and above.

The NFHS-2 contraceptive prevalence rate of 28 percent is substantially higher than the NFHS-1 rate of 20 percent (Figure 5.1). During this period, there has also been an overall increase in the use of modern methods (from 19 percent to 22 percent); however, traditional-method use has increased even more rapidly (from 1 percent to 6 percent). In NFHS-1, modern-method use accounted for 93 percent of current contraceptive prevalence; in NFHS-2, modern methods account for only 78 percent of current contraceptive use. Among the modern methods, current use of female sterilization has risen from 12 percent in NFHS-1 to 15 percent in NFHS-2, but current use of each of the three officially-sponsored spacing methods increased only slightly between the two surveys (from 5 percent to 6 percent) and the use of male sterilization declined. These results suggest that despite the increased emphasis on contraceptive choice and on modern spacing methods in the Reproductive and Child Health Programme, and despite women's increasing knowledge of modern spacing methods, female sterilization continues to

dominate the method mix in Uttar Pradesh and modern spacing methods still account for only a small percentage of total contraceptive use, particularly in rural areas.

Socioeconomic Differentials in Current Use of Family Planning Methods

Table 5.4 shows differences in current contraceptive use by background characteristics. By region, contraceptive use is highest in the Hill Region (44 percent), followed by the Bundelkhand Region (34 percent), and varies little among the other regions (26–28 percent). The relatively high rate of contraceptive use in the Hill Region is due to the much higher than average rates of female sterilization (28 percent), male sterilization (4 percent), and condom use (6 percent) in that region. The use of female sterilization is also higher than average in the Bundelkhand Region, and condom use is higher than average in the Western and Central Regions, in addition to the Hill Region. Current contraceptive use increases steadily with education from 24 percent among illiterate women to 46 percent among women who have completed at least high school. Female sterilization is most common among women who are literate but have not completed middle school, although variation in the use of female sterilization by education is small. Condom use increases sharply with education, rising from 2 percent for illiterate women to 15 percent for women who have completed at least high school. Women who have completed at least high school are as likely to be using condoms as they are to be using female sterilization. The use of the pill and the IUD also generally increases with education but remains low even among more educated women. Nonetheless, modern spacing methods account for 14 percent of all contraceptive use by illiterate women but for 46 percent of all contraceptive use by women who have completed at least high school. The use of traditional methods also tends to increase with education, but the differentials are not large. Contraceptive use has increased since NFHS-1 among women in every educational category. The percentage increase, however, has been much more rapid among illiterate women (55 percent) than among literate women (11–18 percent). Various studies based on NFHS-1 data have shown that even after controlling the effects of other factors, education is a key factor influencing contraceptive use in India (Retherford and Ramesh, 1996; Ramesh et al., 1996).

Contraceptive prevalence is higher among Hindus (29 percent) than Muslims (21 percent); however, it is the Sikh women who, at 55 percent, have the highest rate of contraceptive use in Uttar Pradesh. In fact, the rate of contraceptive use is higher among Sikh women than among women in any other subgroup in Table 5.4. Female sterilization is more common among Sikhs (37 percent) than among Hindus (17 percent) or Muslims (4 percent). Condom use, by contrast, is highest among Muslims (9 percent), followed by Sikhs (5 percent) and Hindus (3 percent). The three modern spacing methods—the pill, condom and IUD—together account for 55 percent of contraceptive use by Muslims, but only 18 percent of contraceptive use by Sikhs and Hindus. Eight percent of Sikhs, 6 percent of Hindus, and 5 percent of Muslims use a traditional method. Among the traditional methods withdrawal is most popular among Sikhs and the rhythm or safe-period method is most popular among Hindus.

Contraceptive prevalence is highest for women who do not belong to a scheduled caste, scheduled tribe, or other backward class (33 percent) and lowest for women belonging to a scheduled tribe (15 percent). The use of any contraception, as well as the use of almost every specific contraceptive method, is positively related to the standard of living index (SLI). Contraceptive prevalence increases from 20 percent for the poorest women (who have a low SLI) to 45 percent for women with a high SLI. The use of modern spacing methods is much higher

Table 5.4. Current use by background characteristics

Percent distribution of currently married women by contraceptive method currently used, according to selected background characteristics, Uttar Pradesh, 1998-99

Background characteristic	Any method	Any modern method	Pill	IUD	Condom	Female sterilization	Male sterilization	Any traditional method	Rhythm/safe period	Withdrawal	Other method ¹	Not using any method	Total percent	Number of women
Residence														
Urban	44.8	36.6	2.3	2.6	12.6	18.0	1.0	7.3	4.3	2.9	0.9	55.2	100.0	1,776
Rural	23.9	18.3	1.0	0.6	2.1	14.1	0.6	5.3	4.0	1.3	0.3	76.1	100.0	7,142
Region														
Hill	44.3	41.4	1.6	1.8	6.2	27.6	4.2	2.6	1.0	1.5	0.3	55.7	100.0	390
Western	27.2	22.5	1.8	1.3	5.1	13.7	0.5	4.1	1.9	2.2	0.7	72.8	100.0	3,184
Central	27.9	21.2	1.1	1.8	6.0	11.7	0.6	6.6	5.1	1.5	0.1	72.1	100.0	1,539
Eastern	26.3	18.6	0.8	0.3	2.5	14.5	0.5	7.4	6.1	1.2	0.3	73.7	100.0	3,391
Bundelkhand	34.3	30.4	0.5	0.5	2.0	26.9	0.6	3.9	2.6	1.3	0.0	65.7	100.0	413
Education														
Illiterate	24.0	18.4	0.9	0.4	2.0	14.3	0.7	5.4	4.1	1.3	0.3	76.0	100.0	6,230
Literate, < middle school complete	31.4	26.1	1.8	1.5	4.1	18.0	0.7	5.1	3.5	1.6	0.2	68.6	100.0	1,067
Middle school complete	34.7	27.8	1.8	1.1	8.5	16.0	0.4	6.4	4.2	2.2	0.5	65.3	100.0	620
High school complete and above	45.7	36.5	2.1	3.9	15.0	14.9	0.8	7.8	4.4	3.4	1.4	54.3	100.0	1,000
Religion														
Hindu	29.2	22.9	1.1	0.9	3.3	16.8	0.8	5.9	4.3	1.6	0.4	70.8	100.0	7,413
Muslim	21.0	15.9	2.0	1.0	8.5	4.3	0.0	4.8	3.1	1.7	0.3	79.0	100.0	1,417
Sikh	54.6	46.9	2.3	2.4	4.9	37.3	0.0	7.7	2.4	5.4	0.0	45.4	100.0	51
Caste/tribe														
Scheduled caste	24.8	18.8	1.1	0.3	2.1	14.5	0.8	5.7	4.7	1.0	0.3	75.2	100.0	1,725
Scheduled tribe	15.1	13.2	0.6	0.5	1.1	10.5	0.6	1.8	1.8	0.0	0.0	84.9	100.0	185
Other backward class	24.2	17.9	1.0	0.6	2.7	13.2	0.4	6.0	4.4	1.6	0.2	75.8	100.0	2,507
Other	32.7	26.3	1.6	1.5	6.2	16.2	0.9	5.7	3.6	2.1	0.6	67.3	100.0	4,092
Standard of living index														
Low	19.7	14.2	1.1	0.1	1.5	10.9	0.5	5.3	4.4	0.9	0.2	80.3	100.0	2,475
Medium	26.5	20.8	1.2	0.8	3.4	14.9	0.4	5.4	4.0	1.4	0.3	73.5	100.0	4,692
High	45.3	37.1	1.6	3.1	10.7	20.2	1.5	7.3	3.9	3.4	0.9	54.7	100.0	1,563

Contd...

Table 5.4 Current use by background characteristics (contd.)

Percent distribution of currently married women by contraceptive method currently used, according to selected background characteristics, Uttar Pradesh, 1998-99

Background characteristic	Any method	Any modern method	Pill	IUD	Condom	Female sterilization	Male sterilization	Any traditional method	Rhythm/safe period	Withdrawal	Other method ¹	Not using any method	Total percent	Number of women
Number and sex of living children														
No children	2.3	0.9	0.1	0.0	0.8	0.0	0.0	1.4	1.0	0.4	0.0	97.7	100.0	1,190
1 child	12.3	6.9	0.9	0.6	4.3	1.0	0.0	4.9	2.8	2.1	0.5	87.7	100.0	1,195
1 son	14.7	9.1	1.3	0.6	5.4	1.9	0.0	5.0	3.0	2.0	0.5	85.3	100.0	666
No sons	9.2	4.0	0.3	0.6	3.0	0.0	0.1	4.8	2.5	2.3	0.5	90.8	100.0	529
2 children	27.2	21.7	1.6	2.4	7.1	10.1	0.5	5.3	3.5	1.8	0.3	72.8	100.0	1,539
2 sons	39.6	35.5	1.8	3.6	7.0	22.5	0.6	4.1	2.3	1.8	0.0	60.4	100.0	472
1 son	24.4	17.9	1.5	1.9	8.2	5.6	0.6	6.1	4.4	1.8	0.3	75.6	100.0	790
No sons	14.2	8.9	1.2	1.5	4.4	1.8	0.0	4.9	3.1	1.8	0.4	85.8	100.0	277
3 children	39.3	32.5	1.3	1.2	4.6	24.1	1.4	6.3	4.4	1.9	0.5	60.7	100.0	1,640
3 sons	46.7	41.1	0.5	0.5	3.3	34.3	2.5	5.6	3.5	2.1	0.0	53.3	100.0	232
2 sons	47.5	40.4	1.6	1.4	4.2	31.4	1.8	6.7	4.8	1.9	0.4	52.5	100.0	789
1 son	30.9	23.1	1.3	1.4	6.5	13.2	0.6	6.8	4.7	2.1	0.9	69.1	100.0	483
No sons	8.7	5.6	0.4	0.0	2.4	2.8	0.0	3.2	2.4	0.8	0.0	91.3	100.0	135
4+ children	37.7	29.8	1.6	0.7	3.7	22.9	0.9	7.4	5.7	1.7	0.5	62.3	100.0	3,355
2+ sons	39.7	31.7	1.7	0.8	3.5	24.9	0.9	7.4	5.6	1.8	0.5	60.3	100.0	2,771
1 son	30.9	23.0	1.3	0.6	5.7	14.5	0.9	7.7	6.4	1.3	0.2	69.1	100.0	510
No sons	10.6	6.2	0.0	0.0	0.0	6.2	0.0	3.0	3.0	0.0	1.5	89.4	100.0	73
Total	28.1	22.0	1.2	1.0	4.2	14.9	0.7	5.7	4.1	1.6	0.4	71.9	100.0	8,918

Note: Total includes 20 women belonging to other religions and 17, 410, and 188 women with missing information on religion, caste/tribe, and the standard of living index, respectively, who are not shown separately.

¹Includes both modern and traditional methods that are not listed separately

among women with a high SLI (15 percent) than among women with a medium SLI (5 percent) or low SLI (3 percent). Traditional method use is also somewhat higher among women with a high SLI (7 percent) than among women with a medium or low SLI (each 5 percent).

Table 5.4 also shows differences in current use by the number and sex of living children. Contraceptive use increases sharply from only 2 percent for women with no living children to 39 percent for women with three living children and then shows a slight decline. The same pattern is evident for female sterilization. Condom use is highest for women with two living children (7 percent). The use of traditional methods, however, rises steadily from 1 percent among those with no children to 7 percent among those with four or more children.

Prevalence rates by sex composition of living children indicate the existence of considerable son preference. For each number of living children, women with no sons are much less likely than women with one or more sons to be using contraception. For example, among women with four or more children, only 11 percent with no sons are using contraception, compared with 40 percent with two or more sons. In addition, women with two or more children are more likely to use contraception if they have two or more sons than if they have only one son.

Number of Living Children at First Use of Contraception

In order to examine the timing of initial family planning use, NFHS-2 included a question on how many living children women had when they first used a method. Table 5.5 shows the distribution of ever-married women by the number of living children at the time of first contraceptive use, according to current age and residence. Only 2 percent of ever-married women (6 percent of ever-married women who have ever used contraception) began using contraception when they did not have any living children and another 7 percent (18 percent of ever users) began using when they had one living child. Although very early use of contraception is relatively rare, 22 percent of ever-married women (the majority of ever users) began using when they had three or fewer living children. A similar pattern of use is observed among women in rural areas, but urban women are equally likely to begin using when they have two or fewer living children than when they have more than two living children.

The demographic impact of contraception depends on both the percentage of couples that use contraception and the parity at which they start using. An emphasis on sterilization in the contraceptive method mix, however, increases the likelihood that women will begin contraceptive use only after achieving their desired family size. Clearly, spacing methods need to be promoted more deliberately if a reduction is sought in the parity at which women first accept contraception.

Problems with Current Method

Women who were using a modern contraceptive method were asked if they had experienced any problems with their current method. Table 5.6 shows the percentage of current contraceptive users who report specific problems. Overall, a large majority (84 percent) of current users report having no problems with their method. This may be an underestimate of the extent of problems, however, because women who have experienced problems with spacing methods may have stopped using contraception altogether, and these women are not represented in the table.

Table 5.5 Number of living children at first use									
Percent distribution of ever-married women by number of living children at the time of first use of contraception, according to current age and residence, Uttar Pradesh, 1998-99									
Current age	Never used	Number of living children at the time of first use					Missing	Total percent	Number of women
		0	1	2	3	4+			
URBAN									
15-19	88.4	4.5	4.4	2.3	0.0	0.0	0.5	100.0	103
20-24	64.1	8.0	14.3	9.4	4.0	0.1	0.0	100.0	335
25-29	43.9	4.4	20.8	14.0	10.8	6.2	0.0	100.0	333
30-34	32.8	3.2	14.4	18.0	13.6	18.0	0.0	100.0	341
35-39	28.4	1.1	12.8	14.1	13.1	30.5	0.0	100.0	325
40-44	37.4	0.5	7.6	7.5	11.4	35.7	0.0	100.0	237
45-49	44.2	0.6	5.3	8.2	11.4	30.3	0.0	100.0	185
Total	44.5	3.4	12.9	11.9	10.0	17.3	0.0	100.0	1,860
RURAL									
15-19	90.0	4.9	4.0	0.8	0.2	0.1	0.0	100.0	1,013
20-24	80.7	2.6	8.6	4.1	3.2	0.7	0.1	100.0	1,490
25-29	67.1	1.5	7.0	7.4	8.3	8.7	0.1	100.0	1,436
30-34	55.6	1.0	4.0	7.0	10.4	21.9	0.1	100.0	1,168
35-39	54.7	0.7	3.6	4.9	8.5	27.5	0.0	100.0	967
40-44	56.2	1.3	1.6	3.3	8.4	28.9	0.4	100.0	788
45-49	59.6	0.4	1.3	3.6	6.4	28.6	0.2	100.0	571
Total	67.8	1.9	5.0	4.7	6.4	14.1	0.1	100.0	7,432
TOTAL									
15-19	89.8	4.9	4.0	0.9	0.2	0.1	0.0	100.0	1,117
20-24	77.6	3.6	9.6	5.1	3.4	0.6	0.1	100.0	1,825
25-29	62.7	2.0	9.6	8.6	8.7	8.3	0.1	100.0	1,769
30-34	50.5	1.5	6.3	9.5	11.1	21.0	0.1	100.0	1,509
35-39	48.1	0.8	5.9	7.2	9.7	28.3	0.0	100.0	1,291
40-44	51.9	1.1	3.0	4.2	9.1	30.5	0.3	100.0	1,025
45-49	55.8	0.4	2.2	4.7	7.7	29.0	0.1	100.0	756
Total	63.1	2.2	6.6	6.1	7.1	14.8	0.1	100.0	9,292

The analysis of method-specific problems reveals that 74 percent of sterilized women and 95 percent of women whose husbands are sterilized report having no problem with their method. The most common problems experienced by sterilized women are headache, bodyache, or backache (11 percent), abdominal pain (7 percent), weakness or tiredness (6 percent), white discharge (4 percent), too much bleeding (3 percent), fever (2 percent), and dizziness (2 percent). Among women whose husbands are sterilized and who report problems with the method, the most common complaint is weakness or tiredness. With regard to spacing methods, 18 percent of women had problems in using pills, a similar percentage had problems using the IUD, and 3 percent had problems using condoms. The most common problems for pill and IUD users were excessive bleeding, headache/bodyache/backache, white discharge, irregular periods, dizziness, weakness or tiredness, and (for IUDs) abdominal pain. These results point to a continuing need to strengthen post-operative care for sterilization acceptors and counselling and support for all contraceptive acceptors.

Table 5.6 Problems with current method

Percentage of current users of specific contraceptive methods who have had problems in using the method, Uttar Pradesh, 1998–99

Problem	Contraceptive method								Total
	Pill	IUD	Condom	Female sterilization	Male sterilization	Rhythm/safe period	Withdrawal	Other Method ¹	
No problem	81.6	81.5	96.6	74.1	94.8	99.7	100.0	(89.4)	84.0
Weight gain	2.0	1.4	0.3	1.4	0.0	0.0	0.0	(0.0)	0.9
Weight loss	0.0	0.0	0.0	1.2	1.5	0.0	0.0	(0.0)	0.7
Too much bleeding	3.5	6.6	0.0	2.9	0.7	0.0	0.0	(0.0)	2.0
Hypertension	0.0	0.0	0.0	0.4	0.0	0.0	0.0	(0.0)	0.2
Headache/bodyache/backache	3.4	3.0	0.0	10.7	1.4	0.0	0.0	(3.6)	6.0
Nausea/vomiting	0.4	0.0	0.0	0.7	0.0	0.0	0.0	(3.6)	0.5
No menstruation	0.0	1.3	0.0	0.3	0.0	0.0	0.0	(0.0)	0.2
Weakness/tiredness	2.5	1.9	0.3	6.1	3.0	0.3	0.0	(0.0)	3.6
Dizziness	1.9	2.6	0.0	2.2	0.0	0.0	0.0	(3.6)	1.4
Fever	2.1	0.6	0.0	2.3	2.2	0.0	0.0	(0.0)	1.4
Cramps	1.1	0.0	0.3	0.6	0.0	0.0	0.0	(3.6)	0.5
Spotting	0.0	0.0	0.0	0.4	0.0	0.0	0.0	(0.0)	0.2
Inconvenient to use	0.0	1.3	0.6	0.2	0.0	0.0	0.0	(0.0)	0.2
Abdominal pain	1.0	4.4	0.3	7.0	0.0	0.0	0.0	(0.0)	3.9
White discharge	2.0	2.6	0.3	3.5	0.0	0.3	0.0	(3.4)	2.2
Irregular periods	2.0	2.6	0.0	1.9	0.0	0.0	0.0	(0.0)	1.2
Breast tenderness	0.0	0.0	0.0	0.3	0.0	0.0	0.0	(0.0)	0.1
Allergy	2.2	0.0	1.3	0.5	0.8	0.0	0.0	(0.0)	0.6
Reduced sexual satisfaction	0.0	0.0	0.0	0.3	0.8	0.0	0.0	(0.0)	0.2
Other	0.0	2.6	0.3	4.0	0.8	0.0	0.0	(0.0)	2.3
Number of users	110	87	371	1,330	61	362	146	35	2,502

Note: Percentages may add to more than 100.0 because multiple problems could be recorded.
 () Based on 25–49 unweighted cases
¹ Includes both modern and traditional methods that are not listed separately

5.3 Timing of Sterilization

Table 5.7 shows how many years before the survey women or their husbands were sterilized and how old the women were when the sterilization took place. Of 1,391 sterilizations reported, 96 percent are female sterilizations. Forty-four percent of the female sterilizations took place less than 6 years before the survey, another 21 percent took place 6–9 years before the survey, and 36 percent took place 10 or more years before the survey. By contrast, 77 percent of male sterilizations took place 10 or more years before the survey (data not shown). The median age of women at the time they or their husbands were sterilized was 28.3 years, more than two years older than the median of 25.7 years for India as a whole. Sixty-two percent of sterilized couples underwent sterilization before the wife was age 30. Nearly 9 out of 10 sterilizations took place before the wife was age 35 and only 2 percent took place when the wife was in her forties. Among sterilized couples, 82 percent of women said that they had not used any other method of contraception before the sterilization took place (data not shown).

The median age of women at the time of sterilization has declined by two years from age 30 in the period 8–9 years before the survey to age 28 in more recent years. From NFHS-2 data it is not possible to assess the trend in the median age at sterilization for more than 10 years before the survey because only women age 15–49 years were interviewed. Women in their forties 10 or more

Table 5.7 Timing of sterilization										
Percent distribution of currently married, sterilized women and wives of sterilized men by age at the time of sterilization and median age of the women at the time of sterilization, according to the number of years since sterilization, Uttar Pradesh, 1998–99										
Years since sterilization	Woman's age at the time of sterilization							Total percent	Number sterilized	Median age ¹
	< 20	20–24	25–29	30–34	35–39	40–44	45–49			
STERILIZED WOMEN										
< 2	0.3	25.7	32.5	22.8	13.6	3.0	2.1	100.0	187	27.9
2–3	3.4	24.8	33.5	27.2	7.7	3.4	0.0	100.0	173	28.0
4–5	0.8	25.2	38.3	20.4	12.6	2.7	0.0	100.0	223	27.9
6–7	0.7	20.5	35.7	30.0	12.0	1.1	U	100.0	145	28.9
8–9	0.4	15.8	39.7	25.1	19.0	0.0	U	100.0	128	29.5
10+	1.7	26.0	37.1	28.9	6.3	U	U	100.0	475	NC
Total	1.3	24.1	36.3	26.2	10.4	1.4	0.3	100.0	1,330	28.4
WIVES OF STERILIZED MEN										
Total	4.6	26.5	34.0	23.3	10.9	0.8	0.0	100.0	61	27.3
STERILIZED WOMEN AND WIVES OF STERILIZED MEN										
< 2	0.3	25.6	32.4	22.8	13.8	3.0	2.1	100.0	187	27.9
2–3	3.4	24.9	33.3	27.0	7.9	3.4	0.0	100.0	174	28.0
4–5	0.8	25.2	38.0	20.7	12.5	2.7	0.0	100.0	224	27.9
6–7	0.7	19.8	35.9	30.3	11.9	1.4	U	100.0	150	28.9
8–9	0.4	15.1	39.3	25.5	19.7	0.0	U	100.0	134	29.6
10+	2.0	26.6	36.9	28.1	6.4	U	U	100.0	522	NC
Total	1.5	24.2	36.2	26.0	10.4	1.4	0.3	100.0	1,391	28.3
NC: Not calculated due to censoring										
U: Not available										
¹ To avoid censoring, median age is calculated only for sterilizations that took place when the woman was less than 40 years old.										

years before the survey would have been age 50–59 years at the time of the survey and would, therefore, not have been interviewed. Examining NFHS-1 and NFHS-2 data together, however, suggests that the decline in women's age at sterilization did not begin until the early 1990s. The median age at sterilization was 30 years even in 1983–84 (about 8–9 years before NFHS-1) and was more or less unchanged until 1990–91.

5.4 Sources of Contraceptive Methods

Family planning methods and services in Uttar Pradesh are provided primarily through a network of government hospitals and urban family welfare centres in urban areas and Primary Health Centres (PHC) and sub-centres in rural areas. Family planning services are also provided by private hospitals and clinics, as well as nongovernmental organizations (NGOs). Sterilizations and IUD insertions are carried out mostly in government hospitals and PHCs. Sterilization camps, organized from time to time, also provide sterilization services. Modern spacing methods such as the IUD, pill, and condom are available through both the government and private sectors.

To assess the relative importance of various sources of contraceptive methods, NFHS-2 included a question on where current contraceptive users obtained their methods. Table 5.8 and

Figure 5.2
Sources of Family Planning Among Current
Users of Modern Contraceptive Methods

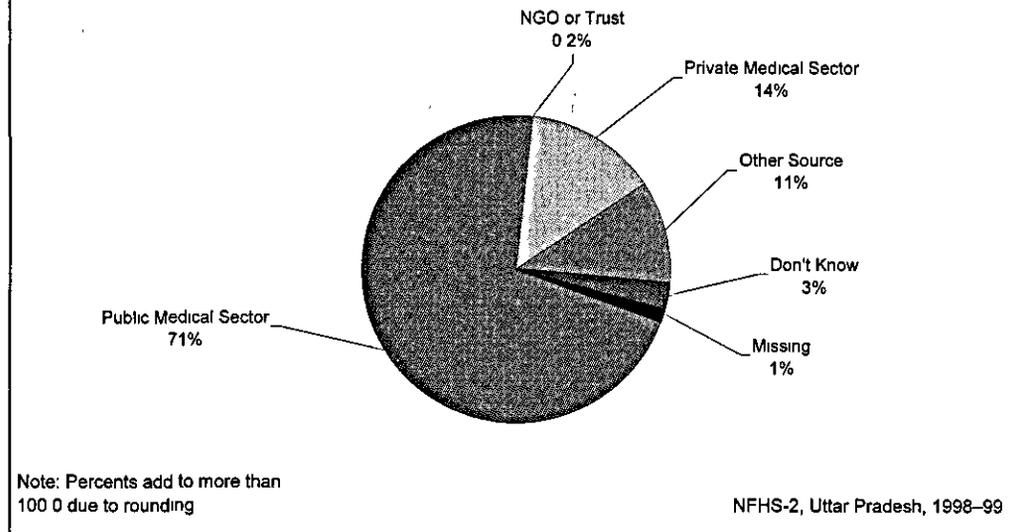


Figure 5.2 show the percent distribution of current users of modern contraceptives by the source from which they obtained their method most recently, according to specific method and residence. The public medical sector, consisting of government/municipal hospitals, government dispensaries, Primary Health Centres, and other governmental health infrastructure, is the source of contraception for 71 percent of current users of modern methods, down from 75 percent in NFHS-1. The private medical sector, including private hospitals or clinics, private doctors, private mobile clinics, private paramedics, pharmacies or drugstores, and traditional birth attendants, is the source for 14 percent of current users, up from 9 percent in NFHS-1. Eleven percent of current users obtain their methods from other sources such as shops, friends, and relatives, and less than 1 percent from NGO or trust sources. Government/municipal hospitals are the main source (63 percent) for female sterilization, followed by community health centres, rural hospitals, or Primary Health Centres (22 percent), and private hospitals or clinics (7 percent). Similar sources are used for male sterilizations. By contrast, shops and private pharmacies or drugstores are the main source for condoms (66 percent) and for pills (56 percent). Only 19 percent of current pill users and 11 percent of current condom users obtain their supply from the public medical sector. The public medical sector is, however, the main source for IUDs (69 percent).

Eighty-two percent of rural users obtain their contraceptives from the public medical sector, compared with 50 percent of urban users. Although the public medical sector is the main source for female sterilizations in both urban and rural areas, in urban areas the private sector also plays a substantial role. Seventeen percent of female sterilizations were performed in the private medical sector in urban areas, compared with only 4 percent in rural areas. For pills, condoms, and IUDs, the private medical sector is also a more important source in urban areas than in rural areas. Most users of pills and condoms obtain their supply from private pharmacies, private drugstores, or shops in both urban and rural areas, and most users of IUDs use the public medical sector in both urban and rural areas.

Table 5.8 Source of modern contraceptive methods

Percent distribution of current users of modern contraceptive methods by most recent source, according to specific method and residence, Uttar Pradesh, 1998-99

Source	Contraceptive method					All modern methods
	Pill	IUD	Condom	Female sterilization	Male sterilization	
URBAN						
Public medical sector	(13.4)	(65.8)	4.4	81.9	*	49.8
Government/municipal hospital	(9.6)	(51.7)	3.3	68.7	*	41.3
Government dispensary	(0.0)	(0.0)	0.0	0.0	*	0.0
UHC/UHP/UFWC	(3.8)	(6.0)	0.5	4.2	*	3.2
CHC/rural hospital/PHC	(0.0)	(5.8)	0.0	4.7	*	2.7
Sub-centre	(0.0)	(0.0)	0.0	0.0	*	0.0
Government mobile clinic	(0.0)	(0.0)	0.0	0.0	*	0.0
Government paramedic	(0.0)	(0.0)	0.5	0.0	*	0.2
Camp	(0.0)	(0.0)	0.0	3.8	*	1.9
Other public medical sector	(0.0)	(2.3)	0.0	0.5	*	0.4
NGO or trust	(0.0)	(0.0)	0.0	0.4	*	0.2
Hospital/clinic	(0.0)	(0.0)	0.0	0.4	*	0.2
NGO worker	(0.0)	(0.0)	0.0	0.0	*	0.0
Private medical sector	(43.3)	(34.2)	37.8	16.7	*	26.8
Private hospital/clinic	(6.1)	(23.1)	5.8	15.9	*	12.3
Private doctor	(8.2)	(11.1)	0.7	0.8	*	1.9
Private mobile clinic	(0.0)	(0.0)	0.5	0.0	*	0.2
Private paramedic	(0.0)	(0.0)	2.3	0.0	*	0.8
Pharmacy/drugstore	(29.0)	(0.0)	27.9	0.0	*	11.5
<i>Dai</i> (TBA)	(0.0)	(0.0)	0.5	0.0	*	0.2
Other source	(36.7)	(0.0)	46.3	0.0	*	18.3
Shop	(36.7)	(0.0)	45.7	0.0	*	18.1
Other	(0.0)	(0.0)	0.6	0.0	*	0.2
Don't know ¹	(5.4)	(0.0)	9.8	0.0	*	3.7
Missing	(1.2)	(0.0)	1.7	1.1	*	1.2
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of users	41	47	224	320	18	650

Table 5.8 Source of modern contraceptive methods (contd.)

Percent distribution of current users of modern contraceptive methods by most recent source, according to specific method and residence, Uttar Pradesh, 1998-99

Source	Contraceptive method					All modern methods
	Pill	IUD	Condom	Female sterilization	Male sterilization	
RURAL						
Public medical sector	22.9	(73.3)	21.0	94.2	98.0	81.7
Government/municipal hospital	7.1	(26.6)	7.1	60.8	69.6	51.1
Government dispensary	1.6	(0.0)	1.5	0.0	0.0	0.3
UHC/UHP/UFWC	1.5	(5.8)	0.0	1.5	0.0	1.4
CHC/rural hospital/PHC	8.8	(32.8)	7.2	26.9	20.8	23.7
Sub-centre	3.9	(5.4)	2.7	0.0	0.0	0.7
Government mobile clinic	0.0	(0.0)	0.0	0.0	1.0	0.0
Government paramedic	0.0	(0.0)	0.3	0.0	0.0	0.0
Camp	0.0	(0.0)	0.0	5.0	6.7	4.1
Other public medical sector	0.0	(2.7)	2.2	0.0	0.0	0.3
NGO or trust	1.5	(0.0)	0.8	0.1	0.0	0.2
Hospital/clinic	0.0	(0.0)	0.8	0.1	0.0	0.2
NGO worker	1.5	(0.0)	0.0	0.0	0.0	0.1
Private medical sector	33.3	(21.1)	14.9	4.3	1.0	7.4
Private hospital/clinic	8.0	(11.9)	2.3	3.9	1.0	4.1
Private doctor	8.4	(9.2)	1.5	0.4	0.0	1.2
Private mobile clinic	0.0	(0.0)	0.0	0.0	0.0	0.0
Private paramedic	0.0	(0.0)	2.3	0.0	0.0	0.3
Pharmacy/drugstore	16.9	(0.0)	8.8	0.0	0.0	1.9
Dai (TBA)	0.0	(0.0)	0.0	0.0	0.0	0.0
Other source	35.1	(0.0)	46.1	0.0	0.0	7.0
Shop	33.5	(0.0)	45.4	0.0	0.0	6.9
Other	1.7	(0.0)	0.7	0.0	0.0	0.2
Don't know ¹	5.5	(0.0)	16.5	0.0	0.0	2.1
Missing	1.6	(5.6)	0.7	1.4	1.0	1.4
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of users	69	40	147	1,010	43	1,309

Table 5.8 Source of modern contraceptive methods (contd.)						
Percent distribution of current users of modern contraceptive methods by most recent source, according to specific method and residence, Uttar Pradesh, 1998–99						
Source	Contraceptive method					All modern methods
	Pill	IUD	Condom	Female sterilization	Male sterilization	
	TOTAL					
Public medical sector	19.4	69.3	11.0	91.2	94.5	71.1
Government/municipal hospital	8.0	40.1	4.8	62.7	70.2	47.9
Government dispensary	1.0	0.0	0.6	0.0	0.0	0.2
UHC/UHP/UFWC	2.4	5.9	0.3	2.2	3.4	2.0
CHC/rural hospital/PHC	5.5	18.3	2.9	21.6	14.7	16.8
Sub-centre	2.5	2.5	1.1	0.0	0.0	0.5
Government mobile clinic	0.0	0.0	0.0	0.0	0.7	0.0
Government paramedic	0.0	0.0	0.4	0.0	0.0	0.1
Camp	0.0	0.0	0.0	4.7	5.5	3.4
Other public medical sector	0.0	2.5	0.9	0.1	0.0	0.4
NGO or trust	0.9	0.0	0.3	0.2	0.0	0.2
Hospital/clinic	0.0	0.0	0.3	0.2	0.0	0.2
NGO worker	0.9	0.0	0.0	0.0	0.0	0.1
Private medical sector	37.1	28.1	28.7	7.3	4.8	13.9
Private hospital/clinic	7.3	17.9	4.4	6.8	4.8	6.8
Private doctor	8.3	10.2	1.0	0.5	0.0	1.4
Private mobile clinic	0.0	0.0	0.3	0.0	0.0	0.1
Private paramedic	0.0	0.0	2.3	0.0	0.0	0.4
Pharmacy/drugstore	21.4	0.0	20.3	0.0	0.0	5.1
Dai (TBA)	0.0	0.0	0.3	0.0	0.0	0.1
Other source	35.7	0.0	46.2	0.0	0.0	10.8
Shop	34.7	0.0	45.6	0.0	0.0	10.6
Other	1.1	0.0	0.6	0.0	0.0	0.2
Don't know ¹	5.5	0.0	12.5	0.0	0.0	2.7
Missing	1.5	2.6	1.3	1.3	0.7	1.4
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of users	110	87	371	1,330	61	1,959

UHC: Urban health centre; UHP: Urban health post; UFWC: Urban family welfare centre; CHC: Community health centre; PHC: Primary Health Centre; NGO: Nongovernmental organization; TBA: Traditional birth attendant
 () Based on 25–49 unweighted cases
 *Percentage not shown; based on fewer than 25 unweighted cases
¹For the pill and the condom, this category includes women who say their husband or a friend or other relative obtained the method, but they don't know the original source of supply.

5.5 Reasons for Discontinuation/Non-Use of Contraception

Currently married, nonpregnant women who were not using a contraceptive method at the time of the survey fall into two categories with respect to their contraceptive experience: those who used contraception in the past and those who never used contraception. NFHS-2 asked women who had discontinued contraceptive use their main reason for discontinuing. The survey also asked women who had never used contraception the main reason they were not currently using a method. Table 5.9 shows that 708 nonpregnant women who ever used family planning methods (21 percent of ever users) have discontinued use. Among the group that discontinued contraception, the most commonly mentioned reason for discontinuing is that the couple wanted to have a child (22 percent). Other frequently cited reasons for discontinuing use are that the husband was away, contraceptive use created a health problem or a menstrual problem, and the

Table 5.9 Reasons for discontinuation/non-use

Percent distribution of nonpregnant, currently married women who stopped using contraception by main reason for stopping use and percent distribution of nonpregnant, currently married women who never used contraception by main reason for not currently using, according to residence, Uttar Pradesh, 1998-99

Reason	Urban	Rural	Total
REASON FOR STOPPING USE			
Method failed/got pregnant	8.2	7.7	7.8
Lack of sexual satisfaction	1.9	1.1	1.3
Created menstrual problem	10.9	8.5	9.1
Created health problem	16.4	12.3	13.3
Inconvenient to use	1.2	2.2	2.0
Hard to get method	2.1	4.5	3.9
Did not like the method	2.6	6.2	5.3
Wanted to have a child	23.5	21.9	22.3
Wanted to replace dead child	0.9	0.2	0.4
Lack of privacy for use	2.5	1.0	1.3
Husband away	11.9	17.3	15.9
Costs too much	2.3	2.4	2.3
Other	15.1	12.6	13.2
Missing	0.6	2.2	1.8
Total percent	100.0	100.0	100.0
Number of women	178	531	708
REASON FOR NOT CURRENTLY USING			
Husband away	4.4	5.1	5.0
Fertility-related reasons	66.9	61.9	62.6
Not having sex	3.2	1.5	1.7
Infrequent sex	1.8	1.2	1.3
Menopausal/had hysterectomy	10.7	7.4	7.8
Subfecund/infecund	4.6	4.2	4.3
Postpartum/breastfeeding	10.0	13.0	12.6
Wants more children	36.6	34.6	34.8
Opposition to use	11.5	9.4	9.7
Opposed to family planning	1.2	1.2	1.2
Husband opposed	4.6	4.7	4.6
Other people opposed	1.3	0.6	0.7
Against religion	4.4	3.0	3.2
Lack of knowledge	3.1	6.3	5.9
Knows no method	1.0	1.9	1.7
Knows no source	2.2	4.4	4.1
Method-related reasons	11.2	13.2	12.9
Health concerns	2.3	1.5	1.6
Worry about side effects	3.4	2.4	2.6
Hard to get method	0.3	1.1	1.0
Costs too much	0.2	1.1	0.9
Inconvenient to use	0.0	0.1	0.1
Afraid of sterilization	0.4	1.5	1.4
Doesn't like existing methods	4.6	5.5	5.4
Other	1.3	1.1	1.1
Don't know/missing	1.5	3.0	2.7
Total percent	100.0	100.0	100.0
Number of women	678	4,249	4,927

method failed and the woman got pregnant. Urban and rural women gave similar reasons for discontinuing use, with both rural and urban women most frequently giving the desire for another child as the main reason for discontinuing use. However, women in rural areas discontinued use more often than women in urban areas because the husband was away and less often because the method created a health or menstrual problem.

Among women who never used contraception, the most commonly mentioned reason for not currently using a method is also the desire for more children (35 percent), followed by the fact that the woman is postpartum amenorrhoeic or breastfeeding (13 percent). Another 12 percent of women say they are not using contraception because they are menopausal, have had a hysterectomy, or are infecund or subfecund. Ten percent mention different types of opposition, such as that their husband is opposed to contraception (5 percent) or that contraceptive use is against their religion (3 percent). Only 4 percent mention a health-related problem (health concerns or worry about side effects), another 4 percent mention not knowing a source, and 2 percent mention not knowing a method as the main reason for not currently using contraception. Five percent say they are not using contraception because they do not like the existing methods and 5 percent say that their husband is away. There are no substantial urban-rural differences in reasons for not currently using contraception; however, 6 percent of rural women give lack of knowledge (of a method or source) as the main reason, compared with 3 percent of urban women.

5.6 Future Intentions Regarding Contraceptive Use

Currently married women who were not using any contraceptive method at the time of the survey (including those who were pregnant at the time of the survey) were asked about their intentions to use a method in the future. If they intended to use a method, they were asked about their preferred method. This type of information can help managers of family welfare programmes to identify potential groups of contraceptive users and to provide the types of contraception that are likely to be in demand. Table 5.10 gives women's responses to the questions on future use according to residence and number of living children.

More than half (55 percent) of currently married women who are not currently using any contraceptive method express an intention to use a method in the future. Among women who intend to use contraception, 42 percent intend to use a method within the next 12 months. The proportion of women who intend to use contraception any time in the future increases from 55 percent for women with no living children to 65 percent for women with one living child, and then steadily declines with increasing numbers of children to 45 percent for women with four or more living children. Half of women with four or more living children say they have no intention of using contraception at any time in the future.

The expressed timing of future use also varies by number of living children. The proportion of women who say that they intend to use contraception after 12 or more months falls steadily with the number of living children from 46 percent among women with 0-1 children to 15 percent among those with four or more children. The proportion expressing an intention to use contraception within the next 12 months increases from 8 percent among those with no children to 29 percent among those with three or more living children. The overall proportion of women who intend to use contraception at some time in the future does not differ greatly by residence, but intended future use is much higher among urban women than among rural women at lower parities. Sixty-seven percent of urban women who have no living children and 79 percent of urban women

Table 5.10 Future use of contraception						
Percent distribution of currently married women who are not currently using any contraceptive method by intention to use in the future, according to number of living children and residence, Uttar Pradesh, 1998-99						
Intention to use in the future	Number of living children ¹					Total
	0	1	2	3	4+	
URBAN						
Intends to use in next 12 months	12.6	26.7	27.2	34.3	27.8	26.1
Intends to use later	52.0	50.2	35.4	20.3	16.3	32.5
Intends to use, unsure when	1.9	2.1	1.2	0.8	0.0	1.0
Unsure as to intention	11.5	5.0	4.8	1.6	2.7	4.7
Does not intend to use	21.7	15.9	31.2	42.3	52.9	35.4
Missing	0.3	0.0	0.2	0.8	0.3	0.3
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	149	183	197	143	310	981
RURAL						
Intends to use in next 12 months	7.3	15.8	22.1	28.2	29.1	22.3
Intends to use later	44.7	45.6	37.7	28.5	14.9	30.7
Intends to use, unsure when	0.9	1.3	1.3	1.6	1.3	1.3
Unsure as to intention	15.7	7.9	5.3	4.2	4.3	6.7
Does not intend to use	30.9	28.9	33.1	36.8	49.6	38.4
Missing	0.6	0.4	0.6	0.6	0.7	0.6
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	783	930	959	878	1,886	5,435
TOTAL						
Intends to use in next 12 months	8.1	17.6	22.9	29.1	28.9	22.9
Intends to use later	45.8	46.3	37.3	27.4	15.1	30.9
Intends to use, unsure when	1.0	1.5	1.3	1.5	1.1	1.2
Unsure as to intention	15.0	7.4	5.2	3.9	4.1	6.4
Does not intend to use	29.4	26.8	32.8	37.6	50.1	37.9
Missing	0.6	0.4	0.5	0.7	0.7	0.6
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	932	1,112	1,155	1,021	2,195	6,417
¹ Includes current pregnancy, if any						

who have one living child intend to use contraception sometime in the future, compared with 53 percent and 63 percent of rural women, respectively. In urban areas, the intention to use contraception within the next 12 months increases from 13 percent for women with no living children to 34 percent for women with three living children, and then falls to 28 percent for women with four or more living children. In rural areas, by contrast, the intention to use contraception in the next 12 months increases steadily with parity from 7 percent among women with no living children to 29 percent among women with four or more living children.

The survey asked currently married women who were not using any method of contraception and who said that they did not intend to use a method at any time in the future why

Table 5.11 Reasons for not intending to use contraception			
Percent distribution of currently married women who are not using any contraceptive method and who do not intend to use any method in the future by main reason for not intending to use contraception, according to current age, Uttar Pradesh, 1998–99			
Reason	Current age		Total
	15–29	30–49	
Fertility-related reasons	34.1	59.0	49.9
Not having sex	0.7	5.5	3.7
Infrequent sex	0.3	2.9	1.9
Menopausal/had hysterectomy	0.8	30.2	19.4
Subfecund/infecund	3.4	14.9	10.7
Wants as many children as possible	28.9	5.6	14.2
Opposition to use	28.1	15.9	20.4
Opposed to family planning	2.6	3.2	3.0
Husband opposed	6.5	4.2	5.0
Other people opposed	1.3	0.4	0.7
Against religion	17.7	8.2	11.7
Lack of knowledge	9.3	3.5	5.7
Knows no method	5.6	1.9	3.3
Knows no source	3.7	1.6	2.4
Method-related reasons	21.0	17.0	18.5
Health concerns	2.4	1.8	2.0
Worry about side effects	6.4	4.3	5.1
Hard to get method	0.1	0.6	0.4
Costs too much	0.6	0.4	0.5
Inconvenient	0.0	0.1	0.1
Afraid of sterilization	2.0	1.7	1.8
Doesn't like existing methods	9.5	8.2	8.7
Other	0.7	1.7	1.3
Don't know/missing	6.8	2.9	4.3
Total percent	100.0	100.0	100.0
Number of women	894	1,541	2,435

they did not intend to use contraception. This type of information is crucial for understanding the obstacles to further increases in contraceptive use and for designing effective information programmes. Table 5.11 shows that 50 percent of women mention a fertility-related reason for not intending to use contraception in the future, 20 percent mention opposition to use, 19 percent mention a method-related reason, and 6 percent mention a reason related to lack of knowledge. The most frequently mentioned reason given for not intending to use contraception is that the woman is menopausal or she has undergone a hysterectomy (19 percent). Other important fertility-related reasons are the desire to have as many children as possible (14 percent) and subfecundity or infecundity (11 percent). Twelve percent of women do not intend to use contraception because they believe it to be against their religion and 9 percent because they do not like the existing methods.

Twenty-nine percent of young women (age less than 30) mention the desire to have as many children as possible as the main reason for not intending to use contraception, compared with only 6 percent of women age 30–49. Younger women are also much more likely than older women to give

reasons relating to opposition to use and lack of knowledge. For example, 18 percent of women age 15–29 say that they do not intend to use contraception because it is against their religion, compared with only 8 percent of women age 30–49. Forty-five percent of older women mention reasons related to menopause, hysterectomy, infecundity or subfecundity, compared with only 4 percent of younger women.

Since women below age 30 account for 73 percent of total current fertility in Uttar Pradesh, the reasons they give for not intending to use contraception are extremely important from a policy perspective. Among the 59 percent of younger women who give reasons not related to fertility, the reason given most often is that contraception is against their religion. However, a substantial proportion of young women who do not intend to use contraception mention lack of knowledge (9 percent), not liking the existing methods (10 percent), health concerns or concerns about side effects (9 percent), and opposition from their husbands (7 percent). This suggests that improved quality of services and information programmes could enhance the success of the family welfare programme in Uttar Pradesh. Nevertheless, among younger women who are not using contraception, the desire to have as many children as possible remains the major reason for not intending to use contraception in the future.

NFHS-2 asked currently married women who were not using contraception but intended to use a method in the future which method of family planning they would prefer to use. Table 5.12 shows the results according to the timing of intended use. Among women who intend to use contraception, 34 percent say they would prefer to use female sterilization, 24 percent say they would prefer to use the pill, and 23 percent are unsure about the method they would prefer to use. Only 7 percent say they would prefer to use condoms, 5 percent would prefer to use the IUD, and less than 1 percent prefer that their husbands get sterilized. Six percent would prefer to use a traditional method, mostly the rhythm method. There are important differences in the choice of preferred methods by timing of intended use. Women who intend to use contraception within the next 12 months show a greater preference for spacing methods, whereas women who plan to use contraception later are more likely to prefer female sterilization. Specifically, 46 percent of women who intend to use contraception within the next 12 months would prefer to use a modern spacing method, compared with 28 percent of women who intend to use later. By contrast, 38 percent of women who intend to use contraception after at least 12 months would prefer to use female sterilization, compared with 27 percent of women who want to use contraception within 12 months. Women intending to use contraception within 12 months also show a greater preference for traditional methods (8 percent) than women who intend to use later (4 percent). Results are similar for urban and rural areas with a few exceptions. Among women who intend to use a method within the next 12 months, a higher proportion of rural women (32 percent) than urban women (19 percent) prefer the pill, whereas a higher proportion of urban women (18 percent) than rural women (8 percent) prefer the condom. This pattern is also evident among women who intend to use later, but the differentials are smaller.

Overall, the mix of contraceptive methods that intended future users say they would prefer to use is very different from the methods currently being used. These results suggest a desire among intended users to shift away from female sterilization to the officially-sponsored spacing methods. While 46 percent of those who intend to use a method within 12 months and 36 percent of those who intend to use contraception any time in the future say that they would prefer to use a modern spacing method, only 23 percent of current users are actually using a modern spacing method

Table 5.12 Preferred method

Percent distribution of currently married women who are not currently using a contraceptive method but who intend to use a method in the future by preferred method, according to timing of intended use and residence, Uttar Pradesh, 1998-99

Preferred method	Timing of intended use			Total
	Next 12 months	Later	Unsure about timing	
URBAN				
Pill	19.3	17.0	*	17.7
IUD	7.1	7.1	*	7.0
Condom	18.2	11.1	*	14.0
Female sterilization	23.9	31.1	*	28.2
Male sterilization	0.5	0.0	*	0.2
Rhythm/safe period	5.0	3.6	*	4.1
Withdrawal	1.3	0.0	*	0.6
Other	2.1	0.9	*	1.5
Unsure	22.5	29.3	*	26.7
Total percent	100.0	100.0	100.0	100.0
Number	256	318	10	585
RURAL				
Pill	31.6	21.4	23.5	25.6
IUD	7.4	2.4	0.7	4.4
Condom	7.6	3.0	8.3	5.0
Female sterilization	28.0	39.4	33.2	34.6
Male sterilization	0.9	0.3	0.0	0.5
Rhythm/safe period	7.5	3.8	4.9	5.3
Withdrawal	0.8	0.6	0.0	0.6
Other	2.3	1.9	0.0	2.0
Unsure	14.0	27.2	29.4	21.8
Total percent	100.0	100.0	100.0	100.0
Number	1,212	1,667	70	2,948
TOTAL				
Pill	29.5	20.7	20.5	24.3
IUD	7.4	3.2	0.6	4.8
Condom	9.4	4.3	7.3	6.5
Female sterilization	27.3	38.1	35.3	33.5
Male sterilization	0.8	0.3	0.0	0.5
Rhythm/safe period	7.1	3.8	4.3	5.1
Withdrawal	0.9	0.5	0.0	0.6
Other	2.3	1.8	0.0	1.9
Unsure	15.5	27.6	32.1	22.6
Total percent	100.0	100.0	100.0	100.0
Number	1,468	1,985	80	3,533
*Percentage not shown; based on fewer than 25 unweighted cases				

(Table 5.3). Further, among current users of spacing methods, the condom is the most popular method, whereas the pill is the most preferred spacing method among those who intend to use contraception in the future. These results suggest that there is a significant short-term, as well as longer term, potential demand for spacing methods, especially for the pill.

5.7 Exposure to Family Planning Messages

For many years, the family planning programme has been using electronic and other mass media to promote family planning. Studies have confirmed that even after controlling the effect of residence and education, exposure to electronic mass media has a substantial effect on contraceptive use (Ramesh et al., 1996). Exposure to mass media has also been found to strengthen women's motivation to prevent unwanted fertility (Kulkarni and Choe, 1998). In order to explore the reach of family planning messages through various mass media, NFHS-2 asked women whether they had heard or seen any message about family planning in the past few months. Table 5.13 shows the proportions of currently married women who report having heard or seen a family planning message in the past few months, according to various background characteristics. Messages disseminated through the mass media over the past few months have reached only about half (47 percent) of ever-married women in Uttar Pradesh. The most common sources of recent exposure to family planning messages are the radio and the television. Thirty-four percent of ever-married women report having heard a family planning message on the radio and the same proportion have seen a message on the television. Other important sources of family planning messages are wall paintings or hoardings (16 percent), newspapers or magazines (11 percent), and cinema/film shows (6 percent). Only 3 percent have been recently exposed to a family planning message through a drama, folk dance, or street play.

Ever-married women below age 35 report slightly greater exposure to family planning messages in general, and greater exposure to every form of mass media, than women age 35 years and above. Overall, exposure to mass media messages on family planning is much higher in urban areas than in rural areas. Eighty percent of urban ever-married women report seeing or hearing a family planning message from at least one media source, compared with only 39 percent of women in rural areas. Urban women are also much more likely than rural women to have been exposed to a message through each form of mass media. By region, exposure is greatest in the Bundelkhand Region (57 percent) and least in the Eastern Region (43 percent). The main sources of exposure also vary between regions. In the Bundelkhand, Central, and Eastern Regions, radio is the main source of exposure to family planning messages; by contrast, in the Hill and Western Regions, the main source is television. Exposure to family planning messages through wall paintings and hoardings is much greater in the Bundelkhand Region (31 percent) than in any other region (19 percent or less).

Exposure to family planning messages varies substantially by education. Ninety percent of women who have completed at least high school have heard or seen a family planning message from at least one media source in the past few months, compared with only 34 percent of women who are illiterate. Exposure to family planning messages through most specific media sources is as closely linked to education as is exposure in general. For example, 86 percent of women who have completed at least high school have seen a family planning message on television, compared with only 20 percent of women who are illiterate.

Table 5.13 Exposure to family planning messages

Percentage of ever-married women who have heard or seen any message about family planning in the past few months by specific media source and selected background characteristics, Uttar Pradesh, 1998-99

Background characteristic	Source of family planning message						Any source	Number of women
	Radio	Television	Cinema/ film show	News-paper/ magazine	Wall painting/ hoarding	Drama/ folk dance/ street play		
Age								
15-24	37.1	34.7	6.2	11.2	16.8	3.7	49.4	2,942
25-34	35.0	34.2	7.1	11.6	16.9	3.5	48.0	3,277
35-49	30.7	32.5	5.1	9.5	13.0	2.6	43.9	3,073
Residence								
Urban	51.5	75.6	19.6	30.7	31.9	6.2	79.5	1,860
Rural	29.9	23.3	2.8	5.8	11.5	2.5	38.9	7,432
Region								
Hill	34.8	40.7	9.0	18.6	18.6	3.5	50.6	420
Western	31.0	37.3	5.7	12.0	15.4	2.8	45.6	3,320
Central	42.4	36.9	9.8	12.9	16.8	3.2	54.6	1,620
Eastern	32.3	28.2	4.3	7.3	13.1	3.4	43.4	3,505
Bundelkhand	43.6	32.8	7.9	13.8	31.0	5.1	57.0	427
Education								
Illiterate	24.2	20.4	1.2	0.8	7.0	1.1	33.8	6,523
Literate, < middle school complete	49.2	50.1	6.9	14.9	25.4	5.0	68.8	1,101
Middle school complete	54.8	59.0	12.9	25.7	34.3	7.7	75.2	635
High school complete and above	69.2	85.6	32.2	59.9	48.3	12.1	90.3	1,032
Religion								
Hindu	35.0	32.8	6.2	11.0	16.0	3.5	46.6	7,715
Muslim	29.7	37.8	5.5	8.6	13.1	1.8	48.4	1,483
Sikh	44.8	59.8	6.5	24.5	23.9	3.0	68.6	55
Caste/tribe								
Scheduled caste	28.6	22.9	3.2	4.8	10.6	1.4	38.2	1,805
Scheduled tribe	24.8	20.5	3.1	7.8	11.0	2.9	33.1	191
Other backward class	29.8	25.7	3.3	6.3	12.8	2.5	40.4	2,591
Other	40.4	44.8	9.6	17.0	19.8	4.6	56.3	4,276
Standard of living index								
Low	18.2	11.3	1.0	1.5	7.9	1.5	24.4	2,598
Medium	33.8	31.0	3.8	6.6	12.9	2.4	46.9	4,887
High	61.3	78.7	21.6	38.3	36.6	8.5	84.2	1,612
Use of contraception								
Ever used	42.0	47.3	9.8	17.0	22.0	4.4	59.7	3,427
Never used	29.7	25.9	4.0	7.2	11.9	2.6	39.7	5,865
Total	34.2	33.8	6.1	10.8	15.6	3.2	47.1	9,292

Note: Total includes 21 women belonging to other religions and 17, 429, and 195 women with missing information on religion, caste/tribe, and the standard of living index, respectively, who are not shown separately.

Exposure to family planning messages also differs by religion, with Sikh women more likely to be exposed to family planning messages in general, and from almost all media sources, than Hindu or Muslim women. Sixty-nine percent of Sikh women say they have heard or seen a family planning message through the media, compared with 48 percent of Muslim women and 47 percent of Hindu women. Muslim women are more likely than Hindu women to have heard or seen a family planning message on the television, whereas Hindu women are more likely than Muslim women to have had exposure from each of the other media sources.

Fifty-six percent of ever-married women not belonging to scheduled castes, scheduled tribes, or other backward classes have seen or heard a family planning message, followed by 40 percent of women from other backward classes, 38 percent of women from scheduled castes, and 33 percent of women from scheduled tribes. Exposure to family planning messages rises dramatically with an increasing standard of living, both for media in general and for each specific media source. Finally, women who have ever used contraception are much more likely to report hearing or seeing a media message on family planning than are women who have never used contraception. All of these differentials are likely to reflect some combination of the greater access to broadcast signals in urban areas, the greater ownership of radios and televisions among higher-income households, and variations in attentiveness to media messages associated with differing levels of education, leisure, and interest.

5.8 Discussion of Family Planning

Irrespective of whether they had ever used contraception, all currently married women were asked whether they had discussed family planning with their husband, friends, neighbours, or other relatives in the past few months. Information on whether women talk about family planning at all, and with whom they discuss it, sheds light on their level of interest in family planning and their familial and other sources of family planning information. Table 5.14 shows that only 23 percent of currently married women in Uttar Pradesh discussed family planning with their husband, friends, neighbours, or other relatives in the past few months. Nineteen percent of women discussed family planning with their husbands and 8 percent discussed family planning with friends or neighbours. Discussions of family planning with relatives other than the husband are rare.

Women age 25–34 years are most likely to have discussed family planning with someone (28 percent), followed by women age 15–24 (22 percent) and women age 35–49 (17 percent). Urban women are more likely than rural women to have discussed family planning. By region, women in the Eastern Region are most likely to have discussed family planning with anyone and women in the Hill Region are least likely to have done so. The proportion of women reporting such discussions generally rises with women's education, husband's education, and the standard of living index. Hindu women are somewhat less likely to have discussed family planning than Muslim or Sikh women. Discussions of family planning do not vary much by caste or tribe status. Women who have ever used contraception are twice as likely to have discussed family planning (33 percent) as women who have never used contraception (17 percent).

Table 5.14 Discussion of family planning

Percentage of currently married women who discussed family planning with their husbands, friends, neighbours, or other relatives in the past few months by selected background characteristics, Uttar Pradesh, 1998-99

Background characteristic	Person with whom discussed family planning								Any of these persons	Number of women
	Husband	Mother	Sister	Daughter	Mother-in-law	Sister-in-law	Friend/ neighbour	Other relative		
Age										
15-24	18.3	0.5	0.4	0.0	1.9	1.3	7.8	0.1	22.2	2,893
25-34	23.6	0.6	0.6	0.1	1.4	1.4	9.3	0.1	27.8	3,187
35-49	13.0	0.1	0.3	0.1	0.2	0.4	7.8	0.0	17.4	2,838
Residence										
Urban	26.2	0.3	0.9	0.1	0.6	0.9	9.6	0.1	30.3	1,776
Rural	16.6	0.4	0.3	0.1	1.3	1.1	8.0	0.0	20.8	7,142
Region										
Hill	16.1	0.5	0.4	0.3	2.1	1.1	5.5	0.4	17.5	390
Western	17.8	0.4	0.7	0.1	0.7	0.5	5.4	0.0	19.2	3,184
Central	18.5	0.5	0.1	0.1	1.9	2.9	7.6	0.1	23.2	1,539
Eastern	19.2	0.4	0.4	0.1	1.0	0.8	12.2	0.0	26.0	3,391
Bundelkhand	20.9	0.1	0.0	0.0	2.0	0.8	5.2	0.1	24.7	413
Education										
Illiterate	15.9	0.4	0.3	0.1	1.1	1.0	7.7	0.0	19.8	6,230
Literate, < middle school complete	23.5	0.4	0.9	0.0	1.7	1.3	9.9	0.0	27.5	1,067
Middle school complete	23.6	0.4	0.6	0.3	1.9	1.4	10.7	0.0	29.2	620
High school complete and above	26.1	0.6	0.9	0.1	0.8	0.9	9.2	0.2	31.0	1,000
Religion										
Hindu	17.8	0.4	0.3	0.1	1.3	1.1	8.1	0.1	22.0	7,413
Muslim	22.0	0.2	0.9	0.1	0.7	0.9	9.9	0.1	26.2	1,417
Sikh	24.1	0.0	2.3	0.0	0.0	4.1	6.8	0.0	26.4	51
Caste/tribe										
Scheduled caste	19.5	0.3	0.2	0.1	1.1	1.1	8.2	0.0	23.4	1,725
Scheduled tribe	18.6	0.8	0.6	0.0	1.6	1.2	8.4	0.0	20.7	185
Other backward class	18.3	0.5	0.4	0.1	1.4	1.5	10.2	0.1	23.5	2,507
Other	18.3	0.3	0.5	0.1	0.9	0.8	7.5	0.1	22.1	4,092
Standard of living index										
Low	14.8	0.6	0.4	0.1	0.8	0.6	6.7	0.0	18.2	2,475
Medium	18.9	0.3	0.3	0.0	1.4	1.3	9.1	0.0	23.2	4,692
High	23.6	0.4	1.0	0.3	0.7	1.4	8.4	0.1	28.1	1,563
Use of contraception										
Ever used	27.6	0.5	0.6	0.1	1.2	1.4	11.1	0.1	32.9	3,350
Never used	13.0	0.3	0.3	0.1	1.1	0.8	6.7	0.0	16.5	5,568
Husband's education										
Illiterate	13.7	0.4	0.4	0.2	1.2	1.1	6.6	0.0	17.3	2,561
Literate, < middle school complete	18.8	0.4	0.4	0.0	0.8	1.1	8.8	0.0	23.0	1,639
Middle school complete	19.0	0.3	0.1	0.1	1.1	0.9	7.9	0.0	21.8	1,473
High school complete and above	21.9	0.4	0.6	0.1	1.4	1.2	9.7	0.1	27.1	3,208
Total	18.5	0.4	0.4	0.1	1.2	1.1	8.4	0.1	22.7	8,918

Note: Total includes 20 women belonging to other religions and 17, 410, 188, and 37 women with missing information on religion, caste/tribe, the standard of living index, and husband's education, respectively, who are not shown separately.

5.9 Need for Family Planning

Currently married women who are not using any method of contraception but who do not want any more children or want to wait two or more years before having another child are defined as having an unmet need for family planning. Current contraceptive users are said to have a met need for family planning. The total demand for family planning is the sum of the met need and the unmet need. Table 5.15 shows the unmet need, met need, and total demand for family planning, according to whether the need is for spacing or limiting births. The footnotes in the table provide detailed definitions of these concepts.

According to these definitions, one in four currently married women in Uttar Pradesh have an unmet need for family planning. The level of unmet need is higher in Uttar Pradesh than in any other state in India outside of the Northeast Region. The unmet need in Uttar Pradesh is about equally divided between unmet need for spacing births (12 percent) and for limiting births (13 percent). If all of the women who say they want to space or limit their births were to use family planning, the contraceptive prevalence rate would increase from 28 percent to 53 percent in the state. This means that current programmes are meeting only about half (53 percent) of the family planning need (as shown in the last column of the Table 5.15). These results suggest that there has been some decline in unmet need during the period since NFHS-1 when unmet need in Uttar Pradesh was estimated to be 30 percent. The proportion of demand satisfied increased during this period from 40 percent in NFHS-1 to 53 percent in NFHS-2.

Unmet need increases from 29 percent among women age 15–19 to 33 percent among women age 20–24 and then falls steadily to 5 percent among women age 45–49. For the youngest women (age 15–24) unmet need is largely for spacing rather than for limiting. More than 60 percent of the unmet need for women age 25–29 is for limiting. The met and unmet need for contraception among women age 30 years and above is almost exclusively for limiting. Only 16 percent of the total demand for family planning is being met for married women age 15–19. This proportion rises steadily with the age of women to 90 percent for women age 45–49.

Unmet need for family planning is higher in rural areas (27 percent) than in urban areas (20 percent) and the percentage of demand satisfied is much higher in urban areas (70 percent) than in rural areas (47 percent). Unmet need is lower in the Bundelkhand and Hill Regions and the percentage of total demand satisfied is higher in those regions than in any other region. Unmet need is only slightly lower (23 percent) among women who have completed middle school or higher education than among less educated and illiterate women (26 percent). Most unmet need among women who have completed at least middle school is for spacing, whereas most unmet need among less educated and illiterate women is for limiting. The percentage of demand satisfied increases with education from 49 percent among illiterate women to 66 percent among women who have completed at least high school.

Muslim women have higher unmet need for family planning (30 percent) than either Hindu women (24 percent) or Sikh women (22 percent). The percentage of total demand satisfied is much higher for Sikh women (71 percent) than for Hindu women (55 percent) or Muslim women (42 percent). Notably, although unmet need among Hindu and Sikh women is about equally divided between the unmet need for spacing and for limiting, almost 60 percent of the unmet need among Muslim women is for limiting. Unmet need does not vary much by caste or tribe status. However, the percentage of demand satisfied is highest for women who do not belong to a scheduled caste,

Table 5.15 Need for family planning services

Percentage of currently married women with unmet need, met need, and total demand for family planning (FP) services and percentage of total demand satisfied, by selected background characteristics, Uttar Pradesh, 1998-99

Background characteristic	Unmet need for FP ¹			Met need (currently using) ²			Total demand for FP			Percentage of demand satisfied
	For spacing	For limiting	Total	For spacing	For limiting	Total	For spacing	For limiting	Total	
Age										
15-19	27.0	2.3	29.3	4.7	0.7	5.4	31.7	3.0	34.7	15.6
20-24	24.1	8.7	32.8	5.5	6.9	12.4	29.6	15.6	45.2	27.4
25-29	12.2	18.9	31.0	4.0	21.9	25.9	16.2	40.8	57.0	45.5
30-34	5.6	22.3	27.9	2.0	37.2	39.2	7.6	59.5	67.1	58.4
35-39	1.8	19.1	20.9	0.9	44.6	45.6	2.7	63.7	66.5	68.6
40-44	0.4	10.2	10.6	0.5	40.6	41.1	0.9	50.9	51.7	79.5
45-49	0.2	4.3	4.5	0.0	38.0	38.0	0.2	42.3	42.5	89.4
Residence										
Urban	7.9	11.7	19.6	5.0	39.8	44.8	12.9	51.5	64.3	69.6
Rural	12.7	13.8	26.5	2.5	21.4	23.9	15.2	35.2	50.4	47.4
Region										
Hill	10.5	11.3	21.8	3.0	41.3	44.3	13.5	52.6	66.1	67.0
Western	11.0	15.1	26.1	2.5	24.7	27.2	13.5	39.8	53.3	51.0
Central	13.0	12.1	25.1	3.9	24.0	27.9	17.0	36.0	53.0	52.6
Eastern	12.3	13.1	25.5	3.0	23.3	26.3	15.3	36.5	51.8	50.8
Bundelkhand	8.9	8.8	17.7	2.7	31.6	34.3	11.6	40.4	52.0	66.0
Education										
Illiterate	11.0	14.5	25.5	2.1	21.8	24.0	13.1	36.3	49.4	48.5
Literate, < middle school complete	12.8	13.4	26.2	2.2	29.2	31.4	15.0	42.6	57.6	54.5
Middle school complete	15.9	7.3	23.2	4.7	30.1	34.7	20.6	37.4	57.9	60.0
High school complete and above	12.9	10.2	23.1	7.8	37.9	45.7	20.7	48.0	68.8	66.4
Religion										
Hindu	11.7	12.6	24.3	2.8	26.4	29.2	14.4	39.0	53.4	54.6
Muslim	12.1	17.6	29.7	3.7	17.3	21.0	15.8	34.9	50.7	41.5
Sikh	10.5	11.8	22.3	6.8	47.8	54.6	17.4	59.6	77.0	71.0
Caste/tribe										
Scheduled caste	11.9	14.6	26.5	2.5	22.2	24.8	14.5	36.8	51.2	48.3
Scheduled tribe	15.1	13.5	28.6	0.8	14.3	15.1	15.9	27.7	43.6	34.5
Other backward class	12.2	13.4	25.6	2.7	21.4	24.2	14.9	34.8	49.7	48.6
Other	11.1	12.9	24.0	3.5	29.2	32.7	14.6	42.1	56.7	57.7
Standard of living index										
Low	11.4	15.9	27.3	2.3	17.5	19.7	13.6	33.4	47.1	41.9
Medium	12.5	13.0	25.5	2.5	23.9	26.5	15.0	36.9	51.9	51.0
High	10.1	10.6	20.7	5.5	39.7	45.3	15.7	50.3	66.0	68.6

Contd...

Table 5.15 Need for family planning services (contd.)

Percentage of currently married women with unmet need, met need, and total demand for family planning (FP) services and percentage of total demand satisfied, by selected background characteristics, Uttar Pradesh, 1998-99

Background characteristic	Unmet need for FP ¹			Met need (currently using) ²			Total demand for FP			Percentage of demand satisfied
	For spacing	For limiting	Total	For spacing	For limiting	Total	For spacing	For limiting	Total	
Number of living children										
0	17.1	0.4	17.5	2.2	0.1	2.3	19.3	0.5	19.7	11.6
1	27.5	2.7	30.1	8.9	3.3	12.3	36.4	6.0	42.4	28.9
2	15.3	10.4	25.7	4.6	22.7	27.2	19.9	33.1	53.0	51.4
3	8.8	15.0	23.8	2.3	37.0	39.3	11.1	52.0	63.1	62.3
4	5.7	16.6	22.2	1.0	41.4	42.5	6.7	58.0	64.7	65.7
5	4.2	24.5	28.7	0.7	37.5	38.2	4.9	62.0	66.9	57.1
6+	2.1	27.4	29.5	0.2	31.2	31.4	2.3	58.6	60.9	51.6
Total	11.8	13.4	25.1	3.0	25.1	28.1	14.7	38.5	53.2	52.8

¹Unmet need for *spacing* includes pregnant women whose pregnancy was mistimed, amenorrhoeic women whose last birth was mistimed, and women who are neither pregnant nor amenorrhoeic who are not using any method of family planning and who say they want to wait two or more years for their next birth. Also included in unmet need for *spacing* are women who 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, amenorrhoeic women whose last child was unwanted, and women who are neither pregnant nor amenorrhoeic who are not using any method of family planning and who want no more children.

²Met need for *spacing* refers to women who are using some method of family planning and say they want to have another child or are undecided whether to have another. Met need for *limiting* refers to women who are using some method and who want no more children. Note that *spacing* and *limiting* refer to the reason for using contraception rather than to the particular method used.

scheduled tribe, or other backward class (58 percent), followed by women belonging to an other backward class or a scheduled caste (48-49 percent) and women belonging to a scheduled tribe (35 percent). Unmet need declines with the standard of living index, whereas the percentage of demand satisfied increases with the index.

Unmet need is higher for women with one or more living children than for women with no living children. However, among women with living children, unmet need declines from 30 percent for women with one living child to 22 percent for women with four living children and then rises again to 30 percent among women with six or more living children. Among women with no children or one child, unmet need is almost exclusively for spacing; by contrast, unmet need for limiting is dominant for women with three or more children. For women with no living children, only 12 percent of the total demand for family planning is satisfied and for women with one child only 29 percent of demand is satisfied. For women with two or more living children, between half and two-thirds of total demand is satisfied.

These results reveal high levels of unmet need among women in most subgroups and among women at all parities. The findings also suggest the need for further promoting spacing methods in the method mix offered to women. A family planning programme with an emphasis on sterilization fails to meet the needs of young women who are still in the process of family formation. In Uttar Pradesh, many women have an unmet need for spacing, especially before their first birth and between their first and second births. However, the high unmet need for limiting among older women suggests that many women who need permanent methods of contraception are also not being served well by current programmes. Thus, there is a need to strengthen sterilization services for couples who want to use sterilization. At the same time, the

family planning programme in Uttar Pradesh needs to provide women who want to stop childbearing but who do not wish to adopt sterilization with methods and options that they find acceptable for long-term use.

CHAPTER 6

MORTALITY, MORBIDITY, AND IMMUNIZATION

This chapter presents mortality rates, particularly for infants and young children, and data on the prevalence of certain diseases (morbidity). It also presents information on the prevention and treatment of diseases, especially those that are life-threatening to young children. The chapter ends with data on women's knowledge of AIDS. This type of information is relevant both to an assessment of the demographic situation and to the design of appropriate health policies and programmes. Mortality estimates are also useful for projecting the future size of the population. Detailed information on mortality and morbidity (by demographic and socioeconomic characteristics) can be used to identify population groups that are at high risk and in need of health services. This chapter primarily presents information on child health, while other chapters of this report, particularly Chapter 8, present information on maternal and reproductive health.

The Government of India has repeatedly taken steps to strengthen maternal and child health services in India, starting during the First and Second Five-Year Plans (1951–56 and 1956–61) under the Ministry of Health, and continuing with the Minimum Needs Programme initiated during the Fifth Five-Year Plan (1974–79). More recently, efforts to improve maternal and child health have been enhanced by activities of the Family Welfare Programme and by the introduction of the Child Survival and Safe Motherhood Programme (Ministry of Health and Family Welfare, 1992). The Ministry of Health and Family Welfare has also sponsored special projects under the Maternal and Child Health Programme, including the Oral Rehydration Therapy (ORT) programme, the establishment of Regional Institutes of Maternal and Child Health in states where infant mortality rates are high, the Universal Immunization Programme, and the Maternal and Child Health Supplemental Programme within the Postpartum Programme (Ministry of Health and Family Welfare, 1992). These programmes are now integrated into the Reproductive and Child Health Programme that was launched in 1996.

Maternal and child health services in rural areas of India are delivered mainly by government-run Primary Health Centres and sub-centres. In urban areas, such services are available mainly through government or municipal hospitals, urban health posts, hospitals and nursing homes operated by nongovernmental organizations (NGOs), and private nursing homes and maternity homes

The second National Family Health Survey (NFHS-2) includes questions on mortality and morbidity on both the Household Questionnaire and the Woman's Questionnaire. The Household Questionnaire has questions on individuals in the household suffering from asthma, tuberculosis, jaundice, and malaria, plus questions on deaths occurring to usual residents of the household during the two years preceding the survey. The Woman's Questionnaire collects information on the survival status of all births and the age at death of children who died. The Woman's Questionnaire also contains questions on child immunization coverage and sources; vitamin A supplementation for children; prevalence of acute respiratory infections, fever, and diarrhoea among children and the treatment of these illnesses; and mothers' knowledge of oral rehydration therapy.

The information on child health and health-care practices was collected from mothers for children born since 1 January 1995. If a woman had more than two live births during that period, the information was collected for only the two most recent births. The information on child health presented in this chapter pertains to children born during the three years preceding the survey.

6.1 Crude Death Rates and Age-Specific Death Rates

Table 6.1 shows crude death rates (CDR) and age-specific death rates by sex for the usual resident (*de jure*) population of Uttar Pradesh from NFHS-2 and the Sample Registration System (SRS). The table also presents crude death rates and age-specific death rates from NFHS-1 for the total population (both sexes combined). The SRS death rates are based on deaths to the usual resident population in 1997. The NFHS-1 and NFHS-2 death rates are based on the average annual number of deaths occurring to usual residents of the household during the two-year period preceding the survey (approximately 1991–92 for NFHS-1 and 1997–98 for NFHS-2). The denominators for the NFHS-2 death rates are obtained by projecting the number of usual residents at the time of the survey backwards to the midpoint of the time period on the basis of the intercensal population growth rate in the state. The rural intercensal growth rate is applied to all rural age and sex groups and the urban intercensal growth rate is applied to all urban age and sex groups.

Questions on the number of deaths occurring to usual residents in each household during a particular time period have been included in demographic surveys in many countries and have often resulted in a substantial underreporting of deaths. The Sample Registration System (SRS), maintained by the Office of the Registrar General of India, provides a useful comparison (Office of the Registrar General, 1999a).

Table 6.1 shows an estimated average annual CDR for Uttar Pradesh of 10.2 deaths per 1,000 population based on NFHS-2 data (covering roughly 1997–98), almost the same as the 1997 SRS rate of 10.3. This suggests that the completeness of reporting of deaths in NFHS-2 is about the same as in the SRS. NFHS-2 age-specific death rates are lower than the SRS rates below age 15 and slightly higher than the SRS rates at ages 60 and above.

The NFHS-2 CDR estimate of 10.2 is slightly higher than the all-India NFHS-2 rate of 9.7 and somewhat lower than the corresponding NFHS-1 estimate of 11.9 for Uttar Pradesh (covering roughly 1991–92). Between NFHS-1 and NFHS-2, death rates declined substantially in the youngest age group (less than five years old), increased at ages 50–59, and did not change much in the other age groups.

In most countries, male death rates are higher than female death rates at nearly all ages. South Asia generally has been an exception in this respect, with higher death rates for females over much of the age span (Tabutin and Willems, 1995; Preston, 1989; Ghosh, 1987). In Uttar Pradesh, according to both NFHS-2 and the SRS, death rates are higher for females than for males among children under age 15. The SRS also estimates the female death rate to be higher than the male death rate at ages 15–49, but the difference is very small. At older ages (50 and above), males have somewhat higher death rates than females according to both NFHS-2 and the SRS.

Table 6 1 Age-specific death rates and crude death rates							
Age-specific death rates and crude death rates (CDR) by sex from NFHS-1, NFHS-2, and the SRS, Uttar Pradesh							
Age	NFHS-1 (1991-92)	NFHS-2 (1997-98)		SRS (1997)			
	Total	Male	Female	Total	Male	Female	Total
< 5	31.6	21.1	23.7	22.4	27.3	35.3	31.1
5-14	2.5	1.1	2.4	1.7	1.8	2.3	2.0
15-49	3.9	4.5	3.2	3.9	3.5	3.7	3.5
50-59	8.5	16.5	12.2	14.4	15.9	12.7	14.3
60+	54.6	54.5	54.1	54.3	54.6	43.6	49.6
CDR	11.9	10.4	10.1	10.2	10.0	10.6	10.3

Note: Age-specific death rates and crude death rates by sex from NFHS-1 and NFHS-2 are based on the annual number of deaths reported for the *de jure* population during the two years preceding the survey. The SRS rates are also *de jure*, based on deaths during 1997. Rates are specified on a per-thousand basis.
Source for SRS: Office of the Registrar General, 1999b

6.2 Infant and Child Mortality

Infant and child mortality rates reflect a country's level of socioeconomic development and quality of life and are used for monitoring and evaluating population and health programmes and policies. NFHS-2 asked all ever-married women age 15-49 to provide a complete history of their births including, for each live birth, the sex, month and year of 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 other children dying before their second birthday, and in years for children dying at later ages. This information was used to calculate the following direct estimates of infant and child mortality¹:

- Neonatal mortality:** The probability of dying in the first month of life
- Postneonatal mortality:** The probability of dying after the first month of life but before the first birthday
- Infant mortality ($1q_0$):** The probability of dying before the first birthday
- Child mortality ($4q_1$):** The probability of dying between the first and fifth birthdays
- Under-five mortality ($5q_0$):** The probability of dying before the fifth birthday

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 sampling and nonsampling errors. While sampling errors for various

¹A 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:

$${}_nq_x = 1 - \prod_1 (1 - q_i)$$

mortality estimates are provided in Appendix A, 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 deaths. 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 too low and if underreporting is more severe for children born further in the past than children born recently, any decline in mortality will tend to be understated.

Results from Table B.5 (Appendix B) suggest that early neonatal deaths have not been seriously underreported in the Uttar Pradesh NFHS-2, since the ratios of deaths under seven days to all neonatal deaths are consistently high (between 66 and 74 percent) for the different time periods preceding the survey (a ratio of less than 25 percent is often used as a guideline to indicate underreporting of early neonatal deaths). The ratios of infant deaths that occurred during the neonatal period (Appendix Table B.6) are also consistently high (between 63 and 68 percent) for the different time periods preceding the survey.

Another problem inherent in most retrospective surveys is heaping of the age at death on certain digits, e.g., 6, 12, and 18 months. If the net result of age 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 year or older. Thus, heaping at 12 months can bias the mortality estimates because a certain fraction of these deaths may have actually occurred during infancy (i.e., at ages 0–11 months). In such cases, heaping would bias infant mortality (${}_1q_0$) downward and child mortality (${}_4q_1$) upward.

In the Uttar Pradesh NFHS-2, there appears to be a preference for reporting age at death at 3, 6, 8, 10, 15, and 20 days (Table B.5 in Appendix B). An examination of the distribution of deaths under age two years during the 15 years preceding the survey by month of death (Appendix Table B.6) indicates a substantial heaping of deaths at 6, 12, and 18 months of age. The amount of heaping on 12 months is particularly pronounced, despite the strong emphasis on this problem during the training of interviewers for the NFHS-2 fieldwork². Nevertheless, even if one-third of the deaths reported at age 12 months actually occurred at less than 12 months of age, the infant mortality rate for the five years before the survey would be underestimated by less than 3 percent.

An examination of the distribution of births and deaths since 1988 (Table B.4 in Appendix B) suggests that there may be some underreporting of deaths in the most recent five-year period. The proportion of deaths to births decreases from 14 percent in 1988 to 8 percent in 1998. Some of this decrease undoubtedly reflects a real reduction in mortality during that period

²Interviewers were trained to probe for the exact number of months lived by the child if the age at death was reported as 'one year'.

and some reflects the fact that younger children have had less exposure to the risk of mortality. However, the sharp disjuncture in the proportion of deaths between 1994 and 1995 may be due partly to underreporting of deaths relative to births during the most recent period.

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 for women age 40–49 since these women were over age 50 at the time of the survey and were 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 since fewer older women are excluded. The extent of this bias depends on the proportion of births omitted. Table 4.18 (Chapter 4) shows that only 6 percent of the children born in the three 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.

Levels, Trends, and Differentials in Infant and Child Mortality

Table 6.2 and Figure 6.1 present various measures of infant and child mortality by residence for the three five-year periods preceding the survey. Infant mortality in Uttar Pradesh declined from 116 deaths per 1,000 live births during 1984–88 (10–14 years before the survey) to 87 deaths per 1,000 live births during 1994–98 (0–4 years before the survey), an average rate of decline of nearly 3 infant deaths per 1,000 live births per year. A comparison of the infant mortality rate for the period 0–4 years before NFHS-2 (87) with the infant mortality rate 0–4 years before NFHS-1 (100) suggests a somewhat slower decline of 2.2 infant deaths per 1,000 live births over the six years between the two surveys.

All other measures of infant and child mortality presented in Table 6.2 have also declined during the past 15 years. All of the measures declined by 24–28 percent, except for the child mortality rate, which declined by 35 percent. Despite the overall decline in the infant and child mortality rates, however, more than 1 in every 12 children born during the five years before NFHS-2 died within the first year of life, and 1 in every 8 children died before reaching age five. Moreover, according to the NFHS-2 estimates, the infant mortality rate in Uttar Pradesh (87) is much higher than the national IMR of 68 and it is higher than the IMR in any other state except Meghalaya. Clearly, child survival programmes in Uttar Pradesh need to be intensified to achieve further reductions in infant and child mortality.

Table 6.2 Infant and child mortality

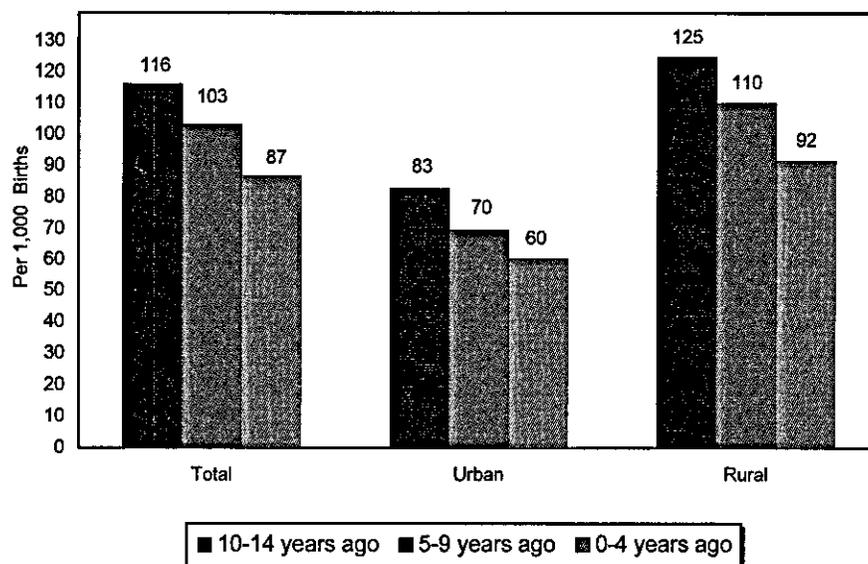
Neonatal, postneonatal, infant, child, and under-five mortality rates for five-year periods preceding the survey by residence, Uttar Pradesh, 1998-99

Years preceding the survey	Neonatal mortality (NN)	Postneonatal mortality ¹ (PNN)	Infant mortality (${}_1q_0$)	Child mortality (${}_4q_1$)	Under-five mortality (${}_5q_0$)
URBAN					
0-4	38.3	22.1	60.4	27.1	85.8
5-9	48.2	21.5	69.6	27.5	95.3
10-14	49.5	33.3	82.8	36.9	116.7
RURAL					
0-4	56.6	35.2	91.7	41.6	129.5
5-9	74.2	36.0	110.2	45.5	150.7
10-14	78.5	46.5	124.9	67.5	184.0
TOTAL					
0-4	53.6	33.1	86.7	39.2	122.5
5-9	69.8	33.5	103.3	42.0	141.0
10-14	72.5	43.7	116.2	60.7	169.9

Note: The first five-year period preceding the survey does not include the month in which the interview took place. Rates are specified on a per-thousand basis. See text for definition of rates.

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

**Figure 6.1
Infant Mortality Rates for Five-Year Periods by Residence**



Note: Rates are for five-year periods preceding the survey

NFHS-2, Uttar Pradesh, 1998-99

Rural mortality rates are considerably higher than urban mortality rates. For example, in the five years before the survey, both infant and child mortality rates are slightly more than 50 percent higher in rural areas than in urban areas. During the period covered in Table 6.2, all mortality rates declined steadily in rural Uttar Pradesh, and all mortality rates except the postneonatal mortality rate declined steadily in urban areas. The infant mortality rate declined by 27 percent in both urban and rural areas between 1984–88 and 1994–98 and the under-five mortality rate declined slightly faster in rural areas (30 percent) than in urban areas (26 percent). A comparison with corresponding figures from NFHS-1 shows a decline in all rural estimates and most urban estimates of infant and child mortality rates.

The estimated NFHS-2 infant mortality rate of 87 deaths per 1,000 live births during 1994–98 is almost identical to the SRS value of 86 deaths per 1,000 live births averaged for the period 1994–98. The NFHS-2 and average SRS estimates of the infant mortality rate for rural areas over the same period are also in close agreement (92 deaths per 1,000 live births from NFHS-2, compared with 89 deaths per 1,000 live births from the SRS). The NFHS-2 estimate for urban areas (60 deaths per 1,000 live births) is somewhat lower than the average SRS estimate for urban areas (66 deaths per 1,000 live births). However, the difference between NFHS-2 and the average SRS infant mortality rates for urban areas is not statistically significant because of the relatively small urban sample (the lower and upper confidence limits for the NFHS-2 estimate, shown in Appendix Table A.2, are 46 and 74, respectively).

Socioeconomic Differentials in Infant and Child Mortality

The probability of dying in early childhood is higher in some population groups than in others. Table 6.3 presents differentials in infant and child mortality rates for the 10-year period preceding the survey by selected background characteristics. Children in rural areas of Uttar Pradesh experience a 55 percent higher probability of dying before their fifth birthday than urban children, only slightly more than the 51 percent differential in the most recent five-year period shown in Table 6.2. This comparison confirms the finding in Table 6.2 that the under-five mortality rate has been falling at about the same rate in rural areas and urban areas.

The infant and child mortality rates are highest in the Central Region of Uttar Pradesh and the Bundelkhand Region, followed by the Eastern Region and the Western Region. All of the mortality rates are considerably lower in the Hill Region than in any other region.

The overall infant mortality rate declines sharply with increasing education of mothers, from a high of 105 deaths per 1,000 live births for illiterate mothers to a low of 45 deaths per 1,000 live births for mothers who have at least completed high school. Other mortality indicators shown in the table vary similarly with the education of the mother.

All the infant and child mortality rates are much higher for Hindus than for Muslims. The infant mortality rate is 32 percent higher and the child mortality rate is 19 percent higher for Hindu children than for Muslim children. These findings are consistent with those of NFHS-1, which also recorded much higher rates of infant and child mortality for Hindus than Muslims in Uttar Pradesh. Mortality differentials by religion presumably reflect influences other than religion alone (for example, a larger proportion of Muslims than Hindus in Uttar Pradesh live in urban areas, where mortality rates are generally low). This is confirmed by a study based on

Table 6.3 Infant and child mortality by background characteristics					
Neonatal, postneonatal, infant, child, and under-five mortality rates for the 10-year period preceding the survey by selected background characteristics, Uttar Pradesh, 1998–99					
Background characteristic	Neonatal mortality (NN)	Postneonatal mortality ¹ (PNN)	Infant mortality (iQ ₀)	Child mortality (cQ ₁)	Under-five mortality (sQ ₀)
Residence					
Urban	43.6	21.7	65.3	27.3	90.8
Rural	65.7	35.6	101.3	43.5	140.4
Region					
Hill	31.0	22.6	53.6	15.0	67.8
Western	52.2	29.5	81.8	29.4	108.8
Central	77.5	44.9	122.4	60.3	175.4
Eastern	66.2	31.6	97.8	43.9	137.4
Bundelkhand	73.9	44.3	118.3	55.1	166.8
Mother's education					
Illiterate	68.0	36.8	104.7	46.4	146.3
Literate, < middle school complete	49.0	25.0	74.0	32.8	104.4
Middle school complete	49.1	27.6	76.7	18.4	93.7
High school complete and above	31.0	14.2	45.2	5.6	50.5
Religion					
Hindu	64.7	35.4	100.2	41.8	137.8
Muslim	50.8	25.1	75.9	35.2	108.4
Caste/tribe					
Scheduled caste	69.7	40.3	110.0	54.1	158.1
Scheduled tribe	(51.1)	(32.1)	(83.3)	(45.0)	(124.5)
Other backward class	71.0	34.7	105.7	40.8	142.2
Other	54.1	28.2	82.3	32.5	112.1
Standard of living index					
Low	67.9	44.3	112.2	56.9	162.7
Medium	63.1	29.9	92.9	38.3	127.7
High	45.6	19.9	65.5	11.0	75.8
Total	62.1	33.3	95.4	40.6	132.1

Note: The 10-year period preceding the survey does not include the month in which the interview took place. Rates are specified on a per-thousand basis. See text for definition of rates.
 () Based on 250–499 children surviving to the beginning of the age interval
¹ Computed as the difference between the infant and neonatal mortality rates

NFHS-1 data, which found that the difference in infant and child mortality rates between Hindu and Muslim children is reduced considerably when other demographic and socioeconomic variables are controlled statistically (Pandey et al., 1998).

Children of women belonging to scheduled castes and other backward classes have higher rates of infant mortality than children of women belonging to scheduled tribes or 'other' women. All indicators of infant and child mortality decline substantially with increases in the household standard of living. For example, for children in households with a high standard of living the under-five mortality rate is 76 deaths per 1,000 live births; the corresponding rate for children in households with a low standard of living (163) is more than twice as high. The child mortality rate is more than five times higher in households with a low standard of living than in households with a high standard of living.

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 6.4 and Figure 6.2 present various indicators of infant and child mortality for the 10 years preceding the survey by sex of the child, mother's age at childbirth, birth order, length of the previous birth interval, medical care received by the mother during pregnancy, delivery, and the early postpartum period, and the size of the child at the time of birth.

Table 6.4 shows that the mortality rate below age five years is considerably higher for girls than for boys. Excess female mortality occurs in every age group after the neonatal period. The neonatal mortality rate (which largely reflects mortality due to congenital conditions) is slightly higher for boys (65 deaths per 1,000 live births) than for girls (59 deaths per 1,000 live births). However, the postneonatal mortality rate is slightly higher for girls and the child mortality rate (aq_1) is almost twice as high for girls (53 deaths per 1,000) as for boys (29 deaths per 1,000). This reversal of sex differentials in mortality with increasing age has been observed in other studies in South Asia and is thought to reflect the relative medical and nutritional neglect of the girl child (Das Gupta, 1987; Basu, 1989).

For both social and biological reasons, infant mortality rates and child mortality rates often exhibit a U-shaped pattern with respect to the mother's age at childbirth, with children of the youngest and oldest mothers experiencing higher mortality rates than children whose mothers are in their prime reproductive ages. Children born to young mothers are more likely to be of low birth weight, which is an important factor contributing to their higher neonatal mortality rate. Similarly, children born to mothers above age 30 are at a relatively high risk of experiencing congenital problems. Uttar Pradesh exhibits the expected U-shaped pattern of mortality by mother's age, with higher infant mortality among children of mothers under age 20 (123 deaths per 1,000 live births) and age 30–39 (97 deaths per 1,000) than among children of mothers age 20–29 (83 deaths per 1,000). Similar patterns are observed for neonatal and postneonatal mortality rates. The U-shaped relationship is not observed in the case of child mortality. Mortality rates among children age 1–4 years increase slightly with mother's age at childbirth.

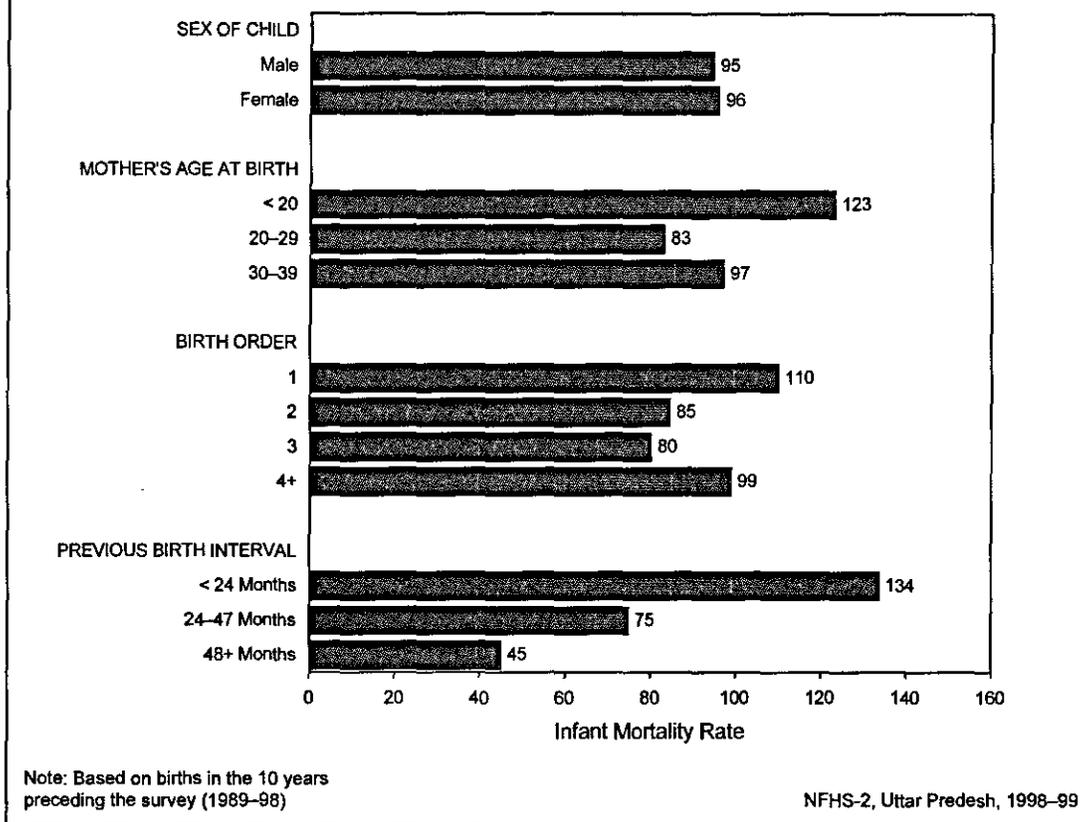
Birth order also tends to have a U-shaped relationship to infant deaths, with first births and high-order births having elevated mortality rates. In Table 6.4, birth order shows the expected U-shaped pattern for neonatal, postneonatal, infant, and under-five mortality rates. This association is likely to reflect not only the effect of birth order but also the effect of the age of the mother at childbirth. The child mortality rate (age 1–4 years) increases steadily with birth order, as with mother's age at childbirth. 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 medical resources, and for nutritious food once children are weaned. It is also likely that higher birth-order children are disproportionately from lower socioeconomic groups, in which mortality tends to be higher.

The timing of successive births has a powerful effect on the survival chances of children in Uttar Pradesh. All the mortality rates decrease sharply as the length of the previous birth interval increases, and all the measures are especially high for children born less than 24 months after a previous birth. The infant mortality rate is three times as high for children with a previous birth interval of less than 24 months as for children with a previous interval of 48 months or

Table 6.4 Infant and child mortality by demographic characteristics					
Neonatal, postneonatal, infant, child, and under-five mortality rates for the 10-year period preceding the survey by selected demographic characteristics, Uttar Pradesh, 1998-99					
Demographic characteristic	Neonatal mortality (NN)	Postneonatal mortality ¹ (PNN)	Infant mortality (Iq ₀)	Child mortality (4q ₁)	Under-five mortality (5q ₀)
Sex of child					
Male	64.5	30.3	94.8	28.8	120.9
Female	59.4	36.5	96.0	53.4	144.2
Mother's age at birth					
< 20	85.4	38.0	123.4	37.2	156.0
20-29	52.2	31.0	83.2	41.0	120.7
30-39	63.2	34.0	97.2	42.2	135.3
Birth order					
1	77.3	32.9	110.1	24.7	132.1
2	57.8	26.9	84.7	31.6	113.6
3	44.7	35.6	80.2	49.0	125.3
4+	63.5	35.6	99.1	49.2	143.4
Previous birth interval					
< 24 months	86.1	47.7	133.8	61.5	187.0
24-47 months	47.2	27.9	75.1	40.9	112.9
48+ months	27.5	17.7	45.2	14.9	59.5
Medical care²					
No care	56.5	41.7	98.2	U	U
One or two types of care	35.8	26.6	62.4	U	U
Birth size³					
Large	(44.6)	(39.1)	(83.7)	U	U
Average	38.2	30.7	68.9	U	U
Small	64.7	41.5	106.2	U	U
Very small	(98.9)	(43.5)	(142.3)	U	U
<p>Note: The period preceding the survey does not include the month in which the interview took place. Rates are specified on a per-thousand basis. See text for definition of rates.</p> <p>U: Not available</p> <p>() Based on 250-499 children surviving to the beginning of the age interval</p> <p>¹ Computed as the difference between the infant and neonatal mortality rates</p> <p>² Medical care includes (i) antenatal care received from a health worker, (ii) delivery assistance given by a doctor, nurse, trained midwife, or other health professional, and (iii) postnatal care received in a health facility or at home within two months of delivery; rates are for the three-year period preceding the survey.</p> <p>³ Birth size as reported by mother; rates are for the three-year period preceding the survey.</p>					

more (134 deaths compared with 45 deaths per 1,000 live births). The previous birth interval has a similar effect on all other indicators of infant and child mortality shown in Table 6.4. Although the length of the previous birth interval is likely to affect mortality risks directly, a substantial portion of the association between birth intervals and mortality risks may reflect the effect of factors that are correlated with birth intervals. For example, shorter birth intervals are likely to occur in large families, and large families tend to come from lower socioeconomic groups and are more likely than other families to live in rural areas where medical facilities and other survival-enhancing resources are less readily available. Nevertheless, multivariate analyses of birth-interval effects and child survival commonly find an association between short birth intervals (less than 24 months) and increased mortality even after controlling for other demographic and socioeconomic characteristics (Retherford et al., 1989).

Figure 6.2
Infant Mortality Rates by Selected Demographic Characteristics



Antenatal, delivery, and postnatal care are usually associated with lower infant mortality. Table 6.4 shows that children of women who receive one or two types of care have considerably lower risk of neonatal and postneonatal mortality than those who did not receive any care.

Another important determinant of the survival chances of children is the baby's weight at the time of birth. Many studies have found that low birth weight babies (under 2,500 grams) have a substantially increased risk of mortality. Because most babies in India are not weighed at the time of birth, in addition to birth weight, mothers were asked whether babies born during the three years preceding the survey were "large, average, small, or very small" at birth. The last panel in Table 6.4 shows neonatal, postneonatal, and infant mortality rates by birth size. Children who are perceived by their mothers to be smaller than average at birth experience much higher mortality risks than children perceived to be of average size or larger. Mortality among children perceived to be very small is markedly higher.

6.3 Morbidity

There is only limited experience in collecting morbidity data from population-based demographic sample surveys. NFHS-1 collected data on five major morbidity conditions—partial and complete blindness, tuberculosis, leprosy, physical impairment of the limbs, and malaria—among all persons in the sample households. The results were found to be generally plausible and useful. For this reason, it was decided to include similar morbidity questions in NFHS-2. In NFHS-2, questions on blindness, leprosy, and physical impairment of the limbs were

replaced by questions on asthma and jaundice. The questions on tuberculosis and malaria were retained, and a question on medical treatment of tuberculosis was added to get a better measure of the prevalence of tuberculosis. The household head or other knowledgeable adult in the household reported on morbidity for all household members, and no effort was made to do clinical tests for any of the disease conditions.

Table 6.5 shows the prevalence of asthma, tuberculosis, jaundice, and malaria in the household population by age, sex, and place of residence. There are several reasons why the results of NFHS-2 may understate the prevalence of these conditions. Respondents may underreport diseases carrying a stigma, such as tuberculosis due to intentional concealment. Underestimation may also occur because the household respondents are unaware that they or other members of the household have the condition. It is also possible that the respondents know that a household member suffers from a given condition but fail to report it because they do not recognize the term used by the enumerator to describe the condition. On the other hand, a factor contributing to a possible overestimation of prevalence without clinical verification is that some other disease can be mistaken by the respondent as one of the listed diseases; for example, chronic bronchitis may be reported as asthma or tuberculosis, or common flu as malaria.

Asthma

Asthma is a chronic respiratory disease characterized by sudden attacks of laboured breathing, chest constriction, and coughing. There has been a rapid increase in asthma cases in recent years in many parts of the world. In Uttar Pradesh, 2 percent of the population was reported to be suffering from asthma at the time of NFHS-2. The reported level of asthma (1,979 per 100,000 population) in Uttar Pradesh is lower than the level reported for India as a whole (2,468 per 100,000 population). The prevalence of asthma in Uttar Pradesh is considerably higher in rural areas (2,061 per 100,000 population) than in urban areas (1,667 per 100,000 population), and is higher among males (2,179 per 100,000) than among females (1,763 per 100,000). Age differences are marked, with the prevalence of asthma increasing from 285 per 100,000 at age 0-14 to 11,089 per 100,000 at age 60 and over.

Tuberculosis

Tuberculosis, which is also resurgent worldwide, is an infectious disease that affects the lungs and other body tissues. Tuberculosis of the lungs, the most commonly known form, is characterized by coughing up mucus and sputum, fever, weight loss, and chest pain. According to NFHS-2, the overall prevalence of tuberculosis in Uttar Pradesh is 551 per 100,000 population, almost the same as the national estimate of 544. The prevalence of tuberculosis in Uttar Pradesh is about the same level reported in NFHS-1 (560 per 100,000). The prevalence of tuberculosis is higher in rural areas (566 per 100,000) than in urban areas of Uttar Pradesh (490 per 100,000). The prevalence rate is somewhat higher for males (585 per 100,000) than for females (514 per 100,000). The sex differential in the prevalence of tuberculosis is much larger in urban areas than in rural areas. Probable reasons for the higher prevalence of tuberculosis among males than females are that men are more likely than women to come in contact with people who suffer from active tuberculosis and that men in Uttar Pradesh smoke more than women. The prevalence of tuberculosis increases rapidly with age. It is substantially higher among persons age 60 and above (1,527 per 100,000) than among those age 15-59 (782 per 100,000) or age 0-14 (81 per 100,000).

Table 6.5 Morbidity

Number of persons per 100,000 usual household residents suffering from asthma, tuberculosis, jaundice, or malaria by age, sex, and residence, Uttar Pradesh, 1998-99

Age and sex	Number of persons per 100,000 suffering from:					
	Asthma	Tuberculosis ¹	Medically treated tuberculosis	Jaundice during the past 12 months	Malaria during the past 3 months	Number of usual residents
URBAN						
Age						
< 15	339	111	28	920	1,274	4,100
15-59	1,487	565	405	1,077	1,571	6,382
60+	10,748	1,970	1,645	1,346	1,242	726
Sex						
Male	1,841	567	428	969	1,263	5,822
Female	1,479	407	260	1,111	1,633	5,386
Total	1,667	490	347	1,037	1,441	11,208
RURAL						
Age						
< 15	273	74	43	651	3,906	18,279
15-59	2,100	848	677	1,203	4,177	21,194
60+	11,160	1,435	1,126	901	4,685	3,499
Sex						
Male	2,268	589	451	1,185	4,082	22,297
Female	1,837	542	436	683	4,126	20,676
Total	2,061	566	444	943	4,103	42,973
TOTAL						
Age						
< 15	285	81	40	700	3,424	22,379
15-59	1,958	782	614	1,174	3,573	27,576
60+	11,089	1,527	1,216	978	4,093	4,226
Sex						
Male	2,179	585	446	1,140	3,498	28,119
Female	1,763	514	400	772	3,611	26,061
Total	1,979	551	424	963	3,552	54,181

¹Includes medically treated tuberculosis

Medically treated tuberculosis is expected to give a more reliable measure of the prevalence of active tuberculosis than the measure based on all reported cases considered in the preceding paragraph. As expected, the prevalence of medically treated tuberculosis is considerably lower (424 per 100,000) than the prevalence based on all reported cases (551 per 100,000). Differentials in the prevalence of medically treated tuberculosis by residence, age, and sex are similar to differentials in the prevalence of all reported cases.

Jaundice

Jaundice is characterized by yellowish discolouration of the eyes and skin, fever, liver enlargement, and abdominal pain. NFHS-2 asked household respondents if any member of the household had suffered from jaundice at any time during the 12 months preceding the survey. In Uttar Pradesh, 963 persons per 100,000 population were reported to have suffered from jaundice during the 12 months preceding the survey, considerably lower than the rate of 1,361 for India as

a whole. People living in urban areas are slightly more likely to have suffered from jaundice (1,037 per 100,000) than those living in rural areas (943 per 100,000). Males are 48 percent more likely to have suffered from jaundice than females. Jaundice is the only condition measured that does not increase steadily with age. The prevalence of jaundice is highest for the age group 15–59 (1,174 per 100,000), followed by the age groups 60 years and above (978 per 100,000) and 0–14 (700 per 100,000).

Malaria

Malaria is characterized by recurrent high fever with shivering. NFHS-2 asked household respondents whether any member of their household suffered from malaria any time during the three months preceding the survey. In Uttar Pradesh, 3,552 persons per 100,000 population were reported to have suffered from malaria during the three months preceding the survey, slightly lower than the national rate of 3,697 per 100,000 population. Since the prevalence of malaria is known to vary considerably by season, the NFHS-2 estimates should not be interpreted as representative of the level throughout the year. It is possible to compare this estimate with the NFHS-1 estimate because the months of the year comprising the reference period for the malaria estimates from the two surveys are almost the same. According to the two surveys, the rate of malaria (which was much higher in Uttar Pradesh than in any other state in NFHS-1, at 7,395 per 100,000 population) was cut in half between 1992–93 and 1998–99.

Rural residents are almost three times as likely to suffer from malaria (4,103 per 100,000) as are urban residents (1,441 per 100,000). The reported prevalence of malaria is higher for females than for males in both urban and rural areas. The prevalence of malaria increases with age, from 3,424 per 100,000 in the population age 0–14 to 4,093 per 100,000 in the population age 60 years and over. The steady increase with age occurs in rural areas but not in urban areas.

6.4 Child Immunization

The vaccination of children against six serious but preventable diseases (tuberculosis, diphtheria, pertussis, tetanus, poliomyelitis, and measles) has been a cornerstone of the child health care system in India. As part of the National Health Policy, the National Immunization Programme is being implemented on a priority basis. The Expanded Programme on Immunization (EPI) was initiated by the Government of India in 1978 with the objective of reducing morbidity, mortality, and disabilities from these six diseases by making free vaccination services easily available to all eligible children. Immunization against poliomyelitis was introduced in 1979–80, and tetanus toxoid for school children was added in 1980–81. Immunization against tuberculosis (BCG) was brought under the EPI in 1981–82. In 1985–86, immunization against measles was added to the programme (Ministry of Health and Family Welfare, 1991).

The Universal Immunization Programme (UIP) was introduced in 1985–86 with the following objectives: to cover at least 85 percent of all infants against the six vaccine-preventable diseases by 1990 and to achieve self-sufficiency in vaccine production and the manufacture of cold-chain equipment (Ministry of Health and Family Welfare, 1991). This scheme has been introduced in every district of the country, and the target now is to achieve 100 percent immunization coverage. Pulse Polio Immunization Campaigns began in December 1995, as part of a major national effort to eliminate polio. The standard immunization schedule developed for the child immunization programme specifies the age at which each vaccine is to be administered, the number of doses to be given, and the route of vaccination (intramuscular, oral,

or subcutaneous). Routine vaccinations received by infants and children are usually recorded on a vaccination card that is issued for the child.

NFHS-2 asked mothers in Uttar Pradesh whether they had a vaccination card for each child born since January 1995. If a card was available, the interviewer was required to copy carefully the dates when the child received vaccinations against each disease. For vaccinations not recorded on the card, the mother's report that the vaccination was or was not given was accepted. If the mother could not show a vaccination card, she was asked whether the child had received any vaccinations. If any vaccination had been received, the mother was asked whether the child had received a vaccination against tuberculosis (BCG); diphtheria, whooping cough (pertussis), and tetanus (DPT); poliomyelitis (polio); and measles. For DPT and polio, information was obtained on the number of doses of the vaccine given to the child. Mothers were not asked the dates of vaccinations. To distinguish Polio 0 (polio vaccine given at the time of birth) from Polio 1 (polio vaccine given about six weeks after birth), mothers were also asked whether the first polio vaccine was given just after birth or later³.

Table 6.6 gives the percentages of urban and rural children age 12–23 months who received specific vaccinations at any time before the interview and before 12 months of age, according to whether a vaccination card was shown to the interviewer or the mother was the source of all vaccination information. The 12–23 month age group was chosen for analysis because both international and Government of India guidelines specify that children should be fully immunized by the time they complete their first year of life. Because the date of vaccination was not asked of the mother if she could not show a vaccination card, the proportion of vaccinations given during the first year of life to children whose information is based on the mother's report is assumed to be the same as the proportion of vaccinations given during the first year of life to children with an exact date of vaccination on the card.

In NFHS-2, children who have received BCG, measles, and three doses each of DPT and polio (excluding Polio 0) are considered to be fully vaccinated. Based on information obtained from a card or reported by the mother ('either source'), only 21 percent of children age 12–23 months are fully vaccinated, and 30 percent have not received any vaccinations at all. Coverage for each vaccination except Polio 0 is much higher than the percentage fully vaccinated. BCG, the first dose of DPT, and the first and second doses of polio vaccine have each been received by more than half of children (see Figure 6.3). Only one-third of children (34 percent) have received three doses of DPT and 42 percent have received three doses of polio vaccine. Although DPT and polio vaccinations are given at the same time as part of the routine immunization programme, the coverage rates are considerably higher for polio than for DPT, undoubtedly because of the Pulse Polio campaigns.

Not all children who begin the DPT and polio vaccination series go on to complete them. The difference between the percentages of children receiving the first and third doses is 23 percentage points for DPT and 24 percentage points for polio. Moreover, only 35 percent of

³Because mothers sometimes report that the first dose was given just after birth even if it was given several weeks later, an adjustment was made to the estimates of the number of polio vaccinations given, based on reports of the number of DPT vaccinations. This adjustment is based on the fact that when children receive a DPT vaccination, they are almost always given a polio vaccination at the same time. Thus, if the number of polio vaccinations was reported to be less than the number of DPT vaccinations and the first polio vaccination was reported to be given just after birth, then Polio 0 is assumed to really be Polio 1, Polio 1 is assumed to be Polio 2, etc. For comparative purposes, this same adjustment was made to the NFHS-1 vaccination estimates.

Table 6.6 Childhood vaccinations by source of information

Percentage of children age 12–23 months who received specific vaccinations at any time before the interview and before 12 months of age by source of information on vaccination history and residence, Uttar Pradesh, 1998–99

Source of information	Percentage vaccinated											Number of children
	BCG	Polio 0	DPT			Polio			Measles	All ¹	None	
			1	2	3	1	2	3				
URBAN												
Vaccinated at any time before the interview												
Vaccination card	92.2	22.8	100.0	92.6	81.5	97.7	92.4	81.3	64.5	55.5	0.0	53
Mother's report	68.3	3.5	67.7	58.0	38.8	76.1	73.8	52.4	45.2	24.5	22.0	157
Either source	74.3	8.4	75.8	66.7	49.6	81.5	78.5	59.7	50.0	32.3	16.4	210
Vaccinated by 12 months of age ²	70.8	8.4	71.8	59.9	45.8	77.1	70.5	55.7	42.7	27.8	20.1	210
RURAL												
Vaccinated at any time before the interview												
Vaccination card	94.9	14.6	98.5	90.8	77.5	96.9	89.4	77.0	60.9	54.6	0.5	218
Mother's report	44.5	1.4	43.0	31.1	19.7	55.6	49.0	29.9	24.7	10.6	39.5	901
Either source	54.3	4.0	53.8	42.7	30.9	63.6	56.9	39.1	31.7	19.2	31.9	1,119
Vaccinated by 12 months of age ²	49.8	4.0	49.9	38.7	28.3	58.8	51.9	35.4	22.4	13.4	36.1	1,119
TOTAL												
Vaccinated at any time before the interview												
Vaccination card	94.3	16.2	98.8	91.2	78.3	97.1	89.9	77.9	61.6	54.8	0.4	271
Mother's report	48.0	1.7	46.7	35.1	22.5	58.6	52.7	33.2	27.7	12.7	36.9	1,058
Either source	57.5	4.7	57.3	46.5	33.9	66.5	60.3	42.3	34.6	21.2	29.5	1,329
Vaccinated by 12 months of age ²	53.1	4.7	53.3	42.1	31.0	61.7	54.8	38.6	25.6	15.6	33.6	1,329

Note: Table includes only surviving children from among the two most recent births in the three years preceding the survey.

¹BCG, measles, and three doses each of DPT and polio vaccines (excluding Polio 0)

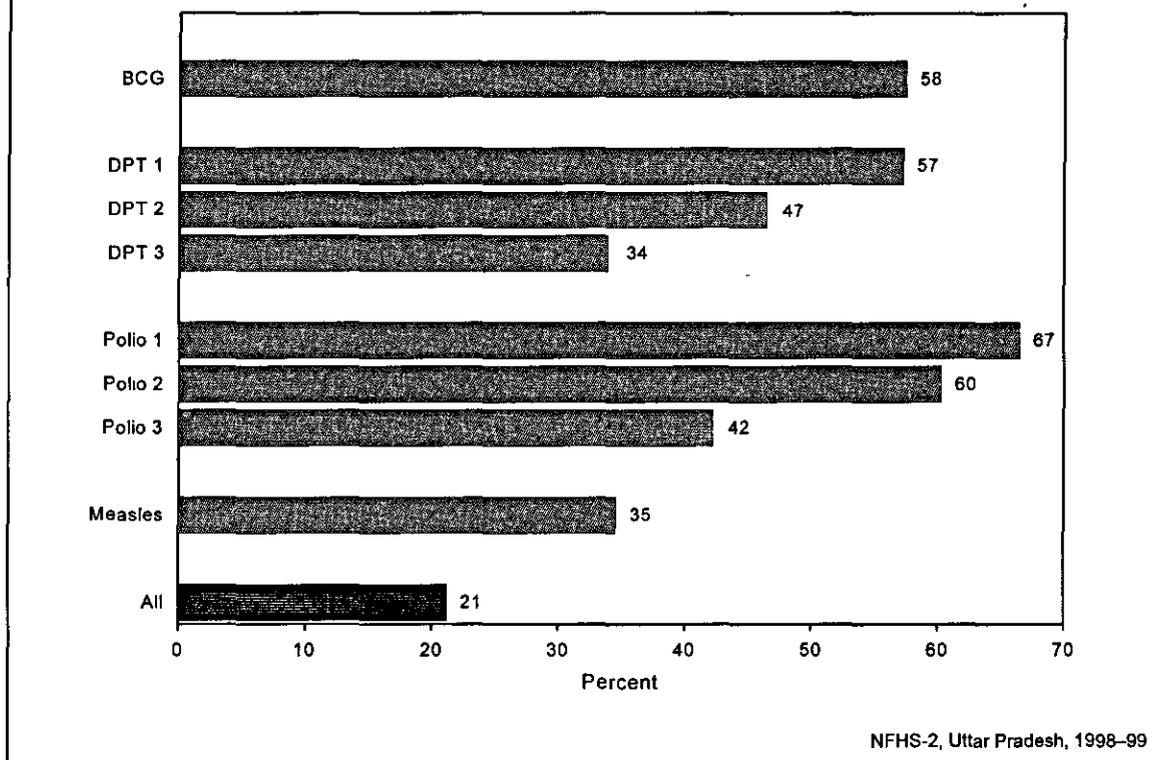
²For children whose information was based on the mother's report, the proportion of vaccinations given by 12 months of age is assumed to be the same as for children with a written record of vaccination.

children 12–23 months have been vaccinated against measles. The relatively low percentages vaccinated against measles and receiving all three doses of DPT vaccine are responsible for the fact that the percentage fully vaccinated is quite low.

There has been almost no improvement in full vaccination coverage in Uttar Pradesh since the time of NFHS-1 when the proportion of children fully vaccinated was 20 percent, but many more children were brought into the programme in the six years between the surveys. The proportion of children who did not receive any vaccinations declined substantially, from 43 percent in NFHS-1 to 30 percent in NFHS-2. The coverage of all vaccinations except DPT3 has also improved considerably since NFHS-1. These data indicate that despite the progress that has been made in immunization coverage for children in Uttar Pradesh, coverage levels are still quite low and a large proportion of children who receive some early vaccinations drop out of the programme before receiving all of the recommended vaccinations.

Government statistics suggest a much higher level of vaccination coverage than NFHS-2 estimates for most vaccinations, although the two sets of estimates are fairly close in the case of

Figure 6.3
Percentage of Children Age 12–23 Months
Who Have Received Specific Vaccinations



BCG and measles vaccinations. According to government statistics for Uttar Pradesh for 1997–98, 35 percent of children age 12–23 months are fully vaccinated and coverage is 61 percent for BCG, 56 percent for the third dose of DPT vaccine, 53 percent for the third dose of polio vaccine, and 39 percent for measles vaccine (Ministry of Health and Family Welfare, 1999).

According to the immunization schedule, all primary vaccinations, including measles, should be completed by the time a child is 12 months old. Table 6.6 shows that only 16 percent of all children (or 74 percent of fully vaccinated children) were fully vaccinated by age 12 months. The percentages of children who received BCG, the third dose of DPT, and the third dose of polio by age 12 months are only slightly lower than the percentages who received these vaccines at any time before the survey. For measles vaccination, however, which is supposed to be given when the child is nine months old, the gap is wider (35 percent at any time before the survey, compared with 26 percent by age 12 months). Twenty-six percent of children who were vaccinated against measles received the vaccination after their first birthday.

The analysis of vaccine-specific data indicates much higher coverage for each type of vaccine in urban areas than in rural areas. Thirty-two percent of children age 12–23 months in urban areas had received all the recommended vaccinations by the time of the survey, compared with 19 percent in rural areas. The proportion fully vaccinated during the first year of life is also higher in urban areas (28 percent) than in rural areas (13 percent). Dropout rates for DPT and polio (the proportion of children receiving the first dose but not the third dose) are lower in urban areas than in rural areas.

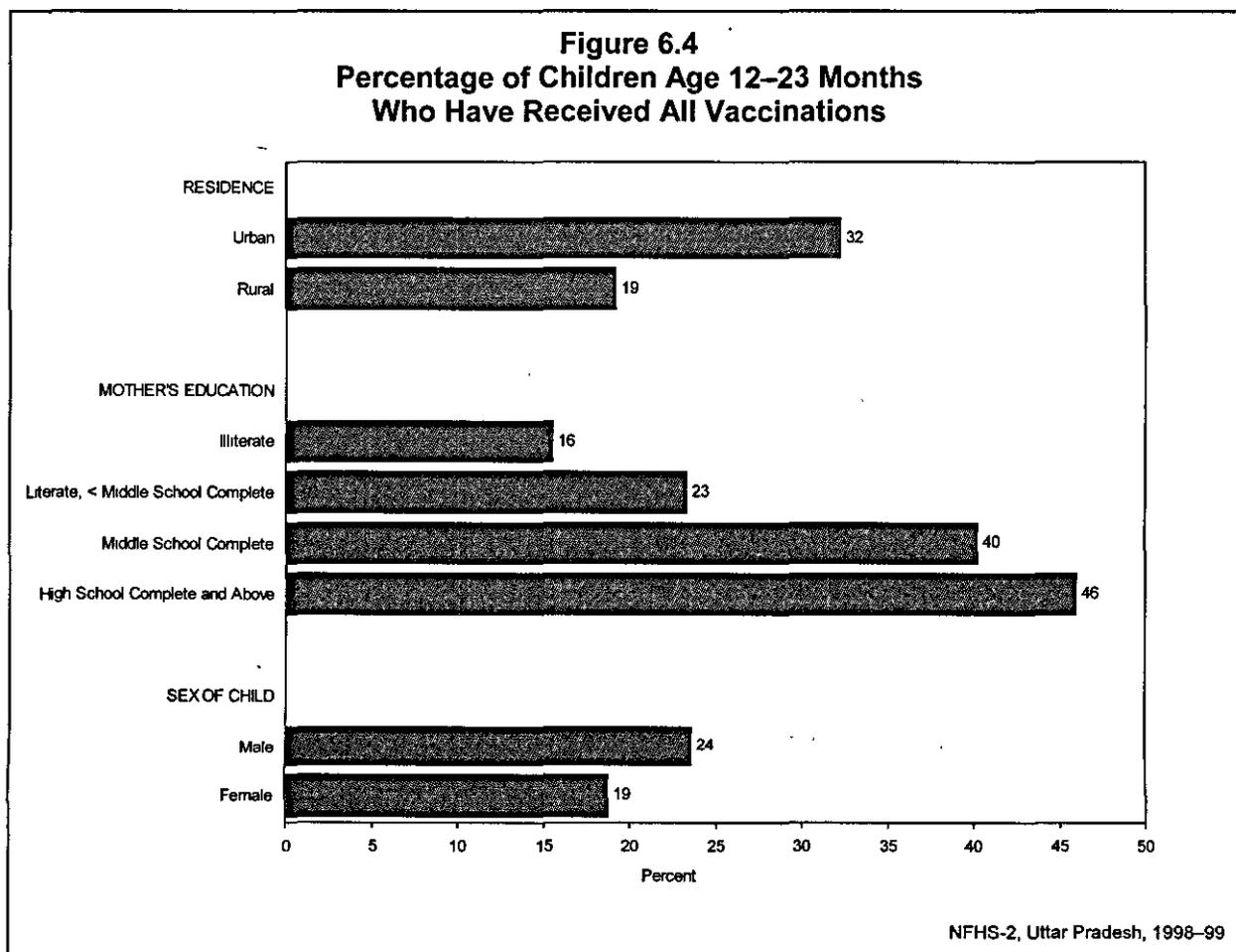


Table 6.7 and Figure 6.4 present vaccination coverage rates (according to the vaccination card or the mother) for children age 12–23 months by selected background characteristics. The table also shows the percentage of children with vaccination cards that were shown to the interviewer. Mothers showed vaccination cards for only 20 percent of children age 12–23 months. Vaccination cards were shown for 25 percent of children in urban areas and 20 percent in rural areas. As expected, vaccination coverage is much higher for children for whom a vaccination card was shown than for other children (see Table 6.6).

Boys (24 percent) are more likely than girls (19 percent) to be fully vaccinated. Boys are also more likely than girls to have received each of the individual vaccinations except Polio 0. Mothers showed vaccination cards for 21 percent of boys and 20 percent of girls. In NFHS-1, vaccination coverage was also higher for boys than for girls and a vaccination card was shown for a higher proportion of boys than girls. Immunization coverage is slightly lower for first-order births than for second-order births, but after the first birth the relationship between vaccination coverage and birth order is consistently negative for all vaccinations. Vaccination coverage is highest in the Hill Region (where 37 percent of children are fully vaccinated), followed by the Central Region (28 percent) and the Eastern Region (25 percent). The Western Region (15 percent) and the Bundelkhand Region (10 percent) lag far behind.

Table 6.7 Childhood vaccinations by background characteristics

Percentage of children age 12–23 months who received specific vaccinations at any time before the interview (according to the vaccination card or the mother) and percentage with a vaccination card that was shown to the interviewer by selected background characteristics, Uttar Pradesh, 1998–99

Background characteristic	Percentage vaccinated											Percentage showing vaccination card	Number of children
	BCG	Polio 0	DPT			Polio			Measles	All ¹	None		
			1	2	3	1	2	3					
Sex													
Male	60.5	3.8	60.6	48.4	35.1	68.4	62.4	43.8	36.1	23.6	27.5	21.0	678
Female	54.3	5.6	53.8	44.6	32.6	64.5	58.1	40.8	33.0	18.8	31.5	19.8	650
Birth order													
1	64.1	6.1	63.6	51.4	40.3	72.9	65.8	46.0	40.3	25.5	23.8	27.8	281
2	67.9	7.4	67.1	56.4	42.3	75.7	69.5	49.5	40.3	27.4	20.8	27.7	271
3	60.7	4.1	59.3	48.2	33.0	66.0	59.3	43.1	38.5	21.2	27.6	17.5	250
4+	47.0	2.7	48.0	38.1	26.6	58.5	53.2	36.3	26.8	15.8	37.8	14.0	527
Residence													
Urban	74.3	8.4	75.8	66.7	49.6	81.5	78.5	59.7	50.0	32.3	16.4	25.2	210
Rural	54.3	4.0	53.8	42.7	30.9	63.6	56.9	39.1	31.7	19.2	31.9	19.5	1,119
Region													
Hill	72.0	10.3	69.9	63.8	51.4	82.7	78.9	58.3	51.2	36.6	16.2	32.4	46
Western	54.1	3.7	52.3	41.3	27.8	65.8	59.2	38.7	31.8	14.5	32.4	14.6	494
Central	61.4	6.6	61.6	51.5	39.3	66.0	58.9	47.3	35.5	27.5	27.4	25.4	207
Eastern	59.0	4.0	60.6	49.4	37.3	65.9	59.8	42.2	36.6	24.9	28.7	23.5	528
Bundelkhand	45.7	7.2	43.8	32.8	21.0	66.6	64.8	44.7	23.8	10.0	29.7	13.5	54
Mother's education													
Illiterate	49.2	2.8	49.2	38.4	26.2	60.0	53.6	35.5	25.8	15.5	35.7	16.8	966
Literate, < middle school complete	69.0	7.2	64.0	53.8	41.5	74.1	66.4	50.4	38.6	23.3	20.6	23.6	128
Middle school complete	76.1	8.8	79.9	64.7	53.1	83.8	78.0	61.1	61.0	40.3	13.7	33.0	97
High school complete and above	92.0	12.3	92.0	83.9	67.5	92.6	89.5	69.7	74.4	46.0	4.7	33.6	137
Religion													
Hindu	59.9	5.1	59.1	48.2	35.3	67.9	62.0	43.3	36.2	22.4	27.8	21.3	1,074
Muslim	46.1	2.0	48.6	38.3	26.6	60.0	52.4	37.3	26.3	14.8	37.0	15.9	248

Contd...

Table 6.7 Childhood vaccinations by background characteristics (contd.)

Percentage of children age 12–23 months who received specific vaccinations at any time before the interview (according to the vaccination card or the mother) and percentage with a vaccination card that was shown to the interviewer by selected background characteristics, Uttar Pradesh, 1998–99

Background characteristic	Percentage vaccinated											Percentage showing vaccination card	Number of children
	BCG	Polio 0	DPT			Polio			Measles	All ¹	None		
			1	2	3	1	2	3					
Caste/tribe													
Scheduled caste	54.5	5.9	53.0	43.8	31.4	63.8	56.7	39.8	32.9	21.7	30.8	23.0	271
Scheduled tribe	(35.7)	(3.5)	(33.8)	(24.5)	(18.2)	(42.9)	(35.0)	(32.2)	(23.3)	(14.1)	(55.6)	(19.6)	34
Other backward class	56.2	2.3	58.1	46.7	32.5	67.0	61.2	43.3	27.4	16.9	29.4	19.9	386
Other	61.9	6.3	60.7	49.6	37.9	69.4	63.9	44.7	41.3	24.7	26.7	19.9	570
Standard of living Index													
Low	43.8	3.5	43.5	32.7	22.3	53.5	47.4	30.9	23.6	13.3	41.9	11.7	429
Medium	58.6	4.1	59.0	48.3	35.9	69.2	62.6	44.1	32.8	22.3	27.0	24.4	681
High	84.6	9.7	83.7	71.7	54.5	86.7	81.5	61.2	65.2	36.0	10.2	26.4	197
Total	57.5	4.7	57.3	46.5	33.9	66.5	60.3	42.3	34.6	21.2	29.5	20.4	1,329

Note: Table includes only surviving children from among the two most recent births in the three years preceding the survey. Total includes 6 and 2 children of Sikh mothers and mothers belonging to 'other' religions, respectively, and 69 and 21 children with missing information on caste/tribe and the standard of living index, respectively, who are not shown separately.
 () Based on 25–49 unweighted cases
¹BCG, measles, and three doses each of DPT and polio vaccines (excluding Polio 0)

Only 16 percent of children of illiterate mothers are fully vaccinated, compared with 46 percent of children whose mothers have at least completed high school. Hindu children are much more likely than Muslim children to have received each of the recommended vaccinations, a pattern that is also evident at the national level. Children from scheduled castes, scheduled tribes, or other backward classes are less likely than other children to have received each vaccination. The small number of scheduled-tribe children are least likely to have received the recommended vaccinations; more than half of those children have not received any vaccinations at all. The standard of living of the household has a strong positive relationship with vaccination coverage. Only 13 percent of children from households with a low standard of living are fully vaccinated, compared with 36 percent of children from households with a high standard of living.

Table 6.8 shows the percentage of children age 12–35 months with a vaccination card that was shown to the interviewer and the percentage who received various vaccinations during the first year of life by current age of the child and place of residence. The table shows that there has been some improvement in vaccination coverage over a short period of time. The proportion vaccinated during the first year of life is estimated separately for children in each age group. The row labelled 'No vaccinations' indicates the percentage of children that have not received any vaccination by 12 months of age.

The proportion of children whose vaccination status was determined from a vaccination card declines substantially with the age of children. This may reflect an upward trend in the use of vaccination cards as well as an upward trend in overall vaccination coverage. On the other hand, vaccination cards may have been lost or discarded, especially for older children who have received all their vaccinations. The proportion of children fully vaccinated by age 12 months increases slightly from 14 percent for children age 24–35 months to 16 percent for children age 12–23 months. This pattern is also observed for all vaccines except measles in rural areas, but for only half of the vaccines in urban areas.

Table 6.9 and Figure 6.5 give the percent distribution of children under age three years who have received any vaccinations by the source of most of the vaccinations, according to selected background characteristics. The public sector is the primary provider of childhood vaccinations in Uttar Pradesh. Eighty-two percent of all children who have received vaccinations received most of them from a public sector source and only 13 percent received them from a private sector medical source (the same percentages as in India as a whole). The percentage of vaccinated children receiving vaccinations from the private medical sector is more than twice as high in urban areas (23 percent), where private-sector services tend to be concentrated, as in rural areas (10 percent). Even in urban areas, however, 73 percent of children received their vaccinations from the public sector. The public medical sector is used for vaccinations by a large majority of vaccinated children in every region (from 74 percent in the Bundelkhand Region to 86 percent in the Eastern Region).

Table 6.8 Childhood vaccinations received by 12 months of age

Percentage of children age 12–23 months and 24–35 months with a vaccination card that was shown to the interviewer and percentage who received specific vaccinations by 12 months of age, according to residence and child's current age, Uttar Pradesh, 1998–99

Vaccination status	Urban		Rural		Total	
	12–23 months	24–35 months	12–23 months	24–35 months	12–23 months	24–35 months
Vaccination card shown to interviewer	25.2	16.4	19.5	11.0	20.4	12.0
Percentage vaccinated by 12 months of age¹						
BCG	70.8	67.4	49.8	45.9	53.1	49.7
Polio 0	8.4	7.4	4.0	2.1	4.7	3.0
DPT						
1	71.8	68.0	49.9	46.1	53.3	50.0
2	59.9	60.8	38.7	36.7	42.1	40.9
3	45.8	45.3	28.3	23.2	31.0	27.1
Polio						
1	77.1	82.1	58.8	52.6	61.7	57.9
2	70.5	77.1	51.9	47.8	54.8	53.0
3	55.7	61.5	35.4	32.7	38.6	37.9
Measles	42.7	46.8	22.4	23.6	25.6	27.8
All vaccinations ²	27.8	22.5	13.4	12.6	15.6	14.4
No vaccinations	20.1	17.8	36.1	41.4	33.6	37.0
Number of children	210	234	1,119	1,098	1,329	1,331

Note: Table includes only surviving children from among the two most recent births in the three years preceding the survey.

¹Information was obtained either from the vaccination card or from the mother if there was no written record. For children whose information was based on the mother's report, the proportion of vaccinations given by 12 months of age is assumed to be the same as for children with a written record of vaccinations.

²BCG, measles, and three doses each of DPT and polio vaccines (excluding Polio 0)

Children of more educated mothers and those belonging to households with a high standard of living are more likely than other children to receive vaccinations from the private medical sector. Muslim children are more likely to receive vaccinations from the private medical sector than Hindu children, perhaps because Muslims are disproportionately concentrated in urban areas. Children from scheduled castes, scheduled tribes, and other backward classes are somewhat less likely than other children to receive vaccinations from the private medical sector.

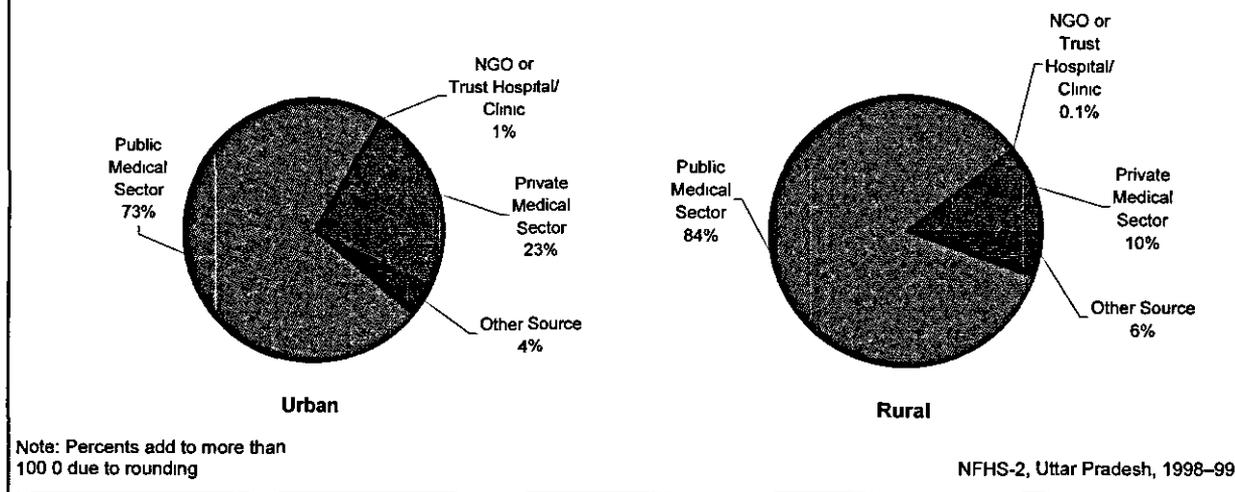
Table 6.9 Source of childhood vaccinations

Percent distribution of children under age 3 who have received any vaccinations by source of most of the vaccinations, according to selected background characteristics, Uttar Pradesh, 1998-99

Background characteristic	Source				Total percent	Number of children
	Public medical sector	NGO or trust hospital/ clinic	Private medical sector	Other		
Age of child						
< 12 months	79.7	0.1	14.5	5.7	100.0	737
12-23 months	82.1	0.3	12.4	5.3	100.0	943
24-35 months	82.7	0.1	12.2	5.0	100.0	970
Sex of child						
Male	80.3	0.2	14.1	5.4	100.0	1,429
Female	83.2	0.1	11.5	5.2	100.0	1,220
Birth order						
1	78.0	0.2	17.3	4.4	100.0	638
2	81.5	0.3	12.7	5.6	100.0	583
3	81.3	0.0	13.1	5.5	100.0	499
4+	84.4	0.1	9.9	5.5	100.0	930
Residence						
Urban	72.5	0.5	22.8	4.2	100.0	544
Rural	84.0	0.1	10.4	5.6	100.0	2,106
Region						
Hill	83.4	0.0	11.5	5.1	100.0	101
Western	76.1	0.1	18.7	5.1	100.0	971
Central	85.4	0.0	12.9	1.7	100.0	453
Eastern	86.0	0.2	8.4	5.4	100.0	1,007
Bundelkhand	74.1	0.4	5.4	20.1	100.0	117
Mother's education						
Illiterate	84.6	0.1	9.5	5.8	100.0	1,722
Literate, < middle school complete	81.0	0.0	12.4	6.6	100.0	315
Middle school complete	82.6	0.0	13.5	3.9	100.0	228
High school complete and above	68.6	0.4	28.3	2.7	100.0	385
Religion						
Hindu	83.1	0.1	11.7	5.1	100.0	2,139
Muslim	76.1	0.3	17.3	6.3	100.0	482
Caste/tribe						
Scheduled caste	86.0	0.0	10.1	3.9	100.0	524
Scheduled tribe	83.8	0.0	8.6	7.5	100.0	49
Other backward class	84.6	0.2	9.2	6.0	100.0	704
Other	77.5	0.2	16.9	5.3	100.0	1,266
Standard of living index						
Low	84.0	0.2	10.0	5.8	100.0	712
Medium	84.4	0.1	9.9	5.5	100.0	1,405
High	71.2	0.2	25.0	3.6	100.0	487
Total	81.6	0.2	12.9	5.3	100.0	2,649

Note: Table includes only surviving children from among the two most recent births in the three years preceding the survey. Total includes 14 and 8 children of Sikh mothers and mothers belonging to 'other' religions, respectively, and 7, 107, and 45 children with missing information on religion, caste/tribe, and the standard of living index, respectively, who are not shown separately.
 NGO: Nongovernmental organization

Figure 6.5
Source of Childhood Vaccinations by Residence



6.5 Vitamin A Supplementation

Vitamin A deficiency is one of the most common nutritional deficiency disorders in the world, affecting more than 250 million children worldwide (Bloem et al., 1997). The National Programme on Prevention of Blindness targets children under age five years and administers oral doses of vitamin A every six months starting at age nine months. NFHS-2 asked mothers of children born during the three years before the survey whether their children ever received a dose of vitamin A. Those who said that their child had received at least one dose of vitamin A were asked how long ago the last dose of vitamin A was given. Table 6.10 shows the percentage of children age 12-35 months who received at least one dose of vitamin A and who received a dose of vitamin A within the past six months by selected background characteristics. In the state as a whole, only 14 percent of children age 12-35 months received at least one dose of vitamin A, and only 10 percent received a dose within the past six months. This indicates that a large majority of children in Uttar Pradesh have not received vitamin A supplementation at all and even fewer children receive vitamin A supplementation regularly.

Children living in urban areas, children living in the Hill Region, children whose mothers completed at least a high school education, and children living in households with a high standard of living are considerably more likely than other children to receive vitamin A supplementation. There is no other group in which more than 20 percent of children received vitamin A. Boys are more likely than girls to receive vitamin A supplementation, providing more evidence of son preference in Uttar Pradesh. Children from groups that are less likely to have received at least one dose of vitamin A supplementation are also less likely to have received a dose in the past six months.

Table 6.10 Vitamin A supplementation for children

Percentage of children age 12–35 months who received at least one dose of vitamin A and who received at least one dose of vitamin A within the six months preceding the survey by selected background characteristics, Uttar Pradesh, 1998–99

Background characteristic	Percentage who received vitamin A		Number of children
	At least one dose	At least one dose within past six months	
Age of child			
12–23 months	14.3	10.6	1,329
24–35 months	13.6	8.5	1,331
Sex of child			
Male	16.0	11.4	1,378
Female	11.7	7.6	1,282
Birth order			
1	14.2	9.6	570
2	17.2	10.8	551
3	16.0	10.0	488
4+	11.1	8.6	1,051
Residence			
Urban	21.1	14.0	444
Rural	12.5	8.7	2,216
Region			
Hill	29.5	21.3	89
Western	15.2	12.4	1,007
Central	12.3	6.2	447
Eastern	11.6	6.5	1,004
Bundelkhand	17.7	15.1	113
Mother's education			
Illiterate	10.6	7.7	1,896
Literate, < middle school complete	17.7	10.7	293
Middle school complete	18.6	12.1	180
High school complete and above	29.0	18.9	291
Religion			
Hindu	13.2	8.5	2,114
Muslim	15.4	12.0	525
Caste/tribe			
Scheduled caste	10.5	6.8	557
Scheduled tribe	11.9	10.2	58
Other backward class	12.3	8.3	732
Other	17.0	12.0	1,194
Standard of living index			
Low	9.6	7.0	853
Medium	13.5	9.1	1,363
High	25.2	16.7	392
Total	13.9	9.5	2,660

Note: Table includes only surviving children from among the two most recent births in the three years preceding the survey. Total includes 12 and 5 children of Sikh mothers and mothers belonging to 'other' religions, respectively, and 3, 119, and 53 children with missing information on religion, caste/tribe, and the standard of living index, respectively, who are not shown separately.

6.6 Child Morbidity and Treatment

This section discusses the prevalence and treatment of acute respiratory infection (ARI), fever, and diarrhoea. Mothers of children less than three years old were asked if their children suffered from cough, fever, or diarrhoea during the two weeks preceding the survey, and if so, the type of treatment given. Accuracy of all these measures is affected by the reliability of the mother's recall of when the disease episode occurred. The two-week recall period is thought to be most suitable for ensuring that there will be an adequate number of cases to analyze and that recall errors will not be too serious. Table 6.11 shows the percentage of children with cough accompanied by fast breathing (symptoms of acute respiratory infection), fever, and diarrhoea during the two weeks preceding the survey and the percentage with acute respiratory infection who were taken to a health facility or provider, by selected background characteristics.

Acute Respiratory Infection

Acute respiratory infection, primarily pneumonia, is a major cause of illness among infants and children and the leading cause of childhood mortality throughout the world (Murray and Lopez, 1996). Early diagnosis and treatment with antibiotics can prevent a large proportion of ARI/pneumonia deaths. NFHS-2 found that 21 percent of children under age three in Uttar Pradesh suffered from acute respiratory infection (cough accompanied by short, rapid breathing) at some time during the two-week period before the survey. Table 6.11 shows that ARI was somewhat more common among boys than girls and among children living in rural areas than urban areas. ARI was also more prevalent among children 6–11 months of age, children living in the Central and Eastern Regions, first-order births, Muslim children, and children from scheduled tribes.

Table 6.11 also shows the percentage of children suffering from ARI symptoms in the two weeks before the survey who were taken to a health facility or provider. Sixty-one percent of children received advice or treatment from a health facility or health provider when ill with ARI. As expected, this percentage is relatively low for children whose mothers are illiterate, children in rural areas, and children living in households with a low standard of living. Children in the Central and Eastern Regions are least likely to receive medical care for their illness. Muslim children are more likely than Hindu children to be taken to a health facility or health provider when they have ARI and, once again, discrimination against girls is evident in the utilization of health services.

Fever

Fever is the most common of the three conditions examined in Table 6.11, with 28 percent of children suffering from fever during the two weeks preceding the survey. The prevalence of fever is lower among children age 1–5 months (20 percent) than among older children (26–32 percent). Fever is less prevalent in urban areas than in rural areas and in the Hill Region and the Bundelkhand Region than in other regions. Fever is also less common for girls than for boys and for children whose mothers completed at least high school. Fever is relatively high for Muslim children, scheduled-tribe children, and children from households with a low standard of living. Children living in households with piped drinking water have a lower prevalence of fever than children in any other category in the table.

Table 6.11 Prevalence of acute respiratory infection, fever, and diarrhoea

Percentage of children under age 3 who were ill with a cough accompanied by fast breathing (symptoms of acute respiratory infection—ARI), fever, or diarrhoea during the two weeks preceding the survey and percentage with ARI who were taken to a health facility or provider, by selected background characteristics, Uttar Pradesh, 1998–99

Background characteristic	Percentage of children suffering in past two weeks from:				Number of children	Percentage with ARI taken to a health facility or provider	Number of children with ARI
	Cough accompanied by fast breathing (ARI)	Fever	Diarrhoea	Diarrhoea with blood			
			Any diarrhoea ¹				
Age of child							
1–5 months	17.5	20.0	23.2	1.1	711	56.7	124
6–11 months	26.0	32.0	25.7	3.6	612	65.7	159
12–23 months	21.1	31.6	25.7	3.6	1,329	61.1	281
24–35 months	20.8	26.3	19.9	5.4	1,331	60.9	277
Sex of child							
Male	22.7	28.9	23.8	3.9	2,076	64.5	471
Female	19.4	26.6	22.8	3.6	1,906	57.1	370
Birth order							
1	23.9	28.8	24.4	2.8	844	67.1	202
2	20.4	25.9	23.0	4.7	815	63.0	166
3	20.9	24.6	23.7	3.5	733	59.4	153
4+	20.1	29.8	22.8	3.9	1,590	57.5	319
Residence							
Urban	18.9	23.1	19.4	1.5	659	70.2	125
Rural	21.5	28.7	24.1	4.2	3,324	59.7	716
Region							
Hill	18.0	19.7	15.7	2.6	137	68.2	25
Western	17.3	27.4	22.2	4.2	1,533	75.1	265
Central	27.4	31.8	22.8	4.4	651	54.1	178
Eastern	23.0	28.0	26.0	3.1	1,492	53.8	343
Bundelkhand	17.5	20.3	17.8	3.8	170	61.9	30
Mother's education							
Illiterate	20.5	28.8	23.4	4.4	2,842	58.8	582
Literate, < middle school complete	23.8	26.9	27.6	3.7	454	64.8	108
Middle school complete	25.0	28.0	22.5	1.9	268	68.7	67
High school complete and above	19.9	22.2	18.4	0.8	419	67.8	83
Religion							
Hindu	20.2	26.8	22.2	3.4	3,169	60.4	640
Muslim	25.1	32.5	28.2	5.2	783	64.9	196
Caste/tribe							
Scheduled caste	18.2	26.4	22.8	4.8	831	61.7	151
Scheduled tribe	33.0	36.8	30.4	7.0	89	(64.7)	29
Other backward class	21.4	29.1	22.4	4.0	1,095	61.1	235
Other	21.9	27.8	24.1	3.2	1,793	62.7	392
Standard of living index							
Low	21.3	29.5	23.4	4.3	1,272	56.3	271
Medium	21.5	27.4	24.5	4.0	2,060	61.6	442
High	19.3	25.1	19.2	1.6	570	70.9	110

Contd...

Table 6.11 Prevalence of acute respiratory infection, fever, and diarrhoea (contd.)

Percentage of children under age 3 who were ill with a cough accompanied by fast breathing (symptoms of acute respiratory infection—ARI), fever, or diarrhoea during the two weeks preceding the survey and percentage with ARI who were taken to a health facility or provider, by selected background characteristics, Uttar Pradesh, 1998–99

Background characteristic	Percentage of children suffering in past two weeks from:				Number of children	Percentage with ARI taken to a health facility or provider	Number of children with ARI
	Cough accompanied by fast breathing (ARI)	Fever	Diarrhoea				
			Any diarrhoea ¹	Diarrhoea with blood			
Source of drinking water							
Piped water	17.2	18.4	18.4	2.4	403	77.5	69
Hand pump	21.8	29.3	24.3	4.2	3,016	60.2	657
Well water	20.4	27.2	22.0	2.1	510	57.0	104
Surface water	19.7	24.7	16.1	3.6	48	*	9
Purification of water							
Straining by cloth	(31.1)	(32.9)	(31.8)	3.2	34	*	11
Water filter	(16.8)	(22.2)	(26.8)	2.7	41	*	7
Boiling	23.9	29.4	30.5	1.8	61	*	15
Nothing	21.0	27.8	23.2	3.8	3,841	60.8	806
Total	21.1	27.8	23.3	3.8	3,983	61.3	841

Note: Table includes only surviving children age 1–35 months from among the two most recent births in the three years preceding the survey. Total includes a small number of children of Sikh mothers and mothers belonging to 'other' religions, children in households having other source of drinking water or using alum or electronic water purifier or 'other' method to purify water, and children with missing information on religion, caste/tribe, the standard of living index, and source of drinking water, who are not shown separately.

() Based on 25–49 unweighted cases

*Percentage not shown; based on fewer than 25 unweighted cases

¹Includes diarrhoea with blood

Diarrhoea

Diarrhoea is the second most important killer of children under age five worldwide, following acute respiratory infection. Deaths from acute diarrhoea are most often caused by dehydration due to loss of water and electrolytes. Nearly all dehydration-related deaths can be prevented by prompt administration of rehydration solutions. Because deaths from diarrhoea are a significant proportion of all child deaths, the Government of India has launched the Oral Rehydration Therapy Programme as one of its priority activities for child survival. One major goal of this programme is to increase awareness among mothers and communities about the causes and treatment of diarrhoea. Oral rehydration salt (ORS) packets are made widely available and mothers are taught how to use them. NFHS-2 asked mothers of children less than three years old a series of questions about episodes of diarrhoea suffered by their children in the two weeks before the survey, including questions on feeding practices during diarrhoea, the treatment of diarrhoea, and their knowledge and use of ORS.

Table 6.11 shows that 23 percent of children under age three suffered from diarrhoea in the two-week period before the survey. There are seasonal variations in the prevalence of diarrhoea, however, so that the percentages shown in Table 6.11 cannot be assumed to reflect the situation throughout the year.

Among children age 1–35 months, those age 24–35 months are least susceptible to diarrhoea. The prevalence of diarrhoea is also relatively low in urban areas, the Hill Region and the Bundelkhand Region, among Hindu children, among children whose mothers completed at

least high school, and among children living in households with a high standard of living. Differentials by sex and birth order are small. Consistent with expectations, the prevalence of diarrhoea is relatively low among children living in households that use piped water for drinking, but it is also low among children living in the small number of households that use surface water for drinking.

Four percent of all children age 1–35 months (16 percent of children who suffered from diarrhoea in the two weeks preceding the survey) had diarrhoea with blood, a symptom of dysentery. The prevalence of diarrhoea with blood rises with the child's age and falls with the level of education of the mother. Children living in rural areas, children in the Western and Central Regions, Muslim children, scheduled-tribe and scheduled-caste children, and children living in households using a hand pump to draw water for drinking all have a slightly elevated risk of having diarrhoea with blood.

Table 6.12 shows that 59 percent of mothers with births during the three years preceding the survey know about ORS packets, up sharply from 36 percent among women who gave birth during the three years before NFHS-1, and almost as high as the national average of 62 percent. Knowledge of ORS packets is somewhat lower among mothers age 15–19 and among mothers age 35–49 years than among mothers in the middle age groups. As expected, knowledge is considerably higher among urban mothers than rural mothers, and among more educated mothers. Knowledge of ORS is highest in the Central and Eastern Regions where the prevalence of diarrhoea is also high. Knowledge of ORS is slightly lower among Hindu mothers (58 percent) than Muslim mothers (61 percent). Knowledge of ORS packets is much lower among mothers who are not regularly exposed to any mass media than among mothers who are exposed to some media. Mothers belonging to scheduled castes are less likely to know about ORS (55 percent) than mothers from any other caste or tribe group (59–62 percent).

In order to assess mothers' knowledge of children's need for extra fluids during episodes of diarrhoea, all mothers of children born in the three years preceding the survey were asked: 'When a child has diarrhoea, should he/she be given less to drink than usual, about the same amount, or more than usual?' Table 6.12 shows the responses of mothers to this question by selected background characteristics. In Uttar Pradesh, only 25 percent of mothers report that children should be given more to drink than usual during an episode of diarrhoea and, contrary to the standard recommendation, 35 percent report that children should be given less to drink. This suggests that mothers in Uttar Pradesh need much more education in the proper management of diarrhoea. The proportion reporting correctly that children with diarrhoea should be given more to drink is particularly low among teenage mothers, rural mothers, mothers in the Central Region, illiterate mothers, Muslim mothers, mothers belonging to a scheduled tribe, and mothers not regularly exposed to any mass media.

To assess whether mothers are aware of one or more signs associated with diarrhoea which suggest the need for medical treatment, mothers were also asked: 'When a child is sick with diarrhoea, what signs of illness would tell you that he or she should be taken to a health facility or health worker?' All answers given by the respondent were recorded. The signs warranting medical treatment include repeated watery stools, repeated vomiting, blood in the stools, fever, marked thirst, not eating or drinking well, getting sicker or very sick, and not getting better. Table 6.12 shows that only 36 percent of mothers were able to name two or more signs that indicate that a child with diarrhoea should be given medical treatment. The

Table 6.12 Knowledge of diarrhoea care

Among mothers with births during the three years preceding the survey, percentage who know about oral rehydration salt (ORS) packets, percent distribution by quantity to be given to drink during diarrhoea, and percentage who know two or more signs of diarrhoea that indicate the need for medical treatment by selected background characteristics, Uttar Pradesh, 1998-99

Background characteristic	Percentage who know about ORS packets	Reported quantity to be given to drink					Total percent	Percentage who know two or more signs for medical treatment of diarrhoea ¹	Number of mothers
		Less	Same	More	Don't know/missing				
Age									
15-19	53.6	40.3	26.5	18.4	14.8	100.0	32.7	483	
20-24	61.2	36.0	27.6	26.2	10.2	100.0	37.3	1,231	
25-29	61.0	33.6	30.9	26.3	9.2	100.0	37.0	1,098	
30-34	60.8	33.7	29.4	27.0	9.9	100.0	35.9	634	
35-49	50.7	33.2	28.7	25.1	13.0	100.0	36.8	386	
Residence									
Urban	78.0	32.5	29.1	32.1	6.3	100.0	29.9	619	
Rural	55.4	35.7	28.7	23.9	11.6	100.0	37.6	3,213	
Region									
Hill	53.6	21.3	29.7	31.4	17.6	100.0	36.7	131	
Western	50.1	32.6	29.0	25.5	12.9	100.0	33.1	1,427	
Central	69.3	36.8	33.6	21.7	7.9	100.0	41.4	641	
Eastern	64.5	39.2	26.3	26.1	8.3	100.0	36.6	1,466	
Bundelkhand	52.7	27.2	29.7	24.4	18.8	100.0	42.2	168	
Education									
Illiterate	52.4	36.8	29.0	21.8	12.4	100.0	36.0	2,785	
Literate, < middle school complete	72.3	33.9	31.3	27.8	7.0	100.0	35.8	423	
Middle school complete	69.2	30.2	29.0	31.5	9.3	100.0	40.3	250	
High school complete and above	86.7	28.0	24.7	43.8	3.5	100.0	37.2	374	
Religion									
Hindu	58.4	35.2	28.8	25.9	10.1	100.0	36.9	3,072	
Muslim	61.2	35.6	28.9	22.3	13.2	100.0	34.0	730	
Caste/tribe									
Scheduled caste	54.7	39.8	30.0	21.7	8.4	100.0	38.1	818	
Scheduled tribe	58.6	40.7	31.9	15.2	12.2	100.0	34.0	83	
Other backward class	58.6	36.1	27.4	26.3	10.2	100.0	36.6	1,075	
Other	61.5	31.4	29.5	27.0	12.1	100.0	35.5	1,679	
Exposure to media									
Exposed to any media	69.2	35.4	27.2	30.0	7.4	100.0	38.4	1,529	
Watches television weekly	73.9	33.5	27.7	31.9	6.9	100.0	36.3	1,010	
Listens to radio weekly	67.8	35.8	25.7	30.3	8.3	100.0	41.3	990	
Visits cinema/theatre monthly	72.7	37.9	24.6	29.9	7.6	100.0	36.0	106	
Reads newspaper/magazine weekly	81.7	33.0	27.4	34.9	4.7	100.0	40.0	378	
Not regularly exposed to any media	52.3	35.1	29.8	22.1	12.9	100.0	35.0	2,303	
Total	59.1	35.2	28.8	25.3	10.7	100.0	36.4	3,832	

Note: Total includes 16 and 8 Sikh women and women belonging to 'other' religions, respectively, and 7 and 176 women with missing information on religion and caste/tribe, respectively, who are not shown separately.

¹Percentage who know two or more signs of illness that indicate that a child should be taken to a health facility or health worker

percentage is lower among teenage mothers than older mothers and, contrary to expectation, the percentage is much lower among urban than rural mothers. The percentage is also relatively low in the Western Region, among Muslim mothers, among scheduled-tribe mothers, and among mothers who are not regularly exposed to mass media, although the differences are generally quite small. In fact, knowledge of two or more signs of diarrhoea that suggest the need for medical treatment is universally low across all demographic and socioeconomic groups. This lack of knowledge suggests a need for further educating mothers about children's diarrhoea so that they are better able to recognize the signs of diarrhoea for which a health provider should be consulted.

Table 6.13 shows the percentage of children under age three with diarrhoea during the two weeks preceding the survey who were taken to a health facility or provider, the percentage who received various types of oral rehydration therapy (ORT), and the percentage who received other types of treatment, by selected background characteristics. Sixty-two percent of children in Uttar Pradesh who suffered from diarrhoea during the two weeks preceding the survey were taken to a health facility or provider for medical advice or treatment (almost the same as the national level of 63 percent). Thirty percent of children with diarrhoea did not receive any treatment at all. Boys with diarrhoea were slightly less likely than girls to be taken to a health facility or provider, the opposite of the pattern for the treatment of ARI. The likelihood of seeking treatment is particularly high for children living in households with a high standard of living, children whose mothers completed at least a middle school education, children in urban areas, and children in the Western Region.

Only 16 percent of the children age 1–35 months who suffered from diarrhoea during the two weeks preceding the survey were treated with a solution made from ORS packets. This is up from 13 percent in NFHS-1, indicating a slight improvement in the use of ORS packets in Uttar Pradesh for the treatment of childhood diarrhoea. However, it is much lower than the NFHS-2 national level of 27 percent and it is also lower than the level in any other state except Bihar. Only 19 percent of children in Uttar Pradesh received increased fluids when sick with diarrhoea, and only 11 percent received gruel. Almost two-thirds of children with diarrhoea (64 percent) did not receive any of the various types of oral rehydration therapy (ORT).

The youngest children (age 1–11 months), children living in rural areas or in the Eastern Region of the state, and children from other backward classes are less likely than other children to receive oral rehydration therapy. The use of oral rehydration is most common for children living in households with a high standard of living and children whose mothers completed at least high school.

The use of antibiotics and other antidiarrhoeal drugs is not generally recommended for the treatment of childhood diarrhoea. Yet 59 percent of the children who had diarrhoea in the two weeks before NFHS-2 were treated with pills or syrup, and 15 percent received an injection. These figures indicate poor knowledge about the proper treatment of diarrhoea not only among mothers but also among health-care providers. The results underscore the need for informational programmes for mothers and supplemental training for health-care providers that emphasizes the importance of ORT, increased fluid intake, and continued feeding, and discourages the use of drugs to treat childhood diarrhoea. The use of unnecessary antidiarrhoeal drugs is widespread across all socioeconomic groups, and is particularly common for children of more educated mothers and for children living in the Central Region.

Table 6.13 Treatment of diarrhoea

Among children under age 3 who had diarrhoea in the past two weeks, percentage taken to a health facility or provider, percentage who received various types of oral rehydration therapy (ORT), and percentage who received other treatments by selected background characteristics, Uttar Pradesh, 1998–99

Background characteristic	Taken to a health facility or provider	Oral rehydration					Other treatment					Number of children with diarrhoea		
		Oral rehydration salt (ORS) packets	Gruel	Homemade sugar-salt-water solution	Increased fluids	ORT not given	Pill or syrup	Injection	Intravenous (IV/drip/bottle)	Home remedy/herbal medicine	Other		No treatment	
Age of child														
1–11 months	57.7	11.1	5.3	2.0	17.3	71.1	46.3	11.2	2.2	3.5	0.3	43.3	322	
12–23 months	65.2	19.9	13.4	2.3	18.3	59.5	66.0	17.4	3.3	2.1	0.0	23.8	342	
24–35 months	63.5	16.0	13.0	1.4	21.4	60.3	64.7	15.2	2.5	1.9	0.4	22.7	265	
Sex of child														
Male	60.6	15.6	11.5	1.7	19.0	63.1	58.0	14.4	3.5	3.2	0.0	30.2	494	
Female	63.8	15.9	9.3	2.2	18.5	64.6	59.6	14.8	1.8	1.8	0.5	30.3	435	
Residence														
Urban	68.0	15.2	22.5	2.1	22.5	54.0	64.0	9.6	4.3	2.7	0.0	23.8	128	
Rural	61.2	15.9	8.6	1.9	18.2	65.3	57.9	15.4	2.4	2.5	0.3	31.3	801	
Region														
Hill	(54.1)	(29.2)	(26.7)	(6.4)	(20.9)	(49.6)	(38.0)	(4.4)	(2.2)	(2.2)	(0.0)	(30.3)	22	
Western	71.8	16.5	17.9	3.9	25.7	52.9	56.0	17.7	6.3	2.6	0.3	29.8	340	
Central	58.9	16.2	7.9	0.0	22.7	62.6	64.9	21.6	0.0	0.8	0.7	24.8	148	
Eastern	54.9	13.3	4.0	0.9	11.1	74.8	60.1	10.1	0.5	3.2	0.0	32.4	388	
Bundelkhand	65.9	28.1	11.6	0.0	19.5	60.5	57.8	9.9	3.3	1.7	0.0	33.9	30	
Mother's education														
Illiterate	60.1	14.9	8.9	2.0	16.5	66.1	59.0	14.8	2.8	1.8	0.0	31.1	666	
Literate, < middle school complete	57.0	15.4	9.1	1.8	20.3	65.0	54.0	15.7	1.9	5.3	1.8	32.5	125	
Middle school complete	82.7	12.6	10.5	1.8	22.1	64.2	61.6	11.8	0.8	0.0	0.0	29.3	60	
High school complete and above	71.6	26.4	26.2	1.5	34.1	41.5	62.3	12.7	4.4	5.9	0.0	20.1	77	

Contd...

Table 6.13 Treatment of diarrhoea (contd.)

Among children under age 3 who had diarrhoea in the past two weeks, percentage taken to a health facility or provider, percentage who received various types of oral rehydration therapy (ORT), and percentage who received other treatments by selected background characteristics, Uttar Pradesh, 1998-99

Background characteristic	Taken to a health facility or provider	Oral rehydration					Other treatment					Number of children with diarrhoea	
		Oral rehydration salt (ORS) packets	Gruel	Homemade sugar-salt-water solution	Increased fluids	ORT not given	Pill or syrup	Injection	Intravenous (IV/drip/bottle)	Home remedy/herbal medicine	Other		No treatment
Religion													
Hindu	61.2	16.0	10.2	1.6	19.7	63.3	57.8	15.5	2.2	2.4	0.2	31.4	702
Muslim	65.3	14.9	11.3	3.2	15.5	65.3	62.6	12.0	4.5	3.0	0.5	25.9	220
Caste/tribe													
Scheduled caste	63.8	15.8	14.5	1.2	21.0	60.9	57.7	16.7	3.5	2.3	0.6	29.3	189
Scheduled tribe	(59.8)	(18.1)	(10.8)	(4.3)	(16.1)	(57.1)	(59.7)	(12.7)	(0.0)	(0.0)	(0.0)	(33.8)	27
Other backward class	59.5	15.2	6.5	1.4	13.9	68.7	57.1	14.5	2.0	2.7	0.0	34.2	245
Other	63.7	15.4	11.2	2.6	20.6	63.0	60.3	13.4	3.1	2.8	0.3	27.7	433
Standard of living index													
Low	58.4	15.4	7.6	1.7	16.8	66.6	59.6	14.6	2.6	1.5	0.0	30.7	298
Medium	61.7	15.4	9.7	2.4	17.0	65.4	58.9	15.1	3.0	2.8	0.2	30.8	505
High	69.5	20.5	20.3	1.0	33.7	47.7	57.5	12.9	2.1	4.6	1.0	24.8	109
Total	62.1	15.8	10.5	2.0	18.8	63.8	58.8	14.6	2.7	2.5	0.2	30.2	929

Note: Table includes only surviving children age 1-35 months from among the two most recent births in the three years preceding the survey. Total includes 2 Sikh children and 2 children of mothers belonging to 'other' religions, respectively, and 2, 34, and 17 children with missing information on religion, caste/tribe, and the standard of living index, respectively, who are not shown separately.

() Based on 25-49 unweighted cases

Table 6.14. Source of ORS packets	
Among children under age 3 who were treated with a solution made from oral rehydration salt (ORS) packets for diarrhoea in the two weeks preceding the survey, percent distribution of children by source of ORS packets, Uttar Pradesh, 1998–99	
Source	Percent
Public medical sector	25.5
Government/municipal hospital	7.6
Government dispensary	0.8
CHC/rural hospital/PHC	14.2
Sub-centre	1.4
Other public medical sector	1.6
NGO or trust	0.8
NGO worker	0.8
Private medical sector	55.7
Private hospital/clinic	8.4
Private doctor	33.2
Private paramedic	3.1
Pharmacy/drugstore	8.7
Other private medical sector	2.3
Other source	18.0
Shop	15.7
Husband	2.3
Total percent	100.0
Number of children treated with ORS	146
Note: Table includes only surviving children age 1–35 months from among the two most recent births in the three years preceding the survey. Table excludes children with missing information on source of ORS packets. CHC: Community health centre; PHC: Primary Health Centre; NGO: Nongovernmental organization	

Table 6.14 shows the percent distribution of children who were treated with ORS for diarrhoea in the two weeks before NFHS-2 by the source of the ORS packets. For 26 percent of children who were treated with ORS, the packets were obtained from public-sector medical sources, for 56 percent the packets were obtained from private-sector medical sources, and for 18 percent the packets were obtained from other sources (primarily shops). NGO workers were the source of ORS packets for less than 1 percent of children who received ORS. Among the public-sector medical sources, community health centres (CHC), rural hospitals, or Primary Health Centres (PHC) are mentioned most often, followed by government or municipal hospitals. Among the private-sector medical sources, ORS packets were usually obtained from a private doctor. The pharmacy or drugstore category accounts for 9 percent of all cases. If this category is added to the 'shop' category, the proportion purchasing ORS packets from shops, pharmacies, or drugstores becomes 24 percent.

6.7 HIV/AIDS

Acquired Immune Deficiency Syndrome (AIDS) is an illness caused by the HIV virus, which weakens the immune system and leads to death through secondary infections such as tuberculosis or pneumonia. The virus is generally transmitted through sexual contact, through the placenta of HIV-infected women to their unborn children, or through contact with contaminated needles (injections) or blood. HIV and AIDS prevalence in India have been on the rise for more

than a decade and have reached alarming proportions in recent years. The Government of India established a National AIDS Control Organization (NACO) under the Ministry of Health and Family Welfare in 1989 to deal with the epidemic. Since then there have been various efforts to prevent HIV transmission, such as public health education through the media and the activities of many nongovernmental organizations (NGOs).

NFHS-2 included a set of questions on knowledge of AIDS and AIDS prevention. Ever-married women age 15–49 were first asked if they had ever heard of an illness called AIDS. Respondents who had heard of AIDS were asked further questions about their sources of information on AIDS, whether they believe that AIDS is preventable, and if so, what precautions, if any, a person can take to avoid infection.

Knowledge of AIDS

Table 6.15 shows the percentage of women who have heard about AIDS by background characteristics. Eighty percent of women in Uttar Pradesh have never heard of AIDS, much higher than the national level of 60 percent. NFHS-1 did not include AIDS-awareness questions for Uttar Pradesh so it is not possible to assess the trend in AIDS awareness in the state between NFHS-1 and NFHS-2.

Knowledge of AIDS does not vary much by women's age, but there are substantial differentials for all other background characteristics. More than half of women in urban areas (56 percent) have heard of AIDS, compared with only 11 percent of women in rural areas. Among the regions, knowledge of AIDS is highest in the Hill Region and lowest in the Eastern Region and the Bundelkhand Region. The difference in the knowledge of AIDS by women's educational level is dramatic. Knowledge of AIDS increases from only 7 percent for illiterate women to 81 percent for women who have completed at least a high school education. There is also a strong positive relationship between knowledge of AIDS and household standard of living. Sikhs are much more likely to know about AIDS (42 percent) than either Muslims (25 percent) or Hindus (19 percent). Knowledge of AIDS is very low among women from scheduled castes, scheduled tribes, and other backward classes (only 9–12 percent). The effect of media exposure on knowledge of AIDS is very powerful. Only 4 percent of women who are not regularly exposed to radio, television, cinema, theatre, or print media say that they have heard about AIDS, whereas 72 percent of women who either go to the cinema/theatre monthly or read a newspaper or magazine weekly know about AIDS.

Source of Knowledge About AIDS

As part of its AIDS prevention programme, the Government of India has been using mass media, especially electronic media, extensively to create awareness among the general public about AIDS and its prevention. NFHS-2 asked women who had heard of AIDS about their sources of AIDS information. Table 6.15 shows the percentage of ever-married women who have heard about AIDS from specific sources. Television is by far the most important source of information about AIDS among ever-married women in Uttar Pradesh. Ninety percent of women who know about AIDS received information from that source. Other important sources of information about AIDS are radio (39 percent) and newspapers or magazines (22 percent). Only 1 percent report that they received information about AIDS from a health worker.

Table 6.15 Source of knowledge about AIDS

Percentage of ever-married women who have heard about AIDS and among women who have heard about AIDS, percentage who received information from specific sources by selected background characteristics, Uttar Pradesh, 1998-99

Background characteristic	Percentage who have heard about AIDS	Number of women	Among those who have heard about AIDS, percentage who received information from:										Number of women who have heard about AIDS
			Radio	Television	Cinema	Newspaper/magazine	Poster/hoarding	Health worker	Adult education programme	Friend/relative	School teacher	Other source	
Age													
15-24	20.2	2,942	42.6	90.6	5.6	20.6	6.2	1.0	0.1	10.4	0.4	1.7	595
25-34	21.7	3,277	40.1	89.8	8.2	22.5	5.4	0.9	0.1	12.2	0.2	2.0	710
35-49	18.7	3,073	35.2	90.9	8.3	24.3	7.6	1.6	0.0	10.6	0.2	2.1	575
Residence													
Urban	55.8	1,860	35.4	96.6	9.2	26.6	7.0	0.7	0.0	6.2	0.2	1.3	1,039
Rural	11.3	7,432	44.3	82.7	5.2	17.3	5.5	1.7	0.1	17.2	0.3	2.7	842
Region													
Hill	34.4	420	40.9	92.9	9.0	28.0	7.6	1.3	0.3	7.3	1.2	1.2	144
Western	21.8	3,320	36.8	93.1	7.0	23.0	7.4	0.5	0.0	8.7	0.2	2.4	724
Central	23.4	1,620	50.5	93.3	9.6	23.4	5.3	1.1	0.0	6.4	0.3	1.7	379
Eastern	16.0	3,505	32.8	85.6	4.7	20.2	4.4	1.6	0.0	17.9	0.0	1.8	562
Bundelkhand	16.6	427	55.4	79.8	17.3	18.0	13.8	4.2	0.7	15.2	0.7	1.4	71
Education													
Illiterate	6.7	6,523	28.9	82.0	1.5	3.1	1.2	0.9	0.1	16.8	0.0	2.0	439
Literate, < middle school complete	29.0	1,101	32.2	88.4	4.1	10.7	2.2	1.0	0.0	15.9	0.2	0.7	319
Middle school complete	45.5	635	39.3	87.6	3.1	15.4	9.0	2.0	0.1	13.9	0.5	2.0	289
High school complete and above	80.8	1,032	47.7	96.5	13.3	39.6	9.6	1.1	0.0	5.4	0.3	2.4	834
Religion													
Hindu	19.0	7,715	41.5	90.1	8.6	24.1	6.7	1.3	0.0	11.0	0.3	2.2	1,467
Muslim	25.4	1,483	29.9	91.0	3.3	16.4	5.0	0.6	0.1	12.1	0.0	0.9	376
Sikh	41.8	55	(36.7)	(100.0)	(2.0)	(12.2)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	23
Caste/tribe													
Scheduled caste	10.5	1,805	42.9	84.3	4.6	13.9	3.8	3.2	0.0	8.5	0.0	2.3	189
Scheduled tribe	9.0	191	(30.6)	(100.0)	(5.2)	(27.6)	(13.5)	(6.2)	(0.0)	(14.3)	(4.9)	(13.1)	17
Other backward class	12.0	2,591	46.3	86.2	6.0	19.5	3.5	0.5	0.0	15.1	0.4	1.8	310
Other	30.8	4,276	37.8	92.1	8.2	24.6	7.3	1.0	0.1	10.4	0.2	1.8	1,316

Contd...

Table 6.15 Source of knowledge about AIDS (contd.)

Percentage of ever-married women who have heard about AIDS and among women who have heard about AIDS, percentage who received information from specific sources by selected background characteristics, Uttar Pradesh, 1998-99

Background characteristic	Percentage who have heard about AIDS	Number of women	Among those who have heard about AIDS, percentage who received information from:										Number of women who have heard about AIDS
			Radio	Television	Cinema	Newspaper/magazine	Poster/hoarding	Health worker	Adult education programme	Friend/relative	School teacher	Other source	
Standard of living index													
Low	4.1	2,598	36.7	70.5	4.3	7.3	3.3	1.4	0.4	22.4	0.0	3.0	107
Medium	16.3	4,887	34.3	86.6	4.1	12.4	5.3	1.1	0.0	12.5	0.1	2.5	799
High	58.3	1,612	43.7	95.8	10.7	32.5	7.5	1.2	0.1	8.6	0.3	1.4	939
Exposure to mass media													
Exposed to any media	40.4	4,206	40.5	93.5	7.8	23.9	6.8	1.1	0.1	8.3	0.3	1.6	1,699
Listens to radio weekly	39.4	2,739	55.0	92.3	9.8	27.3	6.5	1.3	0.1	9.2	0.1	1.8	1,080
Watches television weekly	51.3	2,981	38.7	97.5	8.0	23.9	6.6	0.9	0.1	6.9	0.3	1.5	1,530
Goes to cinema/theatre monthly	71.8	329	57.6	96.5	20.8	37.9	10.8	1.2	0.0	7.6	0.4	1.4	236
Reads newspaper/magazine weekly	71.5	1,174	48.6	95.0	12.9	39.2	11.0	1.5	0.0	7.6	0.3	2.0	840
Not regularly exposed to any media	3.6	5,086	28.5	60.9	3.5	9.1	2.0	1.2	0.0	37.6	0.0	5.3	181
Total	20.2	9,292	39.4	90.4	7.4	22.4	6.3	1.2	0.0	11.1	0.3	1.9	1,881

Note: Total includes a small number of women belonging to other religions, and women with missing information on religion, caste/tribe, and the standard of living index, who are not shown separately.

() Based on 25-49 unweighted cases

Television is the most important source of information about AIDS in all of the groups shown in Table 6.15 and a substantial percentage of women in all groups received information about AIDS from the radio. Friends and relatives are an important source of AIDS information for women who live in households with a low standard of living and women who are not regularly exposed to any media.

Knowledge of Ways to Avoid AIDS

Respondents who have heard of AIDS were asked if a person can do anything to avoid becoming infected. Those who reported that something can be done were asked what a person can do to avoid AIDS. Table 6.16 shows the percentage of ever-married women who know of no way to avoid AIDS and the percentages who report that AIDS can be avoided in specific ways, by selected background characteristics.

Among women who have heard about AIDS, 45 percent do not know any way to avoid infection, compared with 33 percent for India as a whole. The percentage is higher among rural women than among urban women, among women living in the Bundelkhand Region than elsewhere in Uttar Pradesh, and among women not regularly exposed to mass media. The percentage is also considerably higher among Muslim women (52 percent) than among Hindu women (44 percent). Scheduled-caste women are more likely than other women not to know any way to avoid AIDS. Lack of knowledge of ways to avoid becoming infected with AIDS decreases sharply with increasing levels of education and household standard of living.

Among women who report that something can be done to prevent AIDS, the most commonly mentioned ways of avoiding AIDS are having only one sex partner (28 percent), using condoms (25 percent), and avoiding injections or using clean needles (23 percent). Substantial proportions of respondents (10–15 percent) also mention avoiding blood transfusions, avoiding sex with commercial sex workers, and abstaining from sex completely. Only 3 percent of women mention avoiding sex with homosexuals as a way of avoiding AIDS and even fewer women mention avoiding intravenous drug use. The percentage reporting most specific ways of avoiding AIDS is lower among rural than among urban women and women not regularly exposed to mass media than other women. The level of education and the household standard of living are positively associated with women mentioning almost every way of avoiding AIDS. The use of condoms as a way of avoiding AIDS is mentioned most often by women in the Hill Region and the Central Region, women who have at least completed high school, women from households with a high standard of living, and women who are regularly exposed to cinema, print media, and radio broadcasts.

The lack of knowledge of AIDS, its modes of transmission, and ways to avoid infection among women in Uttar Pradesh is a major challenge to efforts to avoid the spread of AIDS. Most ever-married women in their childbearing years have never heard of AIDS, and almost half of those who have heard of AIDS do not know even one way to avoid infection. It is clear that AIDS prevention organizations need to strengthen the educational components of their programmes, in addition to trying to reduce high-risk behaviour, since even basic information about AIDS is seriously deficient among women in Uttar Pradesh.

Table 6.16 Knowledge about avoidance of AIDS

Among ever-married women who have heard about AIDS, percentage who believe AIDS can be avoided in specific ways by selected background characteristics, Uttar Pradesh, 1998-99

Background characteristic	Percentage who believe AIDS can be avoided by:										Number of women
	Abstaining from sex	Using condoms	Having only one sex partner	Avoiding sex with commercial sex workers	Avoiding sex with homo-sexuals	Avoiding blood transfusions	Avoiding injections/using clean needles	Avoiding IV drug use	Other ways	Knows no way to avoid AIDS	
Age											
15-24	10.7	25.3	24.9	11.8	3.5	13.1	20.5	1.0	4.4	45.3	595
25-34	9.4	27.0	30.1	11.3	2.2	14.8	22.9	1.8	4.9	43.3	710
35-49	9.8	21.4	28.2	10.6	2.9	16.5	24.2	1.5	4.5	47.0	575
Residence											
Urban	10.2	29.6	31.2	12.1	2.8	17.5	26.3	1.7	4.3	41.2	1,039
Rural	9.7	18.7	23.7	10.2	2.9	11.4	18.0	1.1	5.1	49.8	842
Region											
Hill	9.5	39.7	37.6	20.6	7.5	18.2	23.2	2.4	4.6	36.6	144
Western	9.6	23.8	29.6	12.4	4.4	14.2	14.5	2.0	2.7	48.4	724
Central	8.1	33.6	35.1	8.0	1.9	16.8	31.6	1.3	4.7	36.8	379
Eastern	11.7	17.9	19.2	10.2	0.4	14.0	28.8	0.8	7.2	45.9	562
Bundelkhand	10.4	11.0	20.6	5.5	1.4	8.9	5.6	0.7	3.5	65.5	71
Education											
Illiterate	6.1	8.5	13.4	8.0	2.4	7.5	9.1	0.8	2.5	67.4	439
Literate, < middle school complete	7.2	14.0	17.6	7.6	0.5	11.0	15.2	0.7	3.9	58.3	319
Middle school complete	7.9	19.0	23.9	9.8	3.5	12.8	25.1	1.1	5.9	47.1	289
High school complete and above	13.8	39.4	40.8	14.8	3.8	20.8	31.6	2.2	5.6	27.4	834
Religion											
Hindu	10.2	25.5	28.5	11.6	3.0	15.7	22.8	1.6	4.8	43.8	1,467
Muslim	9.0	21.1	23.5	9.1	2.3	10.7	21.0	0.9	4.5	52.3	376
Sikh	(6.1)	(32.5)	(41.0)	(22.5)	(0.0)	(25.8)	(35.2)	(2.0)	(0.0)	(15.2)	23
Caste/tribe											
Scheduled caste	4.4	17.0	21.9	13.1	3.3	15.6	18.6	2.0	3.8	55.1	189
Scheduled tribe	(9.0)	(26.1)	(44.8)	(25.9)	(12.8)	(20.1)	(34.8)	(0.0)	(2.4)	(27.9)	17
Other backward class	15.8	22.8	25.4	10.7	3.1	18.0	25.1	0.8	3.6	41.9	310
Other	9.5	26.6	29.9	11.0	2.6	14.0	22.8	1.6	5.0	43.6	1,316

Contd...

Table 6.16 Knowledge about avoidance of AIDS (contd.)

Among ever-married women who have heard about AIDS, percentage who believe AIDS can be avoided in specific ways by selected background characteristics, Uttar Pradesh, 1998-99

Background characteristic	Percentage who believe AIDS can be avoided by:										Number of women
	Abstaining from sex	Using condoms	Having only one sex partner	Avoiding sex with commercial sex workers	Avoiding sex with homosexuals	Avoiding blood transfusions	Avoiding injections/using clean needles	Avoiding IV drug use	Other ways	Knows no way to avoid AIDS	
Standard of living index											
Low	10.2	7.7	12.6	5.9	3.9	8.8	8.6	0.8	4.8	66.5	107
Medium	7.3	17.8	23.5	11.2	2.6	12.1	18.3	1.1	3.7	52.6	799
High	12.1	33.1	33.4	12.1	2.8	17.4	27.5	1.9	5.2	36.2	939
Exposure to mass media											
Exposed to any media	10.3	26.5	29.2	11.3	2.8	15.3	23.7	1.4	4.9	42.8	1,699
Listens to radio weekly	11.6	30.5	32.0	11.0	3.3	16.1	24.3	2.0	5.7	39.7	1,080
Watches television weekly	10.5	27.9	30.4	11.6	2.7	15.9	24.9	1.5	4.9	41.2	1,530
Goes to cinema/theatre monthly	12.0	38.7	34.7	10.4	5.2	24.1	27.3	1.2	7.3	36.5	236
Reads newspaper/magazine weekly	13.5	37.7	36.9	14.2	4.3	21.0	30.2	2.2	6.6	30.6	840
Not regularly exposed to any media	6.8	8.6	15.6	10.8	3.2	9.7	11.5	2.0	2.2	66.3	181
Total	10.0	24.8	27.9	11.2	2.8	14.8	22.5	1.5	4.6	45.0	1,881

Note: Total includes 11 women belonging to other religions and 4, 48, and 35 women with missing information on religion, caste/tribe, and the standard of living index, respectively, who are not shown separately.
() Based on 25-49 unweighted cases

CHAPTER 7

NUTRITION AND THE PREVALENCE OF ANAEMIA

This chapter focuses on the nutrition of women and young children, examining both the types of food consumed and the consequences of inadequate nutrition and poor feeding practices. NFHS-1 included basic information about feeding practices and the nutritional status of young children. NFHS-2 contains more comprehensive information on these topics, and, for the first time, information on the diet of women. Measurement of height and weight has been expanded to include ever-married women as well as young children. Two additional tests have been included for the first time—anaemia testing for women and young children and the testing of cooking salt to determine the extent of iodization. A specially trained health investigator attached to each interviewing team conducted height and weight measurements and anaemia testing.

7.1 Women's Food Consumption

The consumption of a wide variety of nutritious foods is important for women's health. Adequate amounts of protein, fat, carbohydrates, vitamins, and minerals are required for a well-balanced diet. Meat, fish, eggs, and milk, as well as pulses and nuts, are rich in protein. Green, leafy vegetables are a rich source of iron, folic acid, vitamin C, carotene, riboflavin, and calcium. Many fruits are also good sources of vitamin C. Bananas are rich in carbohydrates. Papayas, mangoes, and other yellow fruits contain carotene, which is converted to vitamin A. Vitamin A is also present in milk and milk products, as well as egg yolks (Gopalan et al., 1996).

NFHS-2 asked ever-married women how often they consume various types of food (daily, weekly, occasionally, or never). Women consume vegetables (both green, leafy vegetables and other vegetables) most often (Table 7.1). A majority of women consume each type of vegetable on a daily basis and 90 percent consume each type of vegetable at least once a week. Pulses and beans are also an important part of the diet for women. Almost half of women (46 percent) eat pulses or beans every day, and another 42 percent eat pulses or beans weekly. Milk or curd is a common part of the diet for a majority of women, but 43 percent of women consume milk or curd only occasionally or never. Fruits are eaten every day by only 4 percent of women, and only 19 percent of women eat fruits at least once a week. Almost half of women in Uttar Pradesh (48 percent) never eat chicken, meat, or fish. Less than 10 percent eat chicken, meat, or fish at least once a week and 43 percent of women consume these food items occasionally. Eggs are consumed about as often as chicken, meat, or fish. Half of women say that they never eat eggs.

Table 7.2 shows that there are substantial differentials in food consumption patterns by selected background characteristics. Age does not play an important role in women's consumption patterns. Women in urban areas are more likely than women in rural areas to include every type of food in their diet, particularly fruits, eggs, and chicken, meat, or fish. Illiterate women have poorer and less varied diets than literate women, and their diets are particularly deficient in such nutritious foods as fruit and milk/curd, as well as eggs, chicken, meat, or fish. Muslims consume every food item except dairy products more often than Hindus. Sikh women are far more likely than either Hindu or Muslim women to consume milk or curd and fruits, but both Sikh and Hindu women are much less likely than Muslim women to eat

Table 7.1 Women's food consumption

Percent distribution of ever-married women by frequency of consumption of specific foods, Uttar Pradesh, 1998-99

Type of food	Frequency of consumption					Total percent
	Daily	Weekly	Occasionally	Never	Missing	
Milk or curd	38.1	19.1	38.6	4.2	0.0	100.0
Pulses or beans	45.9	42.1	11.8	0.2	0.0	100.0
Green, leafy vegetables	51.4	38.6	9.9	0.1	0.1	100.0
Other vegetables	59.3	31.4	9.2	0.0	0.0	100.0
Fruits	3.9	15.1	78.7	2.1	0.2	100.0
Eggs	1.8	8.1	39.9	50.3	0.0	100.0
Chicken, meat, or fish	1.0	7.7	43.0	48.3	0.0	100.0

chicken, meat, or fish at least once a week. Less than 10 percent of Hindu and Sikh women eat eggs or chicken, meat, or fish at least once a week. Women from scheduled castes, scheduled tribes, and other backward classes have a relatively poor diet that is particularly deficient in fruits, milk/curd, eggs, chicken, meat, or fish. As expected, poverty has a strong negative effect on the consumption of nutritious types of food. Women in households with a low standard of living are much less likely than other women to eat fruits, milk or curd, and eggs, chicken, meat, or fish on a regular basis. Table 7.2 also shows that there are regional differentials in women's consumption patterns. Women in the Hill Region are more likely than women in other regions to have a varied and nutritious diet. Women in the Bundelkhand and Eastern Regions are least likely to consume eggs, chicken, meat, or fish at least once a week. Women in the Central and Eastern Regions are least likely to consume milk or curd at least once a week.

7.2 Nutritional Status of Women

In NFHS-2, ever-married women age 15-49 were weighed using a solar-powered digital scale with an accuracy of ± 100 grams. Their height was measured using an adjustable wooden measuring board specially designed to provide accurate measurements (to the nearest 0.1 cm) of women and children in a field situation. The weight and height data were used to calculate several indicators of women's nutritional status, which are shown in Table 7.3. The height of an adult is an outcome of several factors including nutrition during childhood and adolescence. A woman's height can be used to identify women at risk of having a difficult delivery, since small stature is often related to small pelvic size. The risk of having a baby with a low birth weight is also higher for mothers who are short.

The cutoff point for height, below which a woman can be identified as nutritionally at risk, varies among populations, but it is usually considered to be in the range of 140-150 centimetres (cm). NFHS-2 found a mean height for women in Uttar Pradesh of 150 cm (one cm shorter than the mean height for women in India as a whole). The mean height varies only slightly (between 149 and 153 cm) for women in different population groups, as shown in Table 7.3. Women in the Central and Eastern Regions of Uttar Pradesh are, on average, 1-2 cm shorter than women in other parts of the state, and women living in households with a low standard of living are almost 3 cm shorter than women living in households with a high standard of living. Other women who are slightly shorter than average include illiterate women, scheduled-caste women, scheduled-tribe women, women from other backward classes, and working women, but the differences are not large. Sikh women are taller than women in any other group. Sixteen

Table 7.2. Women's food consumption by background characteristics								
Percentage of ever-married women consuming specific foods at least once a week by selected background characteristics, Uttar Pradesh, 1998-99								
Background characteristic	Type of food							Number of women
	Milk or curd	Pulses or beans	Green, leafy vegetables	Other vegetables	Fruits	Eggs	Chicken, meat, or fish	
Age								
15-24	56.3	89.5	90.4	91.3	17.6	9.6	8.7	2,942
25-34	58.8	87.4	89.6	90.9	19.8	10.4	8.2	3,277
35-49	56.3	87.2	90.0	89.9	19.4	9.6	9.1	3,073
Residence								
Urban	59.6	89.7	90.9	93.3	37.9	23.4	17.2	1,860
Rural	56.6	87.6	89.8	90.1	14.2	6.5	6.5	7,432
Region								
Hill	82.4	93.1	92.9	88.4	36.8	14.6	18.3	420
Western	73.4	84.4	85.8	86.2	22.5	10.2	9.3	3,320
Central	46.4	92.5	87.1	95.9	17.5	13.2	10.9	1,620
Eastern	42.7	89.4	95.3	92.6	14.0	8.2	6.6	3,505
Bundelkhand	66.2	82.4	87.6	92.9	20.1	4.0	2.7	427
Education								
Illiterate	51.6	86.1	89.9	90.5	12.3	7.6	7.5	6,523
Literate, < middle school complete	64.3	91.9	89.0	89.0	23.5	13.7	12.3	1,101
Middle school complete	68.0	91.1	88.4	92.6	27.0	10.1	7.9	635
High school complete and above	78.4	94.1	92.4	92.4	51.3	19.8	12.4	1,032
Religion								
Hindu	58.5	87.5	89.5	90.5	18.5	6.1	5.1	7,715
Muslim	49.1	90.3	92.1	91.9	20.5	29.0	26.8	1,483
Sikh	84.8	96.0	95.3	90.9	34.1	8.6	7.2	55
Caste/tribe								
Scheduled caste	46.4	85.8	89.8	91.2	13.2	8.6	6.6	1,805
Scheduled tribe	51.3	81.0	88.7	87.2	14.2	6.3	8.2	191
Other backward class	53.6	86.9	89.6	89.7	14.3	6.3	6.0	2,591
Other	65.3	90.2	90.5	90.8	25.4	12.4	10.8	4,276
Standard of living index								
Low	41.2	82.8	89.9	90.0	8.6	5.6	5.7	2,598
Medium	58.1	89.0	89.3	90.5	15.5	8.8	8.5	4,887
High	78.1	93.2	92.5	92.8	45.0	20.2	13.7	1,612
Total	57.2	88.0	90.0	90.7	19.0	9.9	8.7	9,292

Note: Total includes 21 women belonging to other religions and 17, 429, and 195 women with missing information on religion, caste/tribe, and the standard of living index, respectively, who are not shown separately.

percent of women in Uttar Pradesh are under 145 cm in height. The highest percentage of women in any group who are less than 145 cm tall is 21 percent for women living in households with a poor standard of living.

Table 7.3 also shows two measures of an index that relates a woman's weight to her height. These indices exclude women who were pregnant at the time of the survey or women who gave birth during the two months preceding the survey. The body mass index (BMI) can be used to assess both thinness and obesity. The BMI is defined as the weight in kilograms divided by the height in metres squared (kg/m^2). The mean BMI for women in Uttar Pradesh is 20

Table 7.3 Nutritional status of women						
Among ever-married women, mean height, percentage with height below 145 cm, mean body mass index (BMI), and percentage with BMI below 18.5 kg/m ² by selected background characteristics, Uttar Pradesh, 1998-99						
Background characteristic	Height			Weight-for-height ¹		
	Mean height (cm)	Percentage below 145 cm	Number of women for height	Mean body mass index (BMI)	Percentage with BMI below 18.5 kg/m ²	Number of women for BMI
Age						
15-19	149.9	17.1	730	19.6	33.1	639
20-24	150.2	16.9	1,254	19.4	37.1	1,024
25-29	150.3	16.4	1,278	19.7	36.1	1,109
30-34	150.3	15.8	1,025	20.0	38.6	926
35-49	150.6	16.1	2,116	20.6	34.6	2,046
Marital status						
Currently married	150.3	16.4	6,164	20.0	35.4	5,507
Not currently married	149.7	16.2	239	19.8	44.9	237
Residence						
Urban	150.7	15.4	1,287	21.8	23.3	1,201
Rural	150.2	16.6	5,117	19.5	39.1	4,543
Region						
Hill	151.6	8.6	267	20.2	32.3	253
Western	151.0	14.0	2,296	20.5	31.1	1,974
Central	149.5	19.8	1,121	19.8	40.1	1,028
Eastern	149.8	19.0	2,425	19.7	37.5	2,216
Bundelkhand	151.7	7.1	295	19.4	43.1	272
Education						
Illiterate	149.8	18.3	4,375	19.5	40.3	3,886
Literate, < middle school complete	151.2	12.5	820	20.2	32.9	732
Middle school complete	151.0	12.8	463	20.6	29.7	424
High school complete and above	151.8	11.6	745	22.3	17.9	702
Religion						
Hindu	150.2	16.8	5,398	20.0	35.6	4,873
Muslim	150.9	14.2	927	20.0	38.6	803
Sikh	(153.0)	(9.0)	51	(23.9)	(10.7)	43
Caste/tribe						
Scheduled caste	149.6	18.4	1,265	19.4	41.3	1,116
Scheduled tribe	149.6	18.9	133	19.7	32.6	118
Other backward class	149.8	18.5	1,797	19.6	37.3	1,605
Other	151.1	13.5	2,936	20.6	31.9	2,665
Work status						
Working in family farm/business	149.7	18.2	778	19.5	41.6	718
Employed by someone else	149.8	18.7	484	19.6	40.8	445
Self-employed	150.0	17.3	224	20.3	38.1	210
Not worked in past 12 months	150.5	15.8	4,910	20.1	34.2	4,363
Standard of living index						
Low	149.2	20.6	1,691	19.0	44.9	1,486
Medium	150.3	16.4	3,393	19.7	36.8	3,037
High	151.9	11.4	1,186	22.1	20.9	1,107
Total	150.3	16.4	6,404	20.0	35.8	5,744

Note: Total includes women belonging to other religions and women with missing information on religion, caste/tribe, work status, and the standard of living index, who are not shown separately.
 () Based on 25-49 unweighted cases
¹ Excludes women who are pregnant and women with a birth in the preceding two months. The body mass index (BMI) is the ratio of the weight in kilograms to the square of the height in metres (kg/m²).

(varying within a narrow range of 19–22 for all the groups shown in the table except Sikhs). Chronic energy deficiency is usually indicated by a BMI of less than 18.5. More than one-third (36 percent) of women in Uttar Pradesh have a BMI below 18.5, indicating a high prevalence of nutritional deficiency. Nutritional problems, as indicated by the BMI, are particularly serious for rural women, women living in the Bundelkhand and Central Regions, ever-married women who are not currently married, illiterate women, scheduled-caste women, and women employed by someone else or working on a family farm or in a family business. The standard of living is strongly related to chronic energy deficiency. Women from households with a low standard of living are more than twice as likely to have a low BMI as women from households with a high standard of living.

7.3 Anaemia Among Women

Anaemia is characterized by a low level of haemoglobin in the blood. Haemoglobin is necessary for transporting oxygen from the lungs to other tissues and organs of the body. Anaemia usually results from a nutritional deficiency of iron, folate, vitamin B₁₂, or some other nutrients. This type of anaemia is commonly referred to as iron-deficiency anaemia. Iron deficiency is the most widespread form of malnutrition in the world, affecting more than two billion people (Stolzfus and Dreyfuss, 1998). In India, anaemia affects an estimated 50 percent of the population (Seshadri, 1998).

Anaemia may have detrimental effects on the health of women and children and may become an underlying cause of maternal mortality and perinatal mortality. Anaemia results in an increased risk of premature delivery and low birth weight (Seshadri, 1997). Early detection of anaemia can help to prevent complications related to pregnancy and delivery as well as child-development problems. Information on the prevalence of anaemia can be useful for the development of health-intervention programmes designed to prevent anaemia, such as iron-fortification programmes.

In India, under the Government's Reproductive and Child Health Programme, iron and folic acid tablets are provided to pregnant women in order to prevent anaemia during pregnancy. Because anaemia is such a serious health problem in India, NFHS-2 undertook direct measurement of the haemoglobin levels of all ever-married women age 15–49 years and their children under three years of age. Measurements were taken in the field using the HemoCue system.¹ This system uses a single drop of blood from a finger prick (or a heel prick in the case of infants under six months old), which is drawn into a cuvette and then inserted into a portable, battery-operated instrument.² In less than one minute, the haemoglobin concentration is indicated on a digital read-out.

Before the anaemia testing was undertaken in a household, the health investigator read a detailed informed consent statement to the respondent, informing her about anaemia, describing

¹The HemoCue instrument has been used extensively throughout the world for estimating the concentration of haemoglobin in capillary blood in field situations. The HemoCue has been found to give accurate results on venous blood samples, comparable to estimates from more sophisticated laboratory instruments (Von Schenk et al., 1986; McNulty et al., 1995; Krenzichcek and Tanseco, 1996). A recent small-scale study in India (Prakash et al., 1999), however, found that the HemoCue provided slightly higher estimates of haemoglobin than the standard blood cell counter (BCC) method.

²Because the first 2–3 drops of blood are wiped away to be sure that the sample used for analysis consists of fresh capillary blood, it is actually the third or fourth drop of blood that is drawn into the cuvette.

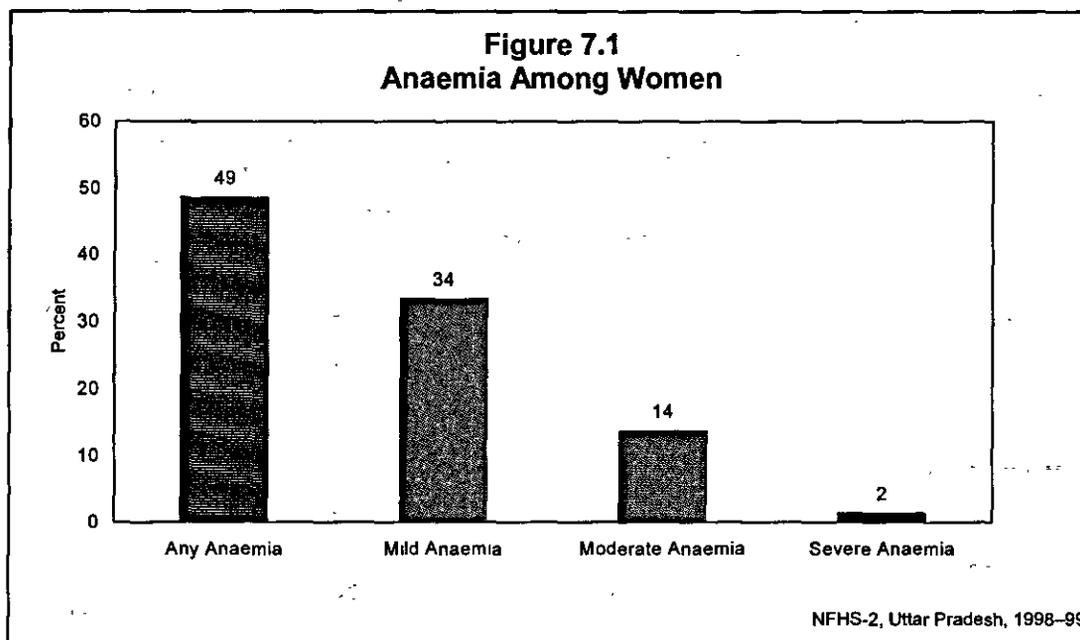
the procedure to be followed for the test, and emphasizing the voluntary nature of the test. She was then asked whether or not she would consent to have the test done for herself and her young children, if any. The health investigator then signed the questionnaire at the bottom of the statement to indicate that it had been read to the respondent and recorded her agreement or lack of agreement to the testing. If the test was conducted, at the end of the test the respondent was given a written record of the results for herself and each of her young children. In addition, the health investigator described to her the meaning of the results and advised her if medical treatment was necessary. In cases of severe anaemia, the respondent was read an additional statement asking whether or not she would give her permission for the survey organization to inform a local health official about the problem. For each Primary Sampling Unit, a local health official was given a list of severely anaemic women (and children) who had consented to the referral.

Table 7.4 and Figure 7.1 show anaemia levels for ever-married women age 15–49. The table and figure distinguish three levels of severity of anaemia: mild anaemia (10.0–10.9 grams/decilitre for pregnant women and 10.0–11.9 g/dl for nonpregnant women), moderate anaemia (7.0–9.9 g/dl), and severe anaemia (less than 7.0 g/dl). Appropriate adjustments in these cutoff points were made for women living at altitudes above 1,000 metres and women who smoke, since both of these groups require more haemoglobin in their blood (Centers for Disease Control and Prevention, 1998).

In Uttar Pradesh, the haemoglobin levels were tested for only 64 percent of women (see Table B.3 in Appendix B), compared with 88 percent of women in India as a whole. The high level of nonresponse on the haemoglobin tests could seriously bias the results of the anaemia estimation in Uttar Pradesh if the level of nonresponse varies substantially for different subgroups of the population. However, an examination of the level of nonresponse for different groups indicates that the sample of women that were tested has quite similar characteristics to the sample of all ever-married women in the NFHS-2 sample in Uttar Pradesh, so the effect of nonresponse is likely to be limited. Moreover, an adjustment has been made for differential nonresponse by area to ensure proper geographic representation. Nevertheless, given the high nonresponse rates, the anaemia results for both women and children in Uttar Pradesh should be interpreted with caution.

Overall, 49 percent of women have some degree of anaemia.³ Thirty-four percent of women are mildly anaemic, 14 percent are moderately anaemic, and 2 percent are severely anaemic. There are some differences in the prevalence of anaemia by background characteristics, but anaemia is substantial for women in every population group. Prevalence is slightly higher for younger women less than age 20 than for older women. It is also slightly higher for rural women (49 percent) than for urban women (46 percent), and it is much higher in the Eastern and Central Regions than in other regions. The prevalence of anaemia is relatively high for women belonging to scheduled castes, scheduled tribes or other backward classes, illiterate women, women working on a family farm or in a family business, and women who are self-employed. Hindu

³Rates that are not adjusted for altitude and smoking (47.5 percent for any anaemia, 32.4 percent for mild anaemia, 13.5 percent for moderate anaemia, and 1.5 percent for severe anaemia) are slightly lower than the corresponding adjusted rates. The small impact of the adjustment factor is to be expected since, in Uttar Pradesh, the proportion of women who smoke is very small (see Table 2.12), and only 28 of the 333 sample PSUs are at an altitude above 1,000 metres.



women are slightly more likely to have anaemia than Muslim women. Anaemia decreases steadily with increases in the standard of living index.

The prevalence of anaemia is slightly higher for breastfeeding women than for other groups, but there is little difference in the prevalence of anaemia between pregnant women and nonpregnant women who are not breastfeeding. Since anaemia is often considered to be particularly problematic for pregnant women, it is noteworthy that these women have slightly lower than average levels of anaemia. The provision of iron and folic acid supplements to pregnant women has undoubtedly reduced the overall prevalence of anaemia in pregnant women to some extent (32 percent of pregnant women received IFA tablets or syrup during pregnancy for births in the three years preceding the survey—see Table 8.6). However, by far the highest levels of moderate or severe anaemia are experienced by pregnant women (25 percent).

Shorter women and women with a low body mass index have a somewhat higher prevalence of anaemia than other women. The diet of women also plays a role in the likelihood that women have anaemia. Consumption of iron-rich foods can reduce the prevalence or severity of anaemia, and the absorption of iron from the diet can be enhanced (for example, by vitamin C) or inhibited (for example, by tea or coffee) if particular items are consumed around the time that a meal is eaten. In Uttar Pradesh, differentials in anaemia by fruit and vegetable consumption are surprisingly small. Women who eat fruit (alone or in addition to green, leafy vegetables) at least weekly have a slightly lower level of anaemia than women who do not eat fruit regularly. However, women who do not eat either fruit or green, leafy vegetables at least once a week also have a lower than average prevalence of anaemia.

Table 7.4 Anaemia among women

Percentage of ever-married women classified as having iron-deficiency anaemia by degree of anaemia, according to selected background characteristics, Uttar Pradesh, 1998-99

Background characteristic	Percentage of women with any anaemia	Percentage of women with:			Number of women
		Mild anaemia	Moderate anaemia	Severe anaemia	
Age					
15-19	52.8	35.1	15.8	1.9	617
20-24	49.9	32.1	16.1	1.7	1,112
25-29	45.9	30.9	13.3	1.7	1,119
30-34	49.0	34.9	12.1	1.9	920
35-49	48.2	34.5	12.7	1.0	1,914
Marital status					
Currently married	48.7	33.4	13.9	1.5	5,467
Not currently married	48.8	35.9	10.7	2.3	214
Residence					
Urban	46.0	31.9	13.3	0.8	1,137
Rural	49.4	33.9	13.8	1.7	4,544
Region					
Hill	45.3	35.1	9.8	0.4	257
Western	37.9	25.7	10.9	1.2	2,030
Central	54.0	37.8	14.3	1.9	991
Eastern	57.9	39.2	16.9	1.7	2,143
Bundelkhand	41.2	28.4	11.0	1.8	261
Education					
Illiterate	50.6	34.6	14.0	1.9	3,848
Literate, < middle school complete	44.9	30.7	13.4	0.8	749
Middle school complete	47.9	32.1	14.6	1.2	415
High school complete and above	43.0	30.9	11.9	0.2	669
Religion					
Hindu	49.1	33.8	13.7	1.6	4,817
Muslim	47.3	32.0	14.2	1.1	793
Sikh	(35.1)	(21.2)	(10.0)	(3.9)	46
Caste/tribe					
Scheduled caste	51.9	35.3	14.3	2.4	1,115
Scheduled tribe	53.6	37.5	13.3	2.8	122
Other backward class	51.0	34.1	15.3	1.6	1,577
Other	45.2	32.0	12.4	0.8	2,615
Work status					
Working in family farm/business	55.1	38.0	15.0	2.1	681
Employed by someone else	49.8	36.2	11.3	2.2	432
Self-employed	51.9	38.5	12.9	0.5	199
Not worked in past 12 months	47.4	32.2	13.8	1.4	4,360
Standard of living index					
Low	53.0	35.5	15.1	2.5	1,497
Medium	49.1	33.9	13.9	1.3	3,013
High	42.2	29.2	12.0	0.9	1,051
Pregnancy/breastfeeding status					
Pregnant	46.0	21.1	22.4	2.4	496
Breastfeeding (not pregnant)	51.9	35.7	14.6	1.6	1,762
Not pregnant/not breastfeeding	47.5	34.1	12.0	1.4	3,423
Height					
< 145 cm	50.7	33.7	15.5	1.6	922
≥ 145 cm	48.2	33.2	13.5	1.5	4,715

Contd...

Table 7.4 Anaemia among women (contd.)					
Percentage of ever-married women classified as having iron-deficiency anaemia by degree of anaemia, according to selected background characteristics, Uttar Pradesh, 1998–99					
Background characteristic	Percentage of women with any anaemia	Percentage of women with:			Number of women
		Mild anaemia	Moderate anaemia	Severe anaemia	
Body mass index					
< 18.5 kg/m ²	53.1	35.9	14.9	2.3	1,914
≥ 18.5 kg/m ²	46.9	32.3	13.4	1.2	3,607
Fruit and vegetable consumption¹					
Fruit and vegetables	44.4	30.0	13.0	1.4	1,005
Fruit only	46.5	36.2	10.3	0.0	69
Vegetables only	50.3	34.4	14.3	1.6	4,095
Neither	45.1	32.8	11.2	1.1	509
Total	48.7	33.5	13.7	1.5	5,681
Note: The haemoglobin levels are adjusted for altitude of the enumeration area and for smoking when calculating the degree of anaemia. Total includes 15 women belonging to other religions and 9, 252, 8, 120, 44, 160, and 3 women with missing information on religion, caste/tribe, work status, the standard of living index, height, body mass index, and fruit and vegetable consumption, respectively, who are not shown separately. () Based on 25–49 unweighted cases ¹ Based on consumption at least weekly. Vegetables include only green, leafy vegetables.					

7.4 Infant Feeding Practices

Infant feeding practices have significant effects on both mothers and children. Mothers are affected through the influence of breastfeeding on the period of postpartum infertility, and hence on fertility levels and the length of birth intervals. These effects vary by both the duration and intensity of breastfeeding. Proper infant feeding, starting from the time of birth, is important for the physical and mental development of the child. Breastfeeding improves the nutritional status of young children and reduces morbidity and mortality. Breast milk not only provides important nutrients but also protects the child against infection. The timing and type of supplementary foods introduced in an infant's diet also have significant effects on the child's nutritional status.

The Baby Friendly Hospitals Initiative, launched by the United Nations Children's Fund (UNICEF) recommends initiation of breastfeeding immediately after childbirth. The World Health Organization (WHO) and UNICEF recommend that infants should be given only breast milk for about the first six months of their life. Under the Reproductive and Child Health Programme, the Government of India recommends that infants should be exclusively breastfed from birth to age four months (Ministry of Health and Family Welfare, n.d.). Most babies do not require any other foods or liquids during this period. By age seven months, adequate and appropriate complementary foods should be added to the infant's diet in order to provide sufficient nutrients for optimal growth. It is recommended that breastfeeding should continue, along with complementary foods, through the second year of life or beyond. It is further recommended that a feeding bottle with a nipple should not be used at any age, for reasons related mainly to sanitation and the prevention of infections.

WHO has suggested several indicators of breastfeeding practices to guide countries in gathering information for measuring and evaluating infant feeding practices. These indicators include the ever breastfed rate, the exclusive breastfeeding rate, the timely complementary

feeding rate, the continued breastfeeding rate, and the bottle feeding rate. The *exclusive breastfeeding rate* is defined as the proportion of infants under age four months who receive only breast milk. The *timely complementary feeding rate* is the proportion of infants age 6–9 months who receive both breast milk and solid or semi-solid food. The *continued breastfeeding rate through one year of age* is the proportion of children age 12–15 months who are still breastfed. The *continued breastfeeding rate until two years of age* is the proportion of children age 20–23 months who are still breastfed. The *bottle feeding rate* is the proportion of infants who are fed using a bottle with a nipple. These indicators of breastfeeding and other feeding practices are presented in this section.

In NFHS-2, data on breastfeeding and complementary feeding were obtained from a series of questions in the Woman's Questionnaire. These questions pertain to births since January 1995, but the tables are restricted to children born in the three years preceding the survey. For any given woman, information was obtained for a maximum of two births.

Initiation of breastfeeding immediately after childbirth is important because it benefits both the mother and the infant. As soon as the infant starts suckling at the breast, the hormone oxytocin is released, resulting in uterine contractions that facilitate expulsion of the placenta and reduce the risk of postpartum haemorrhage. It is also recommended that the first breast milk (colostrum) should be given to the child rather than squeezed from the breast and discarded, because it contains colostrum, which provides natural immunity to the child.

Table 7.5 shows the percentage of children born during the three years before the survey who started breastfeeding within one hour and one day of birth. It also gives the percentage of children whose mothers squeezed the first milk from the breast before breastfeeding, which is not recommended. Although breastfeeding is nearly universal in Uttar Pradesh, very few children are put to the breast immediately after birth. Only 7 percent of children begin breastfeeding within one hour of birth, and only 13 percent begin breastfeeding within one day of birth. Three out of every four women who gave birth to children during the three years preceding the survey squeezed the first milk from the breast before they began breastfeeding.

Differentials in the early initiation of breastfeeding and in squeezing the first milk from the breast are also shown in Table 7.5. With the exception of the Hill Region, no more than 13 percent of children in any group shown in the table were put to the breast within one hour of birth and no more than 29 percent started breastfeeding within one day of birth. In the Hill Region, one-quarter of mothers put their child to the breast within one hour of birth and 50 percent started breastfeeding their child within one day after delivery. Women who have completed high school and women who live in households with a high standard of living are more likely than other women to start breastfeeding their children early. The circumstances surrounding delivery of the baby can have an important effect on the early initiation of breastfeeding. Children whose delivery was assisted by a health professional, as well as children born in health facilities, tend to begin breastfeeding relatively early.

The custom of squeezing the first milk from the breast before breastfeeding a child is widely practised in Uttar Pradesh in every group, but it is particularly common in the Central and Bundelkhand Regions (86–87 percent). Contrary to recommendations regarding infant feeding, mothers squeeze the first milk from the breast before breastfeeding for more than 60 percent of children in every group.

Table 7.5 Initiation of breastfeeding

Percentage of children born during the three years preceding the survey who started breastfeeding within one hour and within one day of birth and percentage whose mother squeezed the first milk from her breast before breastfeeding by selected background characteristics, Uttar Pradesh, 1998-99

Background characteristic	Percentage started breastfeeding within one hour of birth	Percentage started breastfeeding within one day of birth ¹	Percentage whose mother squeezed first milk from breast	Number of children
Residence				
Urban	7.9	15.4	76.0	713
Rural	6.2	13.0	75.6	3,700
Region				
Hill	25.5	50.1	70.5	148
Western	6.9	15.4	77.2	1,685
Central	3.6	10.6	87.2	734
Eastern	5.6	9.2	68.2	1,658
Bundelkhand	6.8	13.9	85.6	189
Mother's education				
Illiterate	5.4	10.8	76.8	3,189
Literate, < middle school complete	7.1	13.6	75.2	495
Middle school complete	7.7	19.0	74.5	296
High school complete and above	13.0	28.8	68.8	434
Religion				
Hindu	6.3	13.5	75.6	3,521
Muslim	7.2	12.8	75.3	859
Caste/tribe				
Scheduled caste	5.6	10.1	77.7	942
Scheduled tribe	8.2	16.8	72.3	99
Other backward class	5.5	10.4	76.0	1,213
Other	7.8	17.0	74.1	1,955
Mother's work status				
Working in family farm/business	8.8	11.7	77.2	457
Employed by someone else	4.8	7.8	71.5	286
Self-employed	7.2	14.7	73.6	114
Not worked in past 12 months	6.3	14.0	75.8	3,551
Standard of living index				
Low	4.9	10.1	77.5	1,439
Medium	6.1	12.9	75.6	2,288
High	11.5	22.6	70.9	598
Assistance during delivery				
Health professional ²	11.7	22.6	69.4	988
Dai (TBA)	5.1	11.8	76.9	1,527
Other	4.9	9.9	78.3	1,887
Place of delivery				
Public health facility	11.7	24.5	66.7	332
Private health facility	12.8	24.5	70.0	345
Own home	5.4	11.7	78.6	3,257
Parents' home	5.0	8.2	68.0	426
Other	(9.5)	(17.4)	(60.8)	35
Total	6.5	13.4	75.6	4,414

Note: Table includes only the two most recent births during the three years preceding the survey, whether living or dead at the time of interview. Total includes 17 Sikh children, 9 children whose mothers belong to 'other' religions, 6 children delivered in non-governmental organization or trust hospitals/clinics, and 8, 205, 5, 89, 12, and 13 children with missing information on religion, caste/tribe, work status, the standard of living index, assistance at delivery, and place of delivery, respectively, who are not shown separately.

() Based on 25-49 unweighted cases

TBA: Traditional birth attendant

¹Includes children who started breastfeeding within one hour of birth

²Includes doctor, auxiliary nurse midwife, nurse, midwife, lady health visitor, and other health professionals

Table 7.6 Breastfeeding status by child's age							
Percent distribution of children under age 3 years by breastfeeding status, according to child's age in months, Uttar Pradesh, 1998-99							
Age in months	Breastfeeding status					Total percent	Number of living children
	Not breastfeeding	Exclusively breastfeeding	Breastfeeding and:				
			Receiving plain water only	Receiving supplements	Don't know if fed supplements		
< 2	2.1	65.0	15.5	17.4	0.0	100.0	201
2-3	2.4	51.9	20.8	24.8	0.0	100.0	329
4-5	3.5	38.4	22.5	35.5	0.0	100.0	252
6-7	2.7	22.5	27.8	46.5	0.5	100.0	244
8-9	2.2	11.3	19.5	66.5	0.5	100.0	210
10-11	2.8	8.9	20.8	66.1	1.4	100.0	158
12-13	9.2	5.7	14.2	70.6	0.2	100.0	239
14-15	14.7	2.1	8.3	74.0	0.9	100.0	267
16-17	10.2	0.7	7.6	80.4	1.1	100.0	290
18-19	14.4	0.6	5.0	80.0	0.0	100.0	195
20-21	26.1	0.6	4.0	67.6	1.7	100.0	166
22-23	16.9	0.9	10.4	71.2	0.6	100.0	172
24-25	42.4	0.0	6.3	51.3	0.0	100.0	207
26-27	49.3	0.0	2.0	47.5	1.2	100.0	276
28-29	54.9	0.0	0.9	42.9	1.3	100.0	270
30-31	59.9	0.5	2.8	36.9	0.0	100.0	242
32-33	62.1	0.0	0.6	37.3	0.0	100.0	168
34-35	57.5	0.0	1.4	40.4	0.7	100.0	169
< 4 months	2.3	56.9	18.8	22.0	0.0	100.0	530
4-6 months	2.8	34.7	25.3	37.2	0.0	100.0	371
7-9 months	2.9	13.9	21.3	61.1	0.7	100.0	335

Note: Table includes only surviving children from among the two most recent births in the three years preceding the survey. Breastfeeding status refers to the day or night before the interview. Children classified as 'breastfeeding and receiving plain water only' receive no supplements.

Mothers of children born in the three years preceding the survey were asked if the child had been given plain water, other liquids, or solid or mushy (semi-solid) food at any time during the day or night before the interview. Results are shown in Tables 7.6 and 7.7. Children who received nothing but breast milk during that period are defined as being *exclusively breastfed*. The introduction of supplementary foods before four months of age may put infants at risk of malnutrition because other liquids and solid foods are nutritionally inferior to breast milk. Consumption of liquids and solid or mushy foods at an early age also increases children's exposure to pathogens and consequently puts them at a greater risk of getting diarrhoea. However, a recent study based on findings from NFHS-1 (Anandaiah and Choe, 2000) concluded that breastfeeding with supplements is more beneficial than exclusive breastfeeding even for children at very young ages (less than four months). That report suggests that mothers who are not well nourished and who are in poor health themselves may not be able to provide adequate breast milk for their infants.

In Uttar Pradesh, 57 percent of children under four months of age are exclusively breastfed (almost the same as the national level of 55 percent), 19 percent receive breast milk plus water, and 22 percent receive supplements along with breast milk (Table 7.6). The percentage of infants exclusively breastfed drops off after three months to 35 percent at age 4-6 months and 14 percent at age 7-9 months. Very few children are exclusively breastfed after the first year of life. The proportion of children receiving supplements along with breast milk

increases from 17 percent in the first month of life to 80 percent for children age 16–19 months, and declines thereafter as children are weaned from the breast and their food consumption is no longer supplementing their consumption of breast milk. However, breastfeeding generally continues for a long period. Ninety-one percent of children are still being breastfed at 12–13 months of age, as are 58 percent of children age 24–25 months. For the majority of children in Uttar Pradesh, breastfeeding usually stops at about 28–29 months of age, but 43 percent of children age 34–35 months are still breastfed.

Table 7.7 shows in more detail the types of food consumed by children under age three years the day or night before the interview. Because of the small number of non-breastfeeding children, two-month age categories have been combined into broader age groups for the younger children. Powdered milk is rarely given to young children at any age, but other milk (such as cow's milk or buffalo's milk) is given to young children more often. Except for children under eight months of age, more than two-thirds of non-breastfeeding children in each age group were given these other types of milk the day or night before the interview. About 45–60 percent of breastfeeding children age 8–35 months received non-powdered milk in addition to breast milk. Other liquids, such as juice or tea, are given much less often than milk. Among all children, the consumption of green, leafy vegetables generally increases with age, from 3 percent at age 6–7 months to 54 percent at age 24–29 months for all children. The consumption of fruits increases from 1 percent or less below eight months to 24 percent at age 30–35 months. Even among non-breastfeeding children, a large majority did not eat any fruit the day or night before the interview.

From about six months of age, the introduction of complementary food is critical for meeting the protein, energy, and micronutrient needs of children. However, in Uttar Pradesh the introduction of complementary food is delayed for a substantial proportion of children. Only 9 percent of breastfeeding children age 6–7 months consume solid or mushy foods. This proportion rises to more than 80 percent at age 24–35 months. Only 18 percent of breastfeeding children age 6–9 months receive solid or mushy food, as recommended (only half the level of 35 percent for India as a whole).

Bottle feeding has a direct effect on the mother's exposure to the risk of pregnancy because the period of amenorrhoea may be shortened when breastfeeding is reduced or replaced by bottle feeding. Because it is often difficult to sterilize the nipple properly, the use of bottles with nipples also exposes children to an increased risk of getting diarrhoea and other diseases. For children who are being breastfed, the use of bottles with nipples is not common in Uttar Pradesh. In almost every age group, less than one-sixth of breastfeeding children drank anything from a bottle with a nipple the day or night before the interview (Table 7.7). The use of a bottle with a nipple is much more common for children who are not being breastfed, particularly in the early months of life.

Table 7.8 shows several statistics that describe the duration of breastfeeding. Estimates of both means and medians are based on the current proportions of children breastfeeding in each age group because information on current status is usually more accurate than information based on mother's recall. The median length of any breastfeeding in Uttar Pradesh is slightly more than two years (25.8 months). Supplementation begins relatively early, however. The median length of exclusive breastfeeding is 2.2 months, and the median length of exclusive breastfeeding or breastfeeding with water is 5.7 months.

Table 7.7 Type of food received by children

Percentage of children under age 3 years who received specific types of food the day or night before the interview and percentage using a bottle with a nipple by current breastfeeding status and child's age in months, Uttar Pradesh, 1998-99

Age in months	Type of food received							Number of living children
	Powdered milk	Any other milk	Any other liquid	Green, leafy vegetables	Fruits	Any solid or mushy food ¹	Using bottle with a nipple	
BREASTFEEDING CHILDREN								
< 2	0.8	15.9	2.7	1.4	0.9	3.2	8.6	196
2-3	2.5	21.2	5.4	0.8	0.5	2.3	13.9	321
4-5	1.8	28.3	10.1	2.7	1.2	8.2	15.3	243
6-7	2.8	36.3	16.0	2.1	0.5	9.4	15.7	237
8-9	4.8	49.1	25.8	6.1	4.8	27.4	22.8	206
10-11	6.6	44.5	28.4	12.6	8.4	39.6	16.0	153
12-13	2.3	45.7	42.3	22.5	7.2	52.9	8.4	217
14-15	1.0	51.7	45.4	30.9	9.7	69.0	9.5	228
16-17	1.8	57.7	48.1	35.3	15.6	69.4	10.4	261
18-23	2.4	55.3	57.2	36.7	18.9	73.5	8.1	432
24-29	1.8	60.0	52.0	48.1	16.0	83.0	7.5	381
30-35	2.0	60.5	56.8	49.1	21.3	84.2	5.8	233
< 4 months	1.8	19.2	4.3	1.0	0.6	2.6	11.9	517
4-5 months	1.8	28.3	10.1	2.7	1.2	8.2	15.3	243
6-9 months	3.7	42.2	20.6	4.0	2.5	17.8	19.0	443
NON-BREASTFEEDING CHILDREN								
< 8	(28.0)	(59.5)	(16.8)	(10.0)	(4.0)	(22.5)	(68.2)	28
8-13	(13.4)	(74.7)	(60.4)	(30.6)	(14.6)	(62.2)	(50.7)	31
14-15	(7.0)	(92.5)	(48.7)	(46.7)	(30.3)	(79.7)	(46.5)	39
16-17	(8.1)	(88.4)	(59.5)	(44.8)	(32.3)	(89.2)	(21.4)	29
18-23	2.8	83.4	62.4	42.6	22.8	81.8	30.8	100
24-29	3.0	75.0	59.9	60.8	25.4	88.8	14.4	371
30-35	2.6	68.7	62.1	56.1	25.6	86.1	12.7	347
ALL CHILDREN								
< 2	0.8	15.8	2.6	1.6	0.8	3.4	8.6	201
2-3	3.1	22.3	5.2	0.8	0.5	2.5	16.0	329
4-5	3.9	29.1	10.3	2.7	1.2	8.9	17.4	252
6-7	2.7	37.8	16.9	3.0	0.9	10.1	16.9	244
8-9	5.5	49.4	27.3	6.0	4.7	27.6	24.5	210
10-11	6.4	45.0	28.6	12.3	8.9	39.2	17.3	158
12-13	3.1	48.8	43.8	24.5	8.0	54.9	11.2	239
14-15	1.9	57.7	45.9	33.2	12.7	70.5	15.0	267
16-17	2.5	60.8	49.2	36.3	17.3	71.4	11.5	290
18-23	2.5	60.6	58.2	37.8	19.6	75.0	12.3	533
24-29	2.4	67.4	55.9	54.4	20.6	85.8	10.9	752
30-35	2.3	65.4	60.0	53.3	23.9	85.3	10.0	579
< 4 months	2.2	19.8	4.2	1.1	0.6	2.9	13.2	530
4-5 months	3.9	29.1	10.3	2.7	1.2	8.9	17.4	252
6-9 months	4.0	43.2	21.7	4.4	2.6	18.2	20.4	455

Note: Table includes only surviving children from among the two most recent births during the three years preceding the survey.

() Based on 25-49 unweighted cases

¹ Includes green, leafy vegetables and fruits

Table 7.8 Median duration of breastfeeding among children under age 3 years by sex of child and residence, and mean duration of breastfeeding, Uttar Pradesh, 1998-99

Background characteristic	Median duration (months) ¹			Number of children
	Any breastfeeding	Exclusive breastfeeding	Exclusive breastfeeding or plus water only	
Sex of child				
Male	26.4	2.1	5.4	2,286
Female	25.2	2.2	6.2	2,128
Residence				
Urban	23.9	0.7	3.6	1,713
Rural	26.1	2.5	6.0	3,700
Mean duration (months)	25.4	4.4	7.8	4,414
Prevalence/incidence mean	25.0	4.2	7.7	4,414

Note: Table includes only the two most recent births in the three years preceding the survey. Based on current status.

The mean durations of any breastfeeding, exclusive breastfeeding, and exclusive breastfeeding or breastfeeding with water only are 25.4 months, 4.4 months, and 7.8 months, respectively. The mean durations are two months longer than the median durations for the last two measures, but are about the same for the overall duration of breastfeeding.

An alternative measure of the duration of breastfeeding is the prevalence-incidence mean, which is calculated as the prevalence of breastfeeding divided by its incidence. In this case, prevalence is defined as the number of children whose mothers were breastfeeding at the time of the survey, and incidence is defined as the average number of births per month (averaged over a 36-month period to overcome problems of seasonality of births and possible reference-period errors). For each measure of breastfeeding, the prevalence-incidence mean is about the same as the mean calculated in the conventional manner.

The median duration of breastfeeding is slightly shorter (by one month) for girls than for boys. This pattern is often observed in societies where son preference is strong because the parents may stop breastfeeding a girl at a younger age to increase their chances of having another child earlier (with the hope that the next child will be a boy). The median length of breastfeeding is two months longer in rural areas than in urban areas. Most children living in rural areas are breastfed for more than two years. Children in urban areas are exclusively breastfed for a very short median period of less than one month.

7.5 Nutritional Status of Children

Nutritional status is a major determinant of the health and well-being of children. Inadequate or unbalanced diets and chronic illness are associated with poor nutrition among children. To assess their nutritional status, measurements of weight and height/length were obtained for children born in the three years preceding the survey. Children were weighed and measured with the same

types of scales and measuring boards used for women. Children under two years of age were measured lying down and older children were measured standing up. Data on weight and height/length were used to calculate the following three summary indices of nutritional status:

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

The nutritional status of children calculated according to these three measures is compared with the nutritional status of an international reference population recommended by the World Health Organization (Dibley et al., 1987a; 1987b). The use of this reference population is based on the empirical finding that well-nourished children in all population groups for which data exist follow very similar growth patterns (Martorell and Habicht, 1986). A scientific report from the Nutrition Foundation of India (Agarwal et al., 1991) has concluded that the WHO standard is generally applicable to Indian children.

The three indices of nutritional status are expressed in standard deviation units (z-scores) from the median for the international reference population. Children who are more than two standard deviations below the reference median on any of the indices are considered to be *undernourished*, and children who fall more than three standard deviations below the reference median are considered to be *severely undernourished*.

Each of these indices provides somewhat different information about the nutritional status of children. Weight-for-age is a composite measure that takes into account both chronic and acute undernutrition. Children who are more than two standard deviations below the reference median on this index are considered to be *underweight*. The height-for-age index measures linear growth retardation. Children who are more than two standard deviations below the median of the reference population in terms of height-for-age are considered short for their age or *stunted*. The percentage in this category indicates the prevalence of chronic undernutrition, which often results from a failure to receive adequate nutrition over a long period of time or from chronic or recurrent diarrhoea. Height-for-age, therefore, does not vary appreciably by the season in which data are collected.

The weight-for-height index examines body mass in relation to body length. Children who are more than two standard deviations below the median of the reference population in terms of weight-for-height are considered too thin or *wasted*. The percentage in this category indicates the prevalence of acute undernutrition. Wasting is associated with a failure to receive adequate nutrition in the period immediately before the survey and may be the result of seasonal variations in food supply or recent episodes of illness.

The validity of these indices is determined by many factors, including the coverage of the population of children and the accuracy of the anthropometric measurements. The survey was not able to measure the height and weight of all eligible children, usually because the child was not at home at the time of the health investigator's visit or because the mother refused to allow the child to be weighed and measured. In Uttar Pradesh, NFHS-2 did not measure 35 percent of children under age three (see Table B.3 in Appendix B), a much higher nonresponse rate than the national rate of 13 percent. Also excluded from the analysis are children whose month and year

Table 7.9 Nutritional status of children by demographic characteristics							
Percentage of children under age 3 years classified as undernourished on three anthropometric indices of nutritional status, according to selected demographic characteristics, Uttar Pradesh, 1998-99							
Demographic characteristic	Weight-for-age		Height-for-age		Weight-for-height		Number of children
	Percent-age below -3 SD	Percent-age below -2 SD ¹	Percent-age below -3 SD	Percent-age below -2 SD ¹	Percent-age below -3 SD	Percent-age below -2 SD ¹	
Age of child							
< 6 months	2.7	12.7	4.9	18.0	0.5	5.3	431
6-11 months	18.2	43.3	16.2	40.5	2.2	10.6	370
12-23 months	30.0	66.2	40.7	70.7	4.2	18.7	810
24-35 months	25.8	62.2	42.4	67.6	0.7	6.6	776
Sex of child							
Male	19.8	49.6	28.4	53.4	2.1	11.4	1,243
Female	24.2	53.9	33.7	57.7	2.0	10.8	1,144
Birth order							
1	16.8	46.0	23.8	50.0	2.5	12.4	506
2-3	19.7	50.5	30.1	57.0	1.8	9.3	948
4-5	24.7	52.0	32.0	54.7	2.0	11.4	544
6+	30.0	61.4	40.9	60.0	2.5	13.5	389
Previous birth interval²							
First birth	17.1	46.2	24.1	50.1	2.5	12.3	510
< 24 months	24.1	52.1	33.9	57.8	2.2	9.2	416
24-47 months	23.1	54.5	33.8	57.9	1.5	10.6	1,059
48+ months	22.3	50.6	29.0	53.5	2.8	13.0	402
Total	21.9	51.7	31.0	55.5	2.1	11.1	2,387

Note: Each index is expressed in standard deviation units (SD) from the median of the International Reference Population.

¹Includes children who are below -3 SD from the International Reference Population median

²First-born twins (triplets, etc.) are counted as first births because they do not have a previous birth interval.

of birth were not known and those with grossly improbable height or weight measurements. In addition, two of the three indices (weight-for-age and height-for-age) are sensitive to misreporting of children's ages, including heaping on preferred digits.

Table 7.9 shows the percentage of children classified as undernourished by selected demographic characteristics. Fifty-two percent of children under three years of age are underweight and 56 percent are stunted. Similar estimates at the national level are 47 and 46 percent, respectively. The proportion of children who are severely undernourished is also very high—22 percent according to weight-for-age and 31 percent according to height-for-age. In addition, wasting is quite evident in Uttar Pradesh, affecting 11 percent of children under three years of age, although this percentage is somewhat lower than the national estimate of 16 percent. The proportion of children under three years of age who are underweight decreased from 57 percent in NFHS-1 to 52 percent in NFHS-2, and the proportion severely underweight decreased from 24 percent to 22 percent. The prevalence of wasting decreased markedly between the two surveys (from 18 percent in NFHS-1 to 11 percent in NFHS-2), but the prevalence of stunting actually increased slightly (from 54 percent in NFHS-1 to 56 percent in NFHS-2).

The proportion of children who are undernourished increases steadily with the child's age through age 12-23 months, where it peaks at 19 percent for wasting and 66-71 percent for the

other two measures. Even during the first six months of life, when most babies are breastfed, 5-18 percent of children are undernourished, according to the three nutritional indices. It is notable that at age 24-35 months, when most children have been weaned from breast milk, more than two-fifths are severely stunted and one-quarter are severely underweight.

Overall, girls are more likely than boys to be underweight and stunted, whereas boys are slightly more likely to be wasted. Undernutrition generally increases with increasing birth order, except in the case of wasting where there is no clear pattern. Young children in families with four or more children are nutritionally the most disadvantaged. First births have lower than average levels of undernutrition on two out of the three measures (underweight and stunting). However, there is no consistent pattern of nutritional status by the length of the birth interval.

Table 7.10 shows the nutritional status of children by selected background characteristics. Undernutrition is substantially higher in rural areas than in urban areas. Even in urban areas, however, 43 percent of children are underweight and 47 percent are stunted. As for regional differentials, children from the Hill Region are least likely to be undernourished. Children whose mothers are illiterate are much more likely to be undernourished than children whose mothers have completed at least high school (see Figure 7.2). As the level of mother's education increases, the percentage stunted and underweight declines substantially. Muslim children are slightly more likely than Hindu children to be underweight, but they are slightly less likely to be wasted. Children belonging to scheduled castes, scheduled tribes, or other backward classes have higher levels of undernutrition than other children on all three measures. Undernutrition is relatively low for children whose mothers have not worked in the past 12 months, which is not unexpected in the Indian situation where non-working women are likely to be from better off families.

Note: Each index is expressed in standard deviation units (SD) from the median of the International Reference Population.

The nutritional status of children is strongly related to maternal nutritional status. Undernutrition is more common for children of mothers whose height is less than 145 centimetres or whose body mass index is below 18.5 than for other children. All three measures of undernutrition are strongly related to the household's standard of living. Children from households with a low standard of living are more than one and half times as likely to be underweight or stunted as children from households with a high standard of living.

Table 7.9 shows the percentage of children classified as undernourished by selected demographic characteristics. Fifty-two percent of children under three years of age are underweight and 26 percent are stunted. Similar estimates at the national level are 47 and 46 percent, respectively. The proportion of children who are severely undernourished is also very high—22 percent according to weight-for-age and 31 percent according to height-for-age. In addition, wasting is quite evident in Uttar Pradesh, affecting 11 percent of children under three years of age, although this percentage is somewhat lower than the national estimate of 16 percent. The proportion of children under three years of age who are underweight decreased from 27 percent in NFHS-1 to 22 percent in NFHS-2, and the proportion severely underweight decreased from 24 percent to 22 percent. The prevalence of wasting decreased markedly between the two surveys (from 18 percent in NFHS-1 to 11 percent in NFHS-2), but the prevalence of stunting actually increased slightly (from 24 percent in NFHS-1 to 26 percent in NFHS-2).

The proportion of children who are undernourished increases steadily with the child's age through age 12-23 months, where it peaks at 19 percent for wasting and 66-71 percent for the

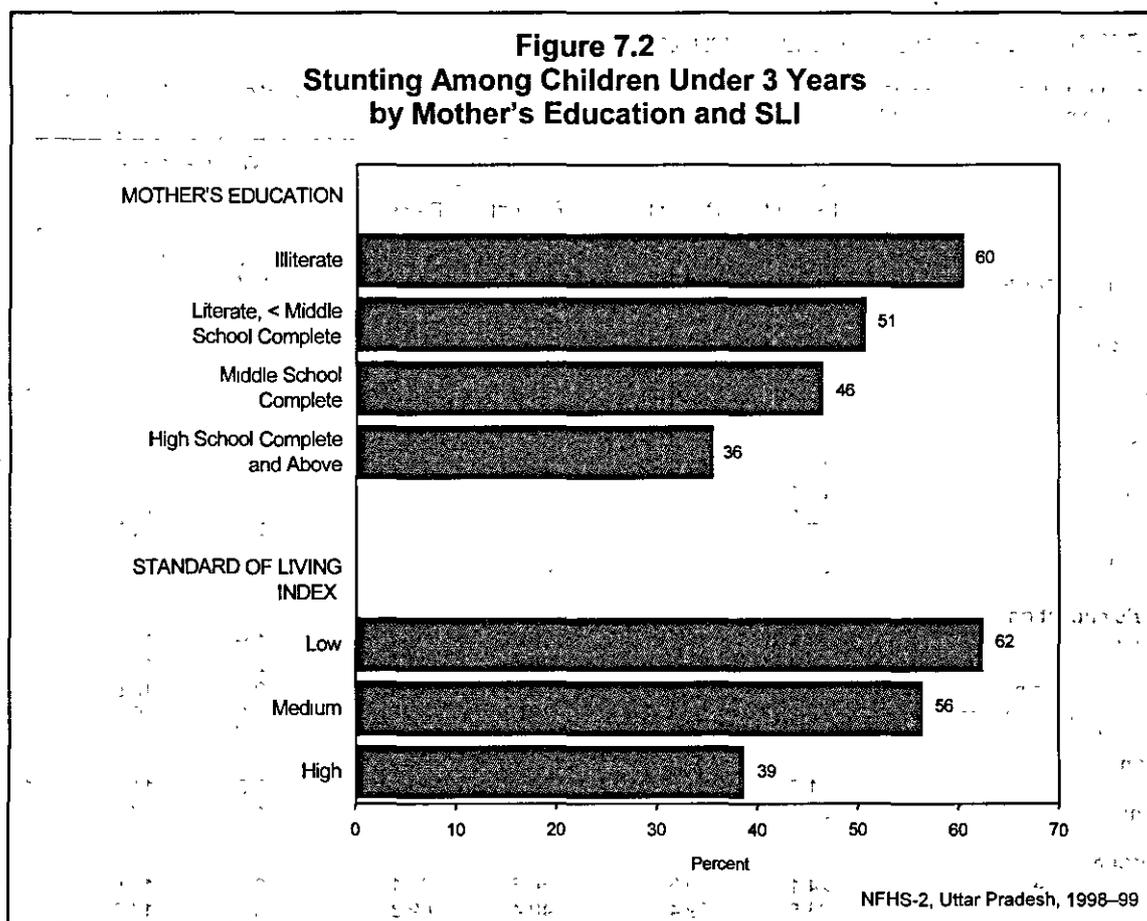
Table 7.10 Nutritional status of children by background characteristics

Percentage of children under age 3 years classified as undernourished on three anthropometric indices of nutritional status, according to selected background characteristics, Uttar Pradesh, 1998-99

Background characteristic	Weight-for-age		Height-for-age		Weight-for-height		Number of children
	Percent-age below -3 SD	Percent-age below -2 SD ¹	Percent-age below -3 SD	Percent-age below -2 SD ¹	Percent-age below -3 SD	Percent-age below -2 SD ¹	
Residence							
Urban	16.3	42.6	21.8	46.7	2.4	9.5	420
Rural	23.1	53.6	32.9	57.3	2.0	11.4	1,968
Region							
Hill	16.3	40.8	24.5	43.9	1.6	8.3	77
Western	23.1	50.1	31.7	57.8	1.5	8.2	859
Central	22.5	58.2	31.8	58.4	2.5	13.2	403
Eastern	20.2	50.4	30.0	53.2	2.6	12.5	935
Bundelkhand	28.5	58.3	34.7	54.7	15.7	15.7	113
Mother's education							
Illiterate	25.5	56.5	36.6	60.4	1.9	11.0	1,654
Literate, < middle school complete	18.5	48.5	25.5	50.7	2.8	13.4	293
Middle school complete	12.8	39.5	19.1	46.4	2.7	10.8	185
High school complete and above	9.2	32.8	8.9	35.5	1.8	9.4	256
Religion							
Hindu	21.5	51.8	30.7	55.8	2.3	11.7	1,950
Muslim	24.1	53.1	33.0	55.3	1.2	8.8	418
Caste/tribe							
Scheduled caste	24.1	60.3	36.3	63.1	2.8	11.5	511
Scheduled tribe	33.5	59.4	40.4	69.3	3.2	13.7	57
Other backward class	25.6	53.3	32.9	55.7	2.7	13.6	665
Other	17.6	45.9	26.6	50.3	1.4	9.3	1,063
Mother's work status							
Working in family farm/business	31.4	62.6	45.2	61.7	2.8	13.1	246
Employed by someone else	22.7	60.3	35.2	64.7	3.7	12.0	66
Self-employed	31.5	59.0	37.3	55.0	4.5	20.1	65
Not worked in past 12 months	20.3	49.3	28.6	53.9	1.8	10.5	1,907
Mother's height							
< 145 cm	31.4	62.2	42.9	65.5	2.9	11.7	416
≥ 145 cm	19.9	49.4	28.4	53.4	1.9	11.0	1,960
Mother's body mass index							
< 18.5 kg/m ²	22.7	62.0	36.2	60.8	4.6	14.6	99
≥ 18.5 kg/m ²	19.9	49.4	28.4	53.4	1.9	11.0	1,960
Standard of living index							
Low	29.3	61.5	39.0	62.4	2.2	13.4	700
Medium	21.1	51.1	31.4	55.4	1.8	10.2	1,284
High	19.9	49.4	28.4	53.4	1.9	11.0	1,960
Total	21.9	51.7	31.0	55.5	2.1	11.1	2,387

Note: Each index is expressed in standard deviation units (SD) from the median of the International Reference Population. Total includes 11 Sikh children, 4 children whose mothers belong to 'other' religions, and 4, 91, 3, 11, 13, and 38 children with missing information on religion, caste/tribe, mother's work status, mother's height, mother's body mass index, and the standard of living index, respectively, who are not shown separately.

¹Includes children who are below -3 SD from the International Reference Population median



7.6 Anaemia Among Children

Anaemia is a serious concern for young children because it can result in impaired cognitive performance, behavioural and motor development, coordination, language development, and scholastic achievement, as well as increased morbidity from infectious diseases (Seshadri, 1997). One of the most vulnerable groups is children age 6–24 months (Stoltzfus and Dreyfuss, 1998).

In Uttar Pradesh, haemoglobin levels were tested for only 52 percent of children (see Table B.3 in Appendix B), so the results should be interpreted with caution, as suggested earlier in the case of women's haemoglobin levels. Table 7.11 and Figure 7.3 show anaemia levels for children age 6–35 months. Overall, nearly three-quarters (74 percent) of these children have some level of anaemia,⁴ including 19 percent who are mildly anaemic (10.0–10.9 g/dl), 48 percent who are moderately anaemic (7.0–9.9 g/dl), and 7 percent who are severely anaemic (less than 7.0 g/dl). Notably, a much larger proportion of children than women are anaemic, and the difference is particularly pronounced for moderate to severe anaemia.

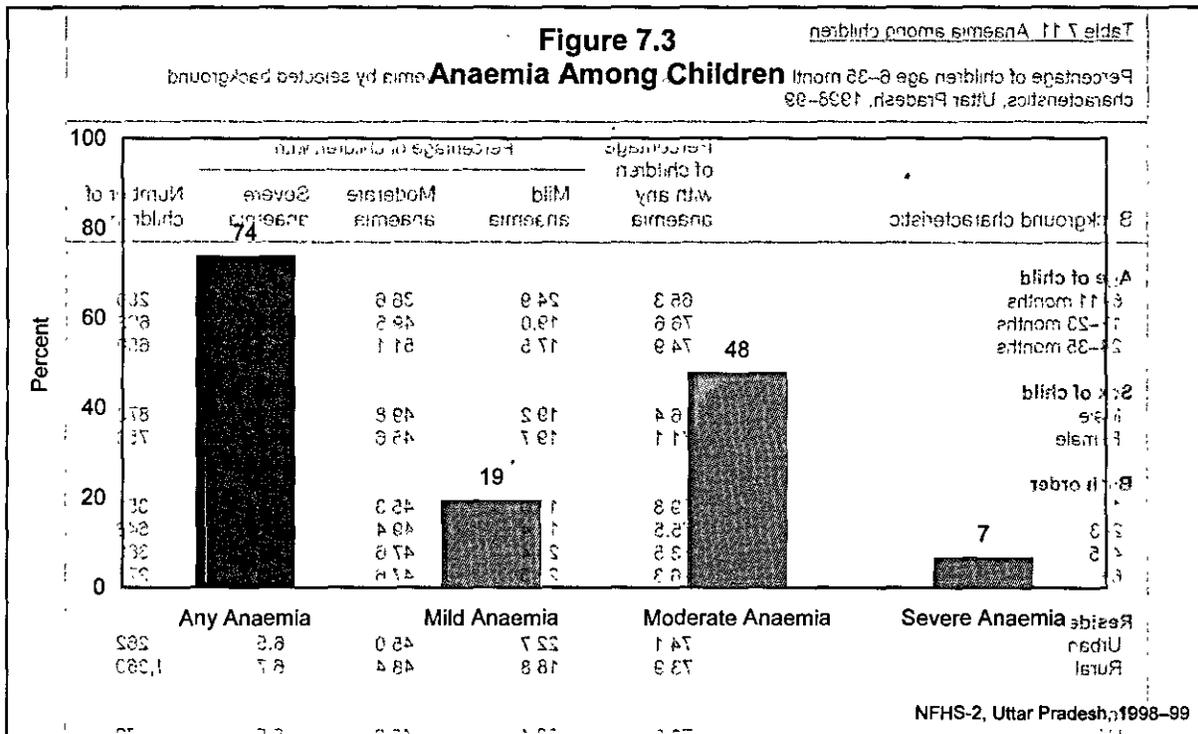
⁴Rates that are not adjusted for altitude (72.6 percent for any anaemia, 19.3 percent for mild anaemia, 46.8 percent for moderate anaemia, and 6.6 percent for severe anaemia) are slightly lower than the corresponding adjusted rates.

Table 7.11 Anaemia among children

Percentage of children age 6–35 months classified as having iron-deficiency anaemia by selected background characteristics, Uttar Pradesh, 1998–99

Background characteristic	Percentage of children with any anaemia	Percentage of children with:			Number of children
		Mild anaemia	Moderate anaemia	Severe anaemia	
Age of child					
6–11 months	65.3	24.9	36.6	3.9	289
12–23 months	76.6	19.0	49.5	8.2	693
24–35 months	74.9	17.5	51.1	6.3	650
Sex of child					
Male	76.4	19.2	49.8	7.4	873
Female	71.1	19.7	45.6	5.8	759
Birth order					
1	69.8	18.0	45.3	6.5	352
2–3	75.5	18.4	49.4	7.7	643
4–5	73.5	20.4	47.6	5.4	360
6+	76.3	22.5	47.6	6.3	277
Residence					
Urban	74.1	22.7	45.0	6.5	262
Rural	73.9	18.8	48.4	6.7	1,369
Region					
Hill	79.5	28.1	45.9	5.5	72
Western	70.8	17.9	47.1	5.8	550
Central	82.2	25.1	48.4	8.7	277
Eastern	71.9	17.6	47.9	6.5	659
Bundelkhand	79.1	17.5	53.0	8.6	73
Mother's education					
Illiterate	74.6	18.5	48.8	7.3	1,124
Literate, < middle school complete	80.2	19.5	53.4	7.4	208
Middle school complete	73.8	28.6	42.8	2.5	130
High school complete and above	62.0	18.8	38.4	4.8	169
Religion					
Hindu	73.5	18.7	47.8	6.9	1,364
Muslim	77.8	23.0	49.7	5.2	252
Caste/tribe					
Scheduled caste	77.6	20.1	49.3	8.2	362
Scheduled tribe	(72.9)	(30.4)	(29.7)	(12.7)	33
Other backward class	71.2	17.7	47.6	6.0	470
Other	73.9	19.6	48.0	6.3	699
Mother's work status					
Working in family farm/business	71.2	15.1	53.2	2.8	173
Employed by someone else	83.0	20.1	55.9	7.0	112
Self-employed	(72.4)	(15.6)	(43.0)	(13.8)	40
Not worked in last 12 months	73.6	20.0	46.6	7.0	1,304
Standard of living index					
Low	76.6	20.1	50.6	5.9	498
Medium	74.8	19.5	48.1	7.2	869
High	68.7	19.8	42.1	6.8	234
Mother's anaemia status					
Not anaemic	68.5	17.7	45.4	5.3	829
Mildly anaemic	77.4	21.9	49.0	6.5	532
Moderately anaemic	84.7	18.0	56.0	10.8	235
Total	73.9	19.4	47.8	6.7	1,632

Note: Haemoglobin levels are adjusted for altitude when calculating the degree of anaemia. Total includes 10 Sikh children, 3 children whose mothers belong to 'other' religions, 20 children whose mothers are severely anaemic, and 3, 67, 3, 31, and 16 children with missing information on religion, caste/tribe, mother's work status, the standard of living index, and mother's anaemia status, respectively, who are not shown separately.
(*) Based on 25–49 unweighted cases



Several groups of children have, particularly, high levels of anaemia. These include children age 12-35 months (an age at which children are often being weaned), boys, children in the Central, Hill, and Bundelkhand Regions, Muslim children, children from scheduled castes, and children from poor families. The prevalence of anaemia is lower among children whose mothers have received at least a high school education than among children whose mothers are illiterate or have less than a high school education. As expected, there is a strong positive relationship between the anaemia status of mothers and prevalence of anaemia among children. Despite these differentials, anaemia is very widespread in Uttar Pradesh. More than 60 percent of children in every group shown in the table are anaemic.

7.7 Iodization of Salt

Iodine is an important micronutrient. A lack of iodine in the diet can lead to Iodine Deficiency Disorders (IDD), which, according to the World Health Organization, can cause miscarriages, brain disorders, cretinism, and retarded psychomotor development. Iodine deficiency is the single most important and preventable cause of mental retardation worldwide.

It has been estimated that 200 million people in India are exposed to the risk of iodine deficiency and 70 million suffer from goitre and other IDD (IDD & Nutrition Cell, 1998). In addition, about one-fifth of pregnant women are at considerable risk of giving birth to children who will not reach their optimum physical and mental potential because of maternal iodine deficiency (Vir, 1995).

Iodine deficiency can be avoided by using salt that has been fortified with iodine. In 1983-84, the Government of India adopted a policy to achieve universal iodization of edible salt by 1992. In 1988, the Prevention of Food Adulteration Act was amended to fix the minimum iodine content of salt at 30 parts per million (ppm) at the manufacturing level and 15 ppm at the

consumer level (Ministry of Health and Family Welfare, 1994). The Government of India advised all states and union territories to issue notifications banning the sale of edible salt that is not iodized. However, the ban on iodized salt was lifted in September, 2000.

NFHS-2, with its representative sample of households throughout Uttar Pradesh, is an ideal vehicle for measuring the degree of salt iodization in the state. Iodine levels in salt can be measured in the laboratory using a standard titration test or in the field using a rapid-test kit. In NFHS-2, interviewers measured the iodine content of cooking salt in each interviewed household using a rapid-test kit. The test kit consists of ampoules of a stabilized starch solution and a weak acid-based solution. The interviewer squeezes one drop of the starch solution on a sample of cooking salt obtained from the household respondent. If the colour changes (from light blue through dark violet), the interviewer matches the colour of the salt as closely as possible to a colour chart on the test kit and records the iodine level as 7, 15, or 30 ppm. If the initial test is negative (no change in colour), the interviewer is required to conduct a second confirmatory test on a new salt sample, using the acid-based solution in addition to the starch solution. This test is necessary because the starch solution will not show any colour change even on iodized salt if the salt is alkaline or is mixed with alkaline-free-flow agents. If the colour of the salt does not change even after the confirmatory test, the salt is not iodized. Because of uncertainties and subjective judgement in the matching process, the rapid test should not be seen as giving an exact quantitative estimate of salt iodization, but it does provide useful information on whether or not salt is iodized, as well as the extent of iodization. A recent multicentric study in eight centres in India concluded that the rapid test kit can be used for semi-quantitative estimation of the iodine content of salt to monitor the quality of salt being used in a community (Kapil et al., 1999).

Table 7.12 shows the extent of salt iodization at the household level. Overall, less than half of households (49 percent) use cooking salt that is iodized at the recommended level of 15 ppm or more. This level is quite low in light of the government regulations on salt iodization that were in effect at the time of the survey. Almost one-quarter of households (23 percent) use salt that is not iodized at all and 27 percent use salt that is inadequately iodized (less than 15 ppm). Differentials in salt iodization by background characteristics are pronounced. Almost 90 percent of households in large cities in Uttar Pradesh use salt with 15 ppm or more of iodine, compared with 74 percent of households in small cities and towns and only 42 percent of households in rural areas. Households with Sikh heads are much more likely to use iodized salt than households with either Muslim or Hindu heads. The use of iodized salt is relatively low in households headed by persons from scheduled castes or scheduled tribes. The widest differentials are observed for the standard of living index. Seventy-seven percent of households with a high standard of living use adequately iodized salt, compared with only 39 percent of households with a low standard of living.

Table 7.12. Iodization of salt

Percent distribution of households by degree of iodization of salt, according to selected background characteristics, Uttar Pradesh, 1998-99.

Background characteristic	Not iodized	7 ppm	15 ppm	30 ppm	Missing	Total percent	Number of households
Type of place of residence							
Large city	4.1	6.5	18.4	70.5	0.5	100.0	244
Small city	10.9	13.0	12.0	62.4	1.6	100.0	711
Town	9.0	16.6	14.7	58.8	0.8	100.0	895
Rural area	26.4	30.4	21.1	20.4	1.7	100.0	6,832
Religion of household head							
Hindu	23.4	27.1	19.0	28.7	1.7	100.0	7,170
Muslim	20.0	26.4	23.3	29.5	0.8	100.0	1,412
Sikh	11.0	11.4	14.8	62.7	0.0	100.0	63
Caste/tribe of household head							
Scheduled caste	24.6	32.5	20.5	20.8	1.6	100.0	1,757
Scheduled tribe	27.0	25.0	20.7	24.5	2.9	100.0	194
Other backward class	24.3	27.8	20.8	26.0	1.1	100.0	2,274
Other	20.4	23.4	18.4	36.1	1.8	100.0	4,015
Standard of living index							
Low	26.8	32.8	21.9	16.9	1.6	100.0	2,920
Medium	23.6	27.3	20.5	27.0	1.6	100.0	4,260
High	9.9	12.5	12.8	64.0	0.8	100.0	1,317
Total	22.7	26.9	19.6	29.2	1.6	100.0	8,682

Note: Total includes 19 households with a household head belonging to other religions and 19, 442, and 185 households with missing information on religion, caste/tribe, and the standard of living index, respectively, which are not shown separately.

ppm: Parts per million

CHAPTER 8

MATERNAL AND REPRODUCTIVE HEALTH

Promotion of maternal and child health has been one of the most important objectives of the Family Welfare Programme in India. The Government of India took steps to strengthen maternal and child health services as early as the First and Second Five-Year Plans (1951–56 and 1956–61). As part of the Minimum Needs Programme initiated during the Fifth Five-Year Plan (1974–79), maternal health, child health, and nutrition services were integrated with family planning services. The primary aim at that time was to provide at least a minimum level of public health services to pregnant women, lactating mothers, and preschool children (Kanitkar, 1979).

In 1992–93, the Child Survival and Safe Motherhood Programme continued the process of integration by bringing together several key child survival interventions with safe motherhood and family planning activities (Ministry of Health and Family Welfare, 1992). In 1996, safe motherhood and child health services were incorporated into the Reproductive and Child Health Programme. This new programme seeks to integrate maternal health, child health, and fertility regulation interventions with reproductive health programmes for both women and men. With regard to maternal and reproductive health (Ministry of Health and Family Welfare, 1997; 1998b), the important elements of the programme include:

- Provision of antenatal care, including at least three antenatal care visits, iron prophylaxis for pregnant and lactating women, two doses of tetanus toxoid vaccine, detection and treatment of anaemia in mothers, and management and referral of high-risk pregnancies
- Encouragement of institutional deliveries or home deliveries assisted by trained health personnel
- Provision of postnatal care, including at least three postnatal visits
- Identification and management of reproductive tract and sexually transmitted infections

In rural areas, the government delivers reproductive and other health services through its network of Primary Health Centres (PHCs), sub-centres, and other health facilities. In addition, pregnant women and children can obtain services from private maternity homes, hospitals, private practitioners, and in some cases, nongovernmental organizations (NGOs). In urban areas, reproductive health services are available mainly through government or municipal hospitals, urban health posts, hospitals and nursing homes operated by NGOs, and private nursing and maternity homes.

In rural areas, a female paramedical worker, called an auxiliary nurse midwife (ANM), is posted at a sub-centre to provide basic maternal health, child health, and family welfare services to women and children either in their homes or in the health clinic. Her work is overseen by a lady health visitor (LHV) posted at the PHC. With regard to safe motherhood, the ANM is responsible for registering pregnant women, motivating them to obtain antenatal and postnatal care, assessing their health throughout pregnancy and in the postpartum period, and referring women with high-risk pregnancies. The ANM is assisted by a male health worker whose duties

include motivating men to participate in the family welfare programme and educating men about reproductive tract and sexually transmitted infections. The ANM and LHV also assist the medical officer at the PHC where health services, including antenatal and postnatal care, are provided (Ministry of Health and Family Welfare, 1997; 1998b).

The National Population Policy adopted by the Government of India in 2000 (Ministry of Health and Family Welfare, 2000) reiterates the government's commitment to the safe motherhood programmes within the wider context of reproductive health. Among the national socio-demographic goals for 2010 specified by the policy, several goals pertain to safe motherhood, namely that 80 percent of all deliveries should take place in institutions by 2010, 100 percent of deliveries should be attended by trained personnel, and the maternal mortality ratio should be reduced to a level below 100 per 100,000 live births. Empowering women for improved health and nutrition is 1 of the 12 strategic themes identified in the policy to be pursued in stand-alone or intersectoral programmes.

An important objective of NFHS-2 is to provide information on the use of safe motherhood services provided by the public and private sectors. In addition, the survey included questions on the prevalence and treatment of reproductive health problems. The Woman's Questionnaire included relevant maternal and safe motherhood information for women age 15-49 who have given birth since 1 January 1995. The topics covered include pregnancy complications, utilization and specific components of antenatal and postnatal care, place of and assistance during delivery, delivery characteristics, and postpartum complications. Although NFHS-2 obtained information for the two most recent live births since 1 January 1995, the information presented in this chapter pertains only to the subset of those births that took place during the three years preceding the woman's interview. With regard to reproductive health, all women were asked about their experience of specific symptoms of reproductive health problems, and if problems were reported, whether and where they received treatment.

8.1 Antenatal Problems and Care

Antenatal care (ANC) refers to pregnancy-related health care provided by a doctor or a health worker in a medical facility or at home. The Safe Motherhood Initiative proclaims that all pregnant women must receive basic, professional antenatal care (Harrison, 1990). Ideally, antenatal care should monitor a pregnancy for signs of complications, detect and treat pre-existing and concurrent problems of pregnancy, and provide advice and counselling on preventive care, diet during pregnancy, delivery care, postnatal care, and related issues. The Reproductive and Child Health Programme recommends that as part of antenatal care, women receive two doses of tetanus toxoid vaccine, adequate amounts of iron and folic acid tablets or syrup to prevent and treat anaemia, and at least three antenatal check-ups that include blood pressure checks and other procedures to detect pregnancy complications (Ministry of Health and Family Welfare, 1997; 1998b).

NFHS-2 collected information from women on specific problems they may have had during their pregnancies and whether they received any antenatal check-ups. Women who did not receive antenatal check-ups were asked why they did not. Women who received antenatal check-ups were asked about the care provider, the timing of the first antenatal check-up, the total number of check-ups, the procedures conducted during the check-ups, and the advice given. In addition, the survey asked women whether they received tetanus toxoid injections and iron and

Table 8.1 Health problems during pregnancy

Among births during the three years preceding the survey, percentage of mothers experiencing specific health problems during pregnancy by residence, Uttar Pradesh, 1998-99

Problem during pregnancy	Urban	Rural	Total
Night blindness	7.5	15.2	14.0
Blurred vision	28.7	28.0	28.1
Convulsions not from fever	15.1	16.9	16.6
Swelling of the legs, body, or face	30.1	23.7	24.8
Excessive fatigue	47.4	44.0	44.5
Anaemia	32.0	30.6	30.9
Vaginal bleeding	3.9	4.4	4.3
Number of births	713	3,700	4,414

Note: Table includes only the two most recent births during the three years preceding the survey.

folic acid tablets or syrup during the pregnancy. Results from each of these questions are discussed in this chapter.

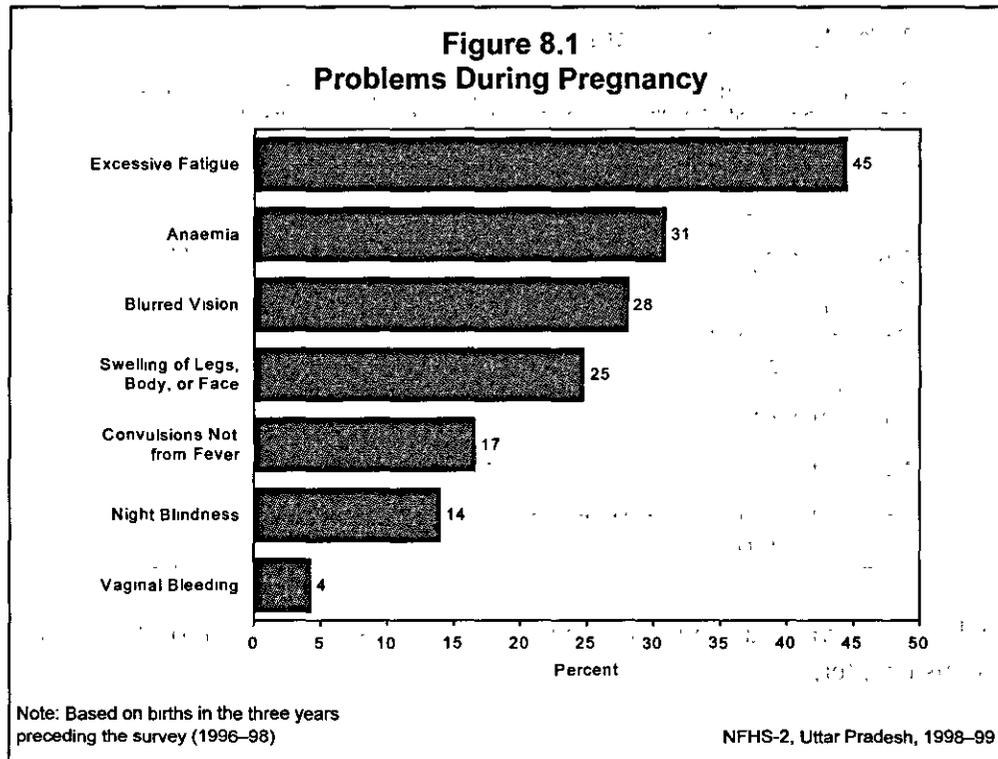
Problems During Pregnancy

For each of the two most recent births in the three years preceding the survey, the mother was asked if at any time during the pregnancy she experienced any of the following pregnancy-related problems: night blindness, blurred vision, convulsions (not from fever), swelling (of the legs, body or face), excessive fatigue, anaemia, or vaginal bleeding. Night blindness, or difficulty seeing at dusk, is the result of chronic vitamin A deficiency and is often seen in pregnant women in areas where vitamin A deficiency is endemic. Convulsions accompanied by signs of hypertension can be symptomatic of eclampsia, a potentially fatal condition. The potential health risk posed by vaginal bleeding during pregnancy varies by when in the pregnancy the bleeding takes place. Although documenting the prevalence of the symptoms of pregnancy complications is vital for planning services to reduce maternal morbidity and mortality, the information presented here is based on women's self reports, rather than medical diagnoses, and should be interpreted with care.

As shown in Table 8.1 and Figure 8.1, the problems most commonly reported are excessive fatigue (45 percent), anaemia (31 percent), and blurred vision (28 percent). One-quarter of women reported swelling of the legs, body or face, 17 percent reported convulsions not from fever, 14 percent reported night blindness, and 4 percent reported vaginal bleeding. Although urban-rural differentials in the prevalence of pregnancy complications are generally small, a higher proportion of urban than rural women reported having swelling of the legs, body or face, excessive fatigue, and anaemia. In contrast, a higher proportion of rural than urban women reported having night blindness and convulsions not from fever.

Antenatal Check-Ups

A pregnant woman can have an antenatal check-up by visiting a doctor or another health professional in a medical facility, receiving a home visit from a health worker, or both. NFHS-2 asked women who had a birth during the three years preceding the survey whether any health



worker had visited them at home to provide antenatal check-ups. The survey also asked whether women had gone for antenatal check-ups outside the home, and if they had, what type of service provider gave them the check-ups.

Table 8.2 and Figure 8.2 show the percent distribution of births in the three years preceding the survey by the source of antenatal check-ups received during pregnancy. Women who received antenatal check-ups both at home and outside the home are categorized as having received care outside the home. If a woman received check-ups from more than one type of health provider, only the provider with the highest qualification is considered. NFHS-2 results for Uttar Pradesh show that mothers received antenatal check-ups for only 35 percent of births during the three years preceding the survey (compared with a much higher level of 47 percent in NFHS-1). Twenty-one percent received check-ups from doctors and 10 percent from other health professionals outside the home. Only 3 percent received check-ups only at home from a health worker. Antenatal check-ups are more common for births to younger women than to older women, and they are particularly common for first births (46 percent). The proportion of births for which the mother received antenatal check-ups was more than twice as high (64 percent) in urban areas as in rural areas (29 percent). By region, this proportion ranges from 32 percent in the Western Region to 44 percent in the Hill Region. Mothers who completed at least a high school education received antenatal check-ups for a large majority of their births (80 percent), but illiterate mothers received antenatal check-ups for only 25 percent of their births. As expected, more-educated women are more likely than less-educated women to receive antenatal check-ups from doctors for their births. The utilization of antenatal check-up services does not vary by religion. By caste/tribe, however, the proportion of births for which the mother received antenatal check-ups ranges from 21 percent for scheduled-tribe women to 42 percent for women who do not belong to a scheduled caste, schedule tribe, or other backward caste. By the standard

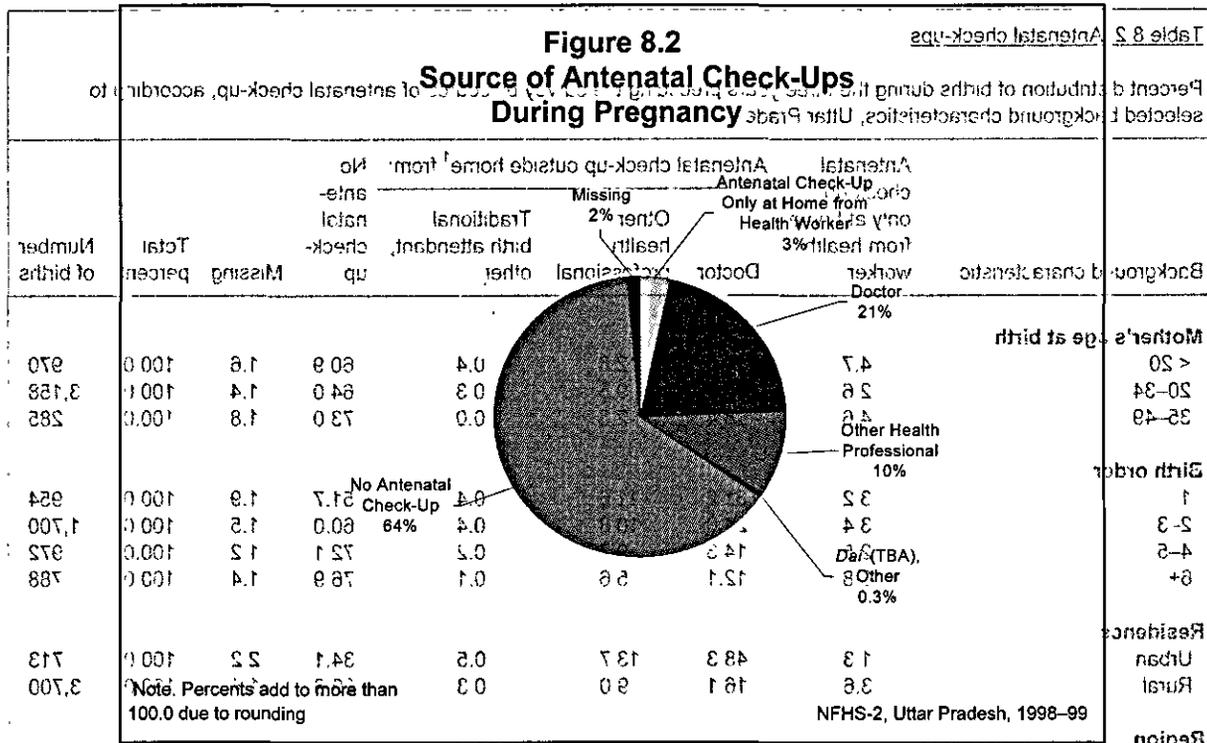
Table 8.2. Antenatal check-ups

Percent distribution of births during the three years preceding the survey by source of antenatal check-up, according to selected background characteristics, Uttar Pradesh, 1998-99

Background characteristic	Antenatal check-up only at home from health worker	Antenatal check-up outside home ¹ from:			No antenatal check-up	Missing	Total percent	Number of births
		Doctor	Other health professional	Traditional birth attendant, other				
Mother's age at birth								
< 20	4.7	19.6	12.8	0.4	60.9	1.6	100.0	970
20-34	2.6	22.1	9.6	0.3	64.0	1.4	100.0	3,158
35-49	4.6	18.4	2.3	0.0	73.0	1.8	100.0	285
Birth order								
1	3.2	31.2	11.6	0.4	51.7	1.9	100.0	954
2-3	3.4	24.0	10.8	0.4	60.0	1.5	100.0	1,700
4-5	2.5	14.3	9.7	0.2	72.1	1.2	100.0	972
6+	3.8	12.1	5.6	0.1	76.9	1.4	100.0	788
Residence								
Urban	1.3	48.3	13.7	0.5	34.1	2.2	100.0	713
Rural	3.6	16.1	9.0	0.3	69.6	1.4	100.0	3,700
Region								
Hill	2.3	35.2	6.0	0.3	54.4	1.8	100.0	148
Western	2.9	20.3	7.7	0.7	66.3	2.2	100.0	1,685
Central	5.4	21.9	9.3	0.3	62.2	0.9	100.0	734
Eastern	2.3	21.6	12.2	0.0	62.9	1.0	100.0	1,658
Bundelkhand	6.0	14.7	13.0	0.0	64.7	1.5	100.0	189
Mother's education								
Illiterate	3.2	12.9	8.4	0.4	73.7	1.4	100.0	3,189
Literate, < middle school complete	4.8	25.7	13.2	0.3	53.0	3.0	100.0	495
Middle school complete	4.1	36.8	16.4	0.0	42.1	0.5	100.0	296
High school complete and above	1.1	67.2	11.8	0.0	19.1	0.8	100.0	434
Religion								
Hindu	3.3	21.0	9.8	0.2	64.3	1.4	100.0	3,521
Muslim	3.0	21.5	9.9	0.7	63.0	1.9	100.0	859
Caste/tribe								
Scheduled caste	2.8	14.4	11.9	0.2	69.8	0.9	100.0	942
Scheduled tribe	2.1	11.0	7.5	0.0	78.1	1.3	100.0	99
Other backward class	3.0	16.0	9.2	0.4	70.1	1.4	100.0	1,213
Other	3.5	29.3	9.2	0.3	55.8	1.9	100.0	1,955
Standard of living index								
Low	3.7	11.4	7.0	0.2	76.7	1.0	100.0	1,439
Medium	2.8	19.9	10.7	0.4	64.3	1.9	100.0	2,288
High	2.8	51.3	13.1	0.4	31.1	1.4	100.0	598
Total	3.2	21.3	9.8	0.3	63.9	1.5	100.0	4,414

Note Table includes only the two most recent births during the three years preceding the survey. Total includes 17 and 9 births to women belonging to Sikh and 'other' religions, respectively, and 8, 205, and 89 births with missing information on religion, caste/tribe, and the standard of living index, respectively, which are not shown separately.

¹Includes all births for which the mothers received an antenatal check-up outside the home, even if they also received an antenatal check-up at home from a health worker. If more than one type of antenatal check-up provider was mentioned, only the provider with the highest qualification is shown.



of living index, the proportion ranges from 22 percent for women living in households with a low standard of living to 68 percent for women living in households with a high standard of living.

In summary, only one-third of women in Uttar Pradesh received an antenatal check-up for births in the three years preceding the survey. Women not receiving antenatal check-ups tend disproportionately to be older women, women of high parity, women from scheduled tribes, illiterate women, and poor women. This suggests that improving the coverage of antenatal programmes requires special efforts to reach older and high-parity women and women who are socioeconomically disadvantaged.

Reasons for Not Receiving Antenatal Check-Ups

Table 8.3 shows the percent distribution of births in the three years preceding the survey whose mothers did not receive any antenatal check-ups by the main reason for not receiving any check-ups. For births to mothers who did not have any antenatal check-ups, 56 percent of mothers said a check-up was not necessary and 4 percent said it was not customary. Another 13 percent said a check-up costs too much, and 13 percent said that their family did not allow them to get a check-up. No other reason accounted for more than 5 percent of births. These results suggest the need to inform women and families about the availability and benefits of antenatal check-ups to help overcome traditional attitudes and other hurdles that prevent them from seeking antenatal care for their pregnancies. In addition, since nearly one-fifth of the reasons reported deal with problems of accessibility, quality, and cost of services, utilization of antenatal check-ups could also be increased by lowering direct and indirect costs, improving quality, and making services more accessible.

Table 8.3 Reason for not receiving an antenatal check-up			
Percent distribution of births during the three years preceding the survey to mothers who did not receive an antenatal check-up by the main reason for not receiving an antenatal check-up, according to residence, Uttar Pradesh, 1998–99			
Reason for not receiving an antenatal check-up	Urban	Rural	Total
Not necessary	59.6	55.8	56.1
Not customary	3.1	4.0	3.9
Costs too much	12.6	13.5	13.4
Too far/no transport	0.5	4.2	3.9
Poor quality service	2.7	1.1	1.3
No time to go	1.1	1.4	1.4
Family did not allow	18.0	12.3	12.8
Lack of knowledge	1.6	5.3	5.0
No health worker visited	0.0	1.6	1.5
Other	0.9	0.6	0.6
Missing	0.0	0.1	0.1
Total percent	100.0	100.0	100.0
Number of births	243	2,576	2,819

Note: Table includes only the two most recent births during the three years preceding the survey.

Number and Timing of Antenatal Check-Ups

The number of antenatal check-ups and the timing of the first check-up are important for the health of the mother and the outcome of the pregnancy. The conventional recommendation for normal pregnancies is that once pregnancy is confirmed, antenatal check-ups should be scheduled at four-week intervals during the first seven months, then every two weeks until the last month, and weekly thereafter (MacDonald and Pritchard, 1980). Four antenatal check-ups—one each during the third, sixth, eighth, and ninth months of pregnancy—have been recommended as the minimum necessary (Park and Park, 1989). The conventional recommendation is to schedule the first check-up within six weeks of a woman's last menstrual period. Studies on the timing of the initial antenatal check-up, however, show that even when antenatal care is initiated as late as the third trimester, there is a substantial reduction in perinatal mortality (Ramachandran, 1992).

In India, the Reproductive and Child Health Programme includes the provision of at least three antenatal care visits for pregnant women. Guidelines for the programme require that each pregnancy be registered in the first 12–16 weeks (Ministry of Health and Family Welfare, 1997). Accordingly, the first antenatal check-up should take place at the latest during the second trimester of pregnancy. NFHS-2 asked women who received antenatal check-ups for births in the three years preceding the survey about the total number of check-ups they received and when in their pregnancies they received their first check-up.

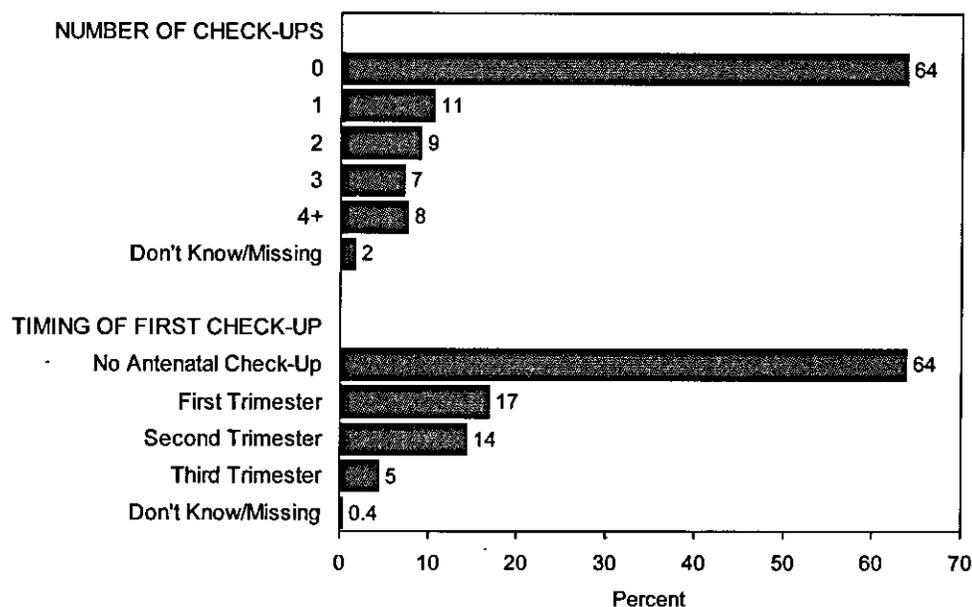
Table 8.4 and Figure 8.3 show the percent distribution of births in the three years preceding the survey by the number and timing of antenatal check-ups. In Uttar Pradesh, mothers of only 15 percent of births received at least three antenatal check-ups (compared with 44 percent in India as a whole) and 8 percent had at least four check-ups. The median number of check-ups for those who received at least one check-up was 1.7. There are substantial differences by

Table 8.4 Number and timing of antenatal check-ups and stage of pregnancy			
Percent distribution of births during the three years preceding the survey by number of antenatal check-ups and by the stage of pregnancy at the time of the first check-up, according to residence, Uttar Pradesh, 1998-99			
Number and timing of check-ups	Urban	Rural	Total
Number of antenatal check-ups			
0	34.1	69.6	63.9
1	14.4	9.8	10.5
2	12.4	8.4	9.1
3	11.2	6.5	7.3
4+	25.6	4.1	7.6
Don't know/missing	2.3	1.6	1.7
Total percent	100.0	100.0	100.0
Median number of check-ups (for those who received at least one antenatal check-up)			
	2.4	1.6	1.7
Stage of pregnancy at the time of the first antenatal check-up			
No antenatal check-up	34.1	69.6	63.9
First trimester	40.9	12.3	16.9
Second trimester	19.7	13.3	14.4
Third trimester	5.1	4.4	4.5
Don't know/missing	0.2	0.4	0.4
Total percent	100.0	100.0	100.0
Median months pregnant at first antenatal check-up (for those who received at least one antenatal check-up)			
	3.0	4.2	3.7
Number of births	713	3,700	4,414
Note: Table includes only the two most recent births during the three years preceding the survey.			

residence in the number of antenatal check-ups. At least three antenatal check-ups were received for 37 percent of births to mothers living in urban areas, but only 11 percent of births to mothers living in rural areas. Among births to mothers who received at least one antenatal check-up, the median number of check-ups was 2.4 in urban areas and 1.6 in rural areas. The shorter distances to antenatal-care services and the comparative ease of travelling in urban areas, as well as the higher educational attainment of mothers, could be important factors for the higher proportion of check-ups received by mothers in urban areas than in rural areas.

Seventeen percent of births that took place in the three years preceding the survey were to mothers who received their first antenatal check-up in the first trimester of pregnancy (up slightly from 13 percent in NFHS-1), and another 14 percent were to mothers who received their first check-up in the second trimester. Check-ups during the first trimester were much more common in urban areas (41 percent) than in rural areas (12 percent). In the state as a whole, the first check-up was received in the third trimester for only 5 percent of births. The median timing of the first antenatal check-up was 4.2 months in rural areas, 3.0 months in urban areas, and 3.7 months in the state as a whole.

Figure 8.3
Number and Timing of Antenatal Check-Ups



Note. Based on births in the three years preceding the survey (1996–98)

NFHS-2, Uttar Pradesh, 1998–99

Components of Antenatal Check-Ups

The effectiveness of antenatal check-ups in ensuring safe motherhood depends in part on the tests and measurements done and the advice given during the check-ups. NFHS-2 collected information on this important aspect of antenatal care for the first time by asking mothers who received antenatal check-ups whether they received each of several components of antenatal check-ups at least once during any of their check-ups during pregnancy. For births during the three years preceding the survey for which antenatal check-ups were received, Table 8.5 presents the percentage whose mothers received specific components of check-ups by residence. Except for X-rays (which are not recommended as a standard component of antenatal care), all of the measurements and tests are part of essential obstetric care or are required for monitoring high-risk pregnancies.

Among all births for which mothers received antenatal check-ups, mothers had an abdominal examination in 73 percent of cases and had their blood tested in 39 percent of cases. Other common components of antenatal check-ups were urine tests (37 percent), blood pressure checks (36 percent), weight measurement (29 percent), and internal examinations (27 percent). Mothers of only 10 percent of the births had their height measured, and mothers of only 13 percent of births had a sonogram or ultrasound check-up. X-ray examinations and amniocentesis were rarely performed: All of these measurements or tests were performed more often for women living in urban areas than for women living in rural areas. The differences by residence are most pronounced for urine tests (61 percent in urban areas and 27 percent in rural areas) and blood tests (60 percent in urban areas and 30 percent in rural areas).

Table 8.5. Components of antenatal check-ups			
Among births during the three years preceding the survey for which an antenatal check-up was received, percentage receiving specific components of antenatal check-ups by residence, Uttar Pradesh, 1998-99			
Components of antenatal check-ups	Urban	Rural	Total
Antenatal measurements/tests			
Weight measured	46.2	21.4	28.7
Height measured	16.2	8.0	10.4
Blood pressure checked	54.5	28.5	36.2
Blood tested	59.9	29.7	38.7
Urine tested	61.4	27.1	37.3
Abdomen examined	85.1	67.4	72.7
Internal examination	40.9	20.9	26.9
X-ray	6.9	3.1	4.2
Sonography or ultrasound	24.5	7.5	12.5
Amniocentesis	2.1	0.8	1.2
Antenatal advice			
Diet	70.0	45.6	52.9
Danger signs of pregnancy	25.2	17.7	19.9
Delivery care	29.4	21.0	23.5
Newborn care	28.7	16.8	20.3
Family planning	18.1	9.6	12.2
Number of births for which the mother received at least one antenatal check-up	455	1,074	1,529
Note: Table includes only the two most recent births during the three years preceding the survey.			

Table 8.5 also shows the type of advice received by mothers who had antenatal check-ups for births in the three years preceding the survey. Dietary advice was given to mothers most often (in 53 percent of cases). Mothers were less likely to receive advice on delivery care (24 percent), on newborn care and the danger signs of pregnancy (20 percent each), and on family planning (12 percent). The proportions receiving advice on each of these topics is higher in urban areas than in rural areas.

Tetanus Toxoid Vaccination

In India, an important cause of death in infancy is neonatal tetanus, which is caused by newborn infants becoming infected by tetanus organisms, usually at the umbilical stump. Neonatal tetanus is most common among children who are delivered in unhygienic environments and when unsterilized instruments are used to cut the umbilical cord. Tetanus typically develops during the first or second week of life and is fatal in 70-90 percent of cases (Foster, 1984). If neonatal tetanus infection occurs where expert medical help is not available, as is common in many rural areas in India, death is almost certain. Neonatal tetanus, however, is a preventable disease. Two doses of tetanus toxoid vaccine given one month apart during early pregnancy are nearly 100 percent effective in preventing tetanus among both newborn infants and their mothers. Immunity against tetanus is transferred to the foetus through the placenta when the mother is vaccinated.

In India, the tetanus toxoid immunization programme for expectant mothers was initiated in 1975-76 and was integrated with the Expanded Programme on Immunization (EPI) in 1978

(Ministry of Health and Family Welfare, 1991). To step up the pace of the immunization programme, the Government of India initiated the Universal Immunization Programme (UIP) in 1985–86. An important objective of the UIP was to vaccinate all pregnant women against tetanus by 1990. In 1992–93, the UIP was integrated into the Child Survival and Safe Motherhood Programme, which in turn has been integrated into the Reproductive and Child Health Programme. According to the National Immunization Schedule, a pregnant woman should receive two doses of tetanus toxoid vaccine, the first when she is 16 weeks pregnant and the second when she is 20 weeks pregnant (Central Bureau of Health Intelligence, 1991). Re-inoculation is recommended every three years. If two doses were received less than three years earlier, a single booster injection is recommended.

For each of the two most recent births during the three years preceding the survey, NFHS-2 asked women whether they were given an injection in the arm to prevent them and their baby from getting tetanus. Women who said they had received a tetanus injection were asked how many times they had received the injection during the pregnancy.

Table 8.6 shows the distribution of births by the number of tetanus toxoid injections given to mothers, according to selected background characteristics. Tetanus toxoid coverage in Uttar Pradesh is far from complete, but it has increased substantially in recent years. For births in the three years preceding the survey, 51 percent of mothers received at least two tetanus toxoid injections during pregnancy, and another 8 percent received one injection. The proportion of mothers who received two or more tetanus toxoid injections during their pregnancies rose from 39 to 51 percent between NFHS-1 and NFHS-2, but Uttar Pradesh still lags behind the average of 67 percent for all India.

Tetanus toxoid injections are much more common in urban areas than in rural areas. Coverage also varies by age of mother and birth order. Tetanus toxoid coverage (two or more injections) is much higher for births to women under age 35 (52–53 percent) than for the small number of births to older women (37 percent). At least two tetanus toxoid injections were received by mothers for 60 percent of first births, compared with 38 percent of births of order six or higher. Tetanus toxoid coverage varies from 38 percent in the Bundelkhand Region to 60 percent in the Eastern Region. Coverage is strongly related to education, ranging from 43 percent for births to illiterate women to 87 percent for births to women who have completed at least a high school education. Tetanus toxoid coverage is similar for Hindus (52 percent) and Muslims (50 percent). Coverage ranges from 37 percent for births to scheduled-tribe women to 58 percent for births to women who do not belong to a scheduled caste, a scheduled tribe, or an other backward caste. Tetanus toxoid coverage increases with an increasing standard of living of the household, from 38 percent for births to women living in households with a low standard of living to 79 percent for births to mothers living in households with a high standard of living. These results suggest that despite generally improving coverage of tetanus toxoid vaccinations, the coverage for socioeconomically disadvantaged women lags behind the level for the state as a whole.

Table 8.6 Tetanus toxoid vaccination and iron and folic acid tablets or syrup

Percent distribution of births during the three years preceding the survey by the number of tetanus toxoid injections received by the mother, percentage of births for which the mothers were given iron and folic acid (IFA) tablets or syrup during pregnancy, and among those who received iron and folic acid tablets or syrup, percentage who received enough for three months or longer and percentage who consumed all the supply given, according to selected background characteristics, Uttar Pradesh, 1998–99

Background characteristic	Number of tetanus toxoid injections					Percent- age given iron and folic acid tablets or syrup	Number of births	Percent- age who received supply for 3+ months ¹	Percent- age who consumed all the supply ¹	Number of births whose mothers received IFA
	None	One	Two or more	Don't know/ missing	Total percent					
Mother's age at birth										
< 20	37.1	9.8	52.8	0.3	100.0	32.9	970	64.2	71.6	319
20–34	39.8	7.4	52.3	0.6	100.0	32.8	3,158	63.7	74.3	1,037
35–49	53.4	8.5	37.2	0.9	100.0	25.3	285	61.6	67.0	72
Birth order										
1	30.9	8.5	59.8	0.7	100.0	40.8	954	66.0	77.3	389
2–3	36.2	7.7	55.9	0.2	100.0	34.5	1,700	65.4	74.1	586
4–5	44.7	8.1	46.4	0.8	100.0	30.1	972	60.3	70.2	293
6+	53.7	7.8	37.8	0.8	100.0	20.3	788	58.3	66.3	160
Residence										
Urban	17.2	5.3	76.7	0.8	100.0	52.0	713	74.2	78.0	371
Rural	44.5	8.5	46.5	0.5	100.0	28.6	3,700	60.0	71.7	1,058
Region										
Hill	40.9	8.0	50.5	0.6	100.0	37.5	148	69.8	87.0	55
Western	45.6	7.5	45.7	1.1	100.0	27.9	1,685	68.8	80.9	470
Central	38.8	11.8	49.4	0.0	100.0	35.4	734	55.9	68.2	260
Eastern	33.6	6.5	59.7	0.3	100.0	35.4	1,658	61.1	67.9	587
Bundelkhand	50.9	10.4	38.1	0.5	100.0	29.6	189	78.1	77.3	56
Mother's education										
Illiterate	48.1	8.5	42.7	0.6	100.0	24.8	3,189	57.5	69.6	792
Literate, < middle school complete	27.7	7.0	64.9	0.5	100.0	40.4	495	66.3	73.1	200
Middle school complete	21.0	8.3	70.4	0.4	100.0	51.2	296	68.3	68.0	152
High school complete and above	7.9	5.0	86.8	0.3	100.0	65.5	434	76.7	86.7	284
Religion										
Hindu	39.8	8.0	51.6	0.6	100.0	32.5	3,521	63.1	73.0	1,145
Muslim	41.5	8.0	50.0	0.5	100.0	30.5	859	65.8	73.4	262
Caste/tribe										
Scheduled caste	43.4	9.5	46.7	0.3	100.0	29.2	942	62.1	74.0	275
Scheduled tribe	48.9	10.2	37.3	3.6	100.0	19.5	99	(76.6)	(71.0)	19
Other backward class	44.0	8.3	47.5	0.2	100.0	27.1	1,213	59.5	69.7	328
Other	34.8	7.0	57.5	0.8	100.0	38.4	1,955	67.1	74.7	751
Standard of living index										
Low	52.1	9.2	38.1	0.6	100.0	22.8	1,439	58.8	70.3	328
Medium	39.0	7.6	52.8	0.6	100.0	31.9	2,288	59.8	70.3	730
High	13.7	6.6	79.3	0.4	100.0	58.2	598	76.1	82.7	348
Total	40.0	8.0	51.4	0.6	100.0	32.4	4,414	63.7	73.3	1,428

Note: Table includes only the two most recent births during the three years preceding the survey. Total includes a small number of births to mothers belonging to Sikh and 'other' religions, and births with missing information on religion, caste/tribe, and the standard of living index, which are not shown separately.

() Based on 25–49 unweighted cases

¹ Among births whose mother received iron and folic acid tablets or syrup

Iron and Folic Acid Supplementation

Nutritional deficiencies in women are often exacerbated during pregnancy because of the additional nutrient requirements of foetal growth. Iron deficiency anaemia is the most common micronutrient deficiency in the world. It is a major threat to safe motherhood and to the health and survival of infants because it contributes to low birth weight, lowered resistance to infection, impaired cognitive development, and decreased work capacity. Studies in different parts of India have estimated that the proportion of births with a low birth weight (less than 2,500 grams) ranges from 15 percent in Trivandrum to 46 percent in Baroda (Nutrition Foundation of India, 1993). Overall, about one-third of newborn children in India are of low birth weight, indicating that many pregnant women in India suffer from nutritional deficiencies. Improvement in a woman's nutritional status, coupled with proper health care during pregnancy, can substantially increase her child's birth weight (Ramachandran, 1992). To this end, the provision of iron and folic acid (IFA) tablets to pregnant women to prevent nutritional anaemia forms an integral part of the safe-motherhood services offered as part of the Reproductive and Child Health Programme. The programme recommendation is that pregnant women consume 100 tablets of iron and folic acid during pregnancy.

For each birth during the three years preceding the survey, NFHS-2 collected information on whether the mother received IFA tablets or syrup during pregnancy. IFA syrup was included in the question along with IFA tablets since IFA syrup is sometimes prescribed in the private sector and may even be prescribed in the public sector when and where tablets are not available. Table 8.6 shows that mothers in Uttar Pradesh received IFA supplements for 32 percent of births. This level is much lower than the national average of 58 percent, and is lower than any other state except Bihar. As with tetanus toxoid coverage, IFA coverage in Uttar Pradesh is well below average for births to disadvantaged women (i.e., illiterate women, scheduled-tribe women, and women with a low standard of living) and mothers of higher-order births. IFA coverage is also much lower in rural areas (29 percent) than in urban areas (52 percent). By region, it is lowest in the Western Region (28 percent) and highest in the Hill Region (38 percent).

Not all mothers who received IFA received the recommended three-month supply of tablets or syrup. Among births to women who received IFA during pregnancy, 64 percent received at least a three-month supply and 73 percent consumed all the supplements that were given to them. Differentials by background characteristics in the proportion that received at least a three-month supply and the proportion that consumed all the supply received are similar for most background characteristics. Both indicators are negatively related to birth order and positively related to mother's education level and the standard of living, and both are relatively low in rural areas, in the Central and Eastern Regions, and among other backward classes. Differentials by religion and mother's age at birth are fairly small.

Thus, the distribution of IFA supplements is still quite limited in Uttar Pradesh and many women who receive IFA are not consuming an adequate amount of IFA during their pregnancies. This suggests that the Reproductive and Child Health Programme needs to do a better job of informing pregnant women about the advantages of IFA, trying to understand why many women do not consume all the IFA they receive, and overcoming resistance to the consumption of IFA.

8.2 Delivery Care

Place of Delivery

Another important thrust of the Reproductive and Child Health Programme is to encourage deliveries under proper hygienic conditions under the supervision of trained health professionals. For each birth during the three years preceding the survey, NFHS-2 asked the mother where she gave birth and who assisted during the delivery. Table 8.7 and Figure 8.4 show that only 15 percent of births in Uttar Pradesh took place in health facilities (up slightly from 12 percent in NFHS-1), 74 percent took place in the women's own homes, and 10 percent took place in their parents' homes. Births taking place in health facilities were about equally divided between those that took place in private health facilities and those that took place in public institutions (such as government-operated district, *tehsil*, town, or municipal hospitals and Primary Health Centres). The NFHS-2 overall estimate of 15 percent of births in health facilities is almost the same as the estimate of 16 percent from the Rapid Household Survey under the RCH Programme. Both estimates are much higher than the 1997 SRS estimate of 8 percent.

In NFHS-2, the proportion of births that took place in health facilities is more than three times as high in urban areas (37 percent) as in rural areas (11 percent), but there is not much variation across regions of the state. Institutional deliveries do not vary much by the age of the mother, but they are slightly higher for mothers under age 20 (17 percent) than for older women (12–15 percent). Institutional deliveries are highest for first births (27 percent) and lowest for births of order six or higher (7 percent). Institutional deliveries, particularly in private health facilities, increase sharply with education and the standard of living. Women from scheduled castes, scheduled tribes, and other backward classes all have lower proportions of institutional births than women who do not belong to any of these groups. By religion, the proportion of institutional deliveries is 13 percent for Muslims and 16 percent for Hindus.

The proportion of institutional births is almost twice as high among women who received four or more antenatal check-ups (61 percent) as among women who received three antenatal check-ups (32 percent) and nearly 10 times as high as among women who did not receive any antenatal check-ups. Several different factors are likely to contribute to the positive relationship between antenatal check-ups and delivery in a health facility. Women who receive antenatal check-ups are more likely than other women to deliver in a health facility because their antenatal care providers advised them to do so. Conversely, women who register with a health facility for delivery may be called for regular antenatal check-ups by the facility. Another important factor may be pregnancy complications, because women with complications are more likely than other women to have antenatal check-ups and also to deliver in a health facility. Another contributing factor may be the growing awareness of the benefits of professional medical care during both pregnancy and delivery, especially among urban, young, educated women.

With regard to deliveries at home, the proportion of deliveries in a woman's own home increases and the proportion in her parents' home decreases with age and birth order. Mother's education and the standard of living are both strongly negatively associated with delivery in women's own homes.

Table 8.7 Place of delivery

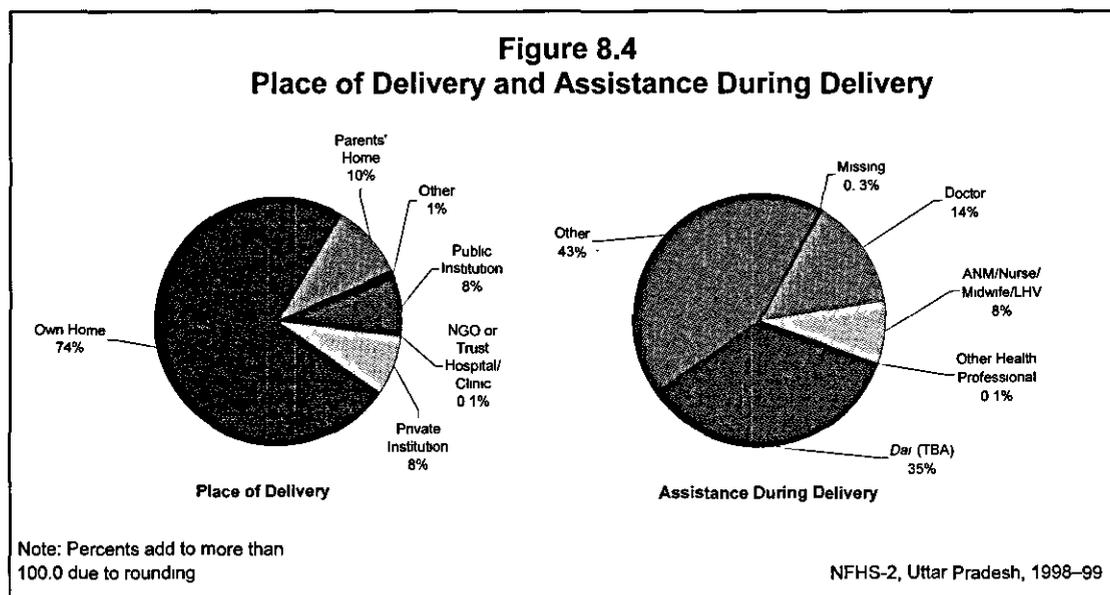
Percent distribution of births during the three years preceding the survey by place of delivery, according to selected background characteristics, Uttar Pradesh, 1998-99

Background characteristic	Place of delivery						Total percent	Number of births
	Health facility/institution			Home				
	Public	NGO/trust	Private	Own home	Parents' home	Other ¹		
Mother's age at birth								
< 20	8.2	0.1	8.9	65.5	15.9	1.3	100.0	970
20-34	7.5	0.2	7.6	75.5	8.3	0.9	100.0	3,158
35-49	5.6	0.0	6.5	83.5	2.8	1.6	100.0	285
Birth order								
1	12.7	0.5	13.6	59.3	12.8	1.2	100.0	954
2-3	7.6	0.0	8.8	70.1	12.3	1.2	100.0	1,700
4-5	5.0	0.0	4.5	82.7	7.2	0.7	100.0	972
6+	4.1	0.2	3.0	88.3	3.2	1.3	100.0	788
Residence								
Urban	14.4	0.7	22.0	55.9	5.5	1.5	100.0	713
Rural	6.2	0.0	5.1	77.2	10.4	1.0	100.0	3,700
Region								
Hill	8.4	0.3	8.6	77.1	4.2	1.3	100.0	148
Western	5.2	0.2	9.9	78.5	4.8	1.4	100.0	1,685
Central	7.3	0.3	6.7	73.5	12.0	0.1	100.0	734
Eastern	9.7	0.0	6.4	68.0	14.8	1.1	100.0	1,658
Bundelkhand	9.1	0.0	5.8	81.2	2.6	1.3	100.0	189
Mother's education								
Illiterate	4.5	0.0	4.2	80.2	10.0	1.1	100.0	3,189
Literate, < middle school complete	11.0	0.0	8.9	69.8	8.9	1.4	100.0	495
Middle school complete	15.4	0.5	8.4	64.7	10.0	0.9	100.0	296
High school complete and above	20.6	0.8	32.6	37.5	7.7	0.7	100.0	434
Religion								
Hindu	8.0	0.1	7.7	72.9	10.3	1.0	100.0	3,521
Muslim	5.2	0.3	7.8	78.1	7.4	1.3	100.0	859
Caste/tribe								
Scheduled caste	5.3	0.1	4.8	78.7	10.2	0.9	100.0	942
Scheduled tribe	5.1	0.0	3.7	80.9	8.9	1.3	100.0	99
Other backward class	7.2	0.0	5.6	73.3	13.3	0.6	100.0	1,213
Other	9.3	0.3	11.4	70.4	7.3	1.4	100.0	1,955
Standard of living index								
Low	3.2	0.1	3.5	82.4	10.2	0.7	100.0	1,439
Medium	7.4	0.2	5.9	75.3	9.8	1.4	100.0	2,288
High	19.0	0.2	25.9	46.7	7.4	0.8	100.0	598
Number of antenatal check-ups								
0	3.6	0.0	2.8	83.3	9.6	0.8	100.0	2,819
1	9.5	0.3	7.0	71.4	11.1	0.7	100.0	464
2	12.9	0.0	13.1	62.2	9.6	2.2	100.0	400
3	15.4	0.7	15.9	54.5	13.2	0.3	100.0	321
4+	23.3	0.4	37.0	32.9	5.7	0.7	100.0	334
Total	7.5	0.1	7.8	73.8	9.7	1.1	100.0	4,414

Note: Table includes only the two most recent births during the three years preceding the survey. Total includes 17 and 9 births to women belonging to Sikh and 'other' religions, respectively, and 8, 205, 89, and 75 births with missing information on religion, caste/tribe, the standard of living index, and number of antenatal check-ups, respectively, which are not shown separately.

NGO: Nongovernmental organization

¹Includes missing



Assistance During Delivery

Table 8.8 and Figure 8.4 provide information on assistance during delivery by selected background characteristics. If more than one type of attendant assisted at delivery, only the most qualified attendant is shown. Only 22 percent of births in the three years preceding the survey were attended by a health professional, including 14 percent by a doctor and 8 percent by an ANM, nurse, midwife, or LHV. Comparable estimates at the national level are 42 percent by a health professional, 30 percent by a doctor, and 11 percent by an ANM, nurse, midwife, or LHV. In Uttar Pradesh, 35 percent of births were attended by a traditional birth attendant, and 43 percent were attended only by friends, relatives, or other persons. According to the two NFHS surveys, the proportion of deliveries attended by a health professional increased from 17 percent in NFHS-1 to 22 percent in NFHS-2.

The proportion of births attended by a doctor varies only slightly by the mother's age, from 12 percent for mothers age 35-49 to 14-15 percent for younger mothers. The differentials are much larger by birth order, ranging from 6 percent for births of order six or higher to 24 percent for first-order births. Births are much more likely to be assisted by a doctor in urban areas (36 percent) than in rural areas (10 percent). Births in the Hill Region are twice as likely as births in the Bundelkhand Region to be assisted by a doctor. The proportion of births delivered by a doctor increases sharply with the mother's level of education and the household standard of living. There is no substantial difference by religion, but deliveries by doctors vary from only 6 percent for births to scheduled-tribe mothers to 20 percent for births to mothers who do not belong to a scheduled caste, a scheduled tribe, or an other backward class. Only 6 percent of births to women who did not have any antenatal check-up were attended by a doctor; this proportion increases steadily to 30 percent for births to women who had three antenatal check-ups and 52 percent for births to women who had four or more antenatal check-ups. Thirty-nine percent of births to women who did not have any antenatal check-ups were attended by a TBA, and half of the births were attended only by friends, relatives, and other persons who are not health professionals. By place of delivery, the proportion of births attended by a doctor was 65 percent for births in public health facilities, 80 percent for births in private facilities, 3 percent for births occurring in the woman's own home, and 6 percent for births occurring in her parents'

Table 8.8 Assistance during delivery

Percent distribution of births during the three years preceding the survey by attendant assisting during delivery, according to selected background characteristics, Uttar Pradesh, 1998-99

Background characteristic	Attendant assisting during delivery ¹						Total percent	Number of births
	Doctor	ANM/nurse/ midwife/ LHV	Other health professional	Dai (TBA)	Other	Missing		
Mother's age at birth								
< 20	14.2	9.5	0.1	33.3	42.5	0.3	100.0	970
20-34	14.5	7.8	0.1	34.7	42.8	0.3	100.0	3,158
35-49	11.9	6.5	0.0	37.9	43.6	0.2	100.0	285
Birth order								
1	23.9	12.1	0.0	30.6	33.1	0.3	100.0	954
2-3	14.8	7.8	0.1	33.5	43.6	0.2	100.0	1,700
4-5	10.2	6.7	0.0	37.0	45.7	0.3	100.0	972
6+	6.4	5.4	0.2	38.8	48.9	0.3	100.0	788
Residence								
Urban	36.3	15.4	0.0	29.9	17.9	0.5	100.0	713
Rural	10.0	6.6	0.1	35.5	47.5	0.2	100.0	3,700
Region								
Hill	19.5	10.5	0.0	43.9	24.8	1.3	100.0	148
Western	17.0	6.5	0.0	59.2	16.9	0.4	100.0	1,685
Central	12.1	6.6	0.2	26.8	54.4	0.0	100.0	734
Eastern	12.5	9.7	0.1	14.2	63.3	0.1	100.0	1,658
Bundelkhand	9.9	11.1	0.0	17.4	61.3	0.3	100.0	189
Mother's education								
Illiterate	7.9	5.9	0.1	38.0	47.8	0.2	100.0	3,189
Literate, < middle school complete	17.4	12.2	0.0	30.6	39.0	0.7	100.0	495
Middle school complete	24.1	14.0	0.0	29.3	32.5	0.2	100.0	296
High school complete and above	50.2	15.0	0.3	17.7	16.8	0.0	100.0	434
Religion								
Hindu	13.9	8.1	0.1	31.3	46.4	0.2	100.0	3,521
Muslim	15.1	7.9	0.0	48.2	28.4	0.4	100.0	859
Caste/tribe								
Scheduled caste	9.7	7.3	0.1	31.1	51.6	0.2	100.0	942
Scheduled tribe	6.4	6.7	0.0	34.4	51.2	1.3	100.0	99
Other backward class	9.8	6.9	0.0	30.9	52.3	0.0	100.0	1,213
Other	20.2	9.4	0.1	39.5	30.3	0.4	100.0	1,955
Standard of living index								
Low	5.9	4.6	0.1	35.5	53.7	0.2	100.0	1,439
Medium	12.2	8.7	0.1	36.4	42.3	0.4	100.0	2,288
High	42.3	14.5	0.2	24.3	18.7	0.0	100.0	598

Contd...

Table 8.8 Assistance during delivery (contd.)

Percent distribution of births during the three years preceding the survey by attendant assisting during delivery, according to selected background characteristics, Uttar Pradesh, 1998-99

Background characteristic	Attendant assisting during delivery ¹						Total percent	Number of births
	Doctor	ANM/nurse/ midwife/ LHV	Other health professional	Dai (TBA)	Other	Missing		
Number of antenatal check-ups								
0	6.2	4.4	0.0	39.2	50.0	0.1	100.0	2,819
1	14.9	11.6	0.0	31.7	41.8	0.0	100.0	464
2	24.1	13.3	0.3	28.6	33.7	0.1	100.0	400
3	29.7	13.8	0.4	26.3	29.9	0.0	100.0	321
4+	52.3	21.9	0.0	14.7	11.1	0.0	100.0	334
Place of delivery								
Public health facility	65.2	31.8	0.0	1.1	2.0	0.0	100.0	332
Private health facility	80.2	17.3	0.0	0.8	1.7	0.0	100.0	345
Own home	3.2	4.7	0.1	41.8	50.3	0.0	100.0	3,257
Parents' home	5.9	7.1	0.3	34.9	51.9	0.0	100.0	426
Other ²	(2.2)	(17.3)	(0.0)	(23.1)	(32.8)	(24.7)	100.0	48
Total	14.2	8.1	0.1	34.6	42.8	0.3	100.0	4,414

Note: Table includes only the two most recent births during the three years preceding the survey. Total includes 17 and 9 births to women belonging to Sikh and 'other' religions, respectively, 6 births delivered in nongovernmental organization or trust hospitals/clinics, and 8, 205, 89, and 75 births with missing information on religion, caste/tribe, the standard of living index, and number of antenatal check-ups, respectively, which are not shown separately.

ANM: Auxiliary nurse midwife; LHV: Lady health visitor; TBA: Traditional birth attendant

() Based on 25-49 unweighted cases

¹If the respondent mentioned more than one attendant, only the most qualified attendant is shown.

²Includes missing

home. Eighty percent of births in private institutions were attended by a doctor, compared with 65 percent of births in public institutions. Among births delivered at home (the respondents' or their parents' homes), about 4 out of 10 were attended by a TBA and fewer than 1 out of 10 were attended by a health professional.

Delivery Characteristics

Table 8.9 shows the percentage of births during the three years preceding the survey that were delivered by caesarian section and the percent distribution of births by birth weight and the mother's estimate of the baby's size at birth. Based on mothers' reports, 3 percent of children born in Uttar Pradesh in the past three years were delivered by caesarian section. The proportion of deliveries by caesarian section was higher in urban areas (9 percent) than in rural areas (2 percent). Although caesarian sections are still rare in Uttar Pradesh, they have increased from less than 1 percent of births in NFHS-1 to 3 percent in NFHS-2.

Babies with low birth weights face substantially higher risks of dying than do babies with normal birth weights. For each birth that took place in the three years preceding the survey, respondents were asked the baby's birth weight. Because babies delivered at home are unlikely to be weighed and because the mother might not remember the birth weight even if the baby was weighed, the survey also asked mothers to estimate the size of each baby at birth (large, average, small, or very small).

Table 8.9 Characteristics of births			
Percentage of births during the three years preceding the survey that were delivered by caesarian section and percent distribution of births by birth weight and by the mother's estimate of the baby's size at birth, according to residence, Uttar Pradesh, 1998-99			
Characteristic of births	Urban	Rural	Total
Percentage delivered by caesarian section	8.6	1.7	2.8
Birth weight			
< 2.5 kg	5.1	1.2	1.8
2.5 kg or more	12.3	1.3	3.1
Don't know/missing	11.0	2.9	4.2
Not weighed	71.5	94.6	90.9
Total percent	100.0	100.0	100.0
Size at birth			
Large	7.5	8.0	7.9
Average	69.6	69.2	69.3
Small	16.9	16.9	16.9
Very small	5.6	5.5	5.5
Don't know/missing	0.5	0.4	0.4
Total percent	100.0	100.0	100.0
Number of births	713	3,700	4,414
Note: Table includes only the two most recent births during the three years preceding the survey.			

In Uttar Pradesh, 91 percent of babies born in the three years preceding the survey were not weighed at birth. The proportion not weighed is 72 percent in urban areas and 95 percent in rural areas. Even for babies that were weighed, almost half of the mothers did not remember the weight. Therefore, the resulting sample of births for which weights are reported is subject to a potentially large selection bias, so the results should be interpreted with caution. Among children for whom birth weights are reported, 37 percent weighed less than 2.5 kilograms. The proportion weighing less than 2.5 kilograms is much lower in urban areas (29 percent) than in rural areas (48 percent).

According to mothers' estimates, 8 percent of births in the three years preceding the survey were large, 69 percent were of average size, 17 percent were small, and 6 percent were very small. The proportion of babies reported as small or very small was 22-23 percent in urban and rural areas.

8.3 Postnatal Care

The health of a mother and her newborn child depends not only on the health care she receives during her pregnancy and delivery, but also on the care she and the infant receive during the first few weeks after delivery. Postpartum check-ups within two months after delivery are particularly important for births that take place in noninstitutional settings. Recognizing the importance of postpartum check-ups, the Reproductive and Child Health Programme recommends three postpartum visits (Ministry of Health and Family Welfare, 1998b).

Table 8.10 Postpartum check-ups

Percentage of noninstitutional births during the three years preceding the survey for which a postpartum check-up was received within two months of birth and, among those receiving a postpartum check-up, percentage seen within two days and one week of birth and percentage receiving specific components of check-ups by selected background characteristics, Uttar Pradesh, 1998-99

Background characteristic	Percentage with a postpartum check-up within two months of birth	Number of births	Among those with a postpartum check-up						Number of births followed by a postpartum check-up
			Percentage seen within two days of birth	Percentage seen within one week of birth	Components of postpartum check-up (%)				
					Abdominal examination	Family planning advice	Breast-feeding advice	Baby care advice	
Mother's age at birth									
< 20	8.4	800	28.6	38.7	29.1	6.4	32.4	45.2	67
20-34	6.9	2,667	17.4	32.0	37.5	12.1	34.5	44.8	185
35-49	5.5	250	*	*	*	*	*	*	14
Birth order									
1	8.4	693	25.1	26.9	38.6	6.3	40.8	48.9	59
2-3	7.4	1,417	15.8	27.6	32.6	13.7	28.0	43.7	105
4-5	6.6	877	25.8	43.3	39.7	11.3	39.7	46.9	58
6+	6.2	729	(24.1)	(50.4)	(20.7)	(9.8)	(28.4)	(36.0)	45
Residence									
Urban	5.9	446	*	*	*	*	*	*	26
Rural	7.3	3,271	23.8	36.6	32.2	9.1	32.8	44.8	240
Region									
Hill	8.8	120	*	*	*	*	*	*	11
Western	7.7	1,419	6.5	21.0	50.5	16.1	49.4	51.1	110
Central	5.8	629	(38.7)	(48.4)	(28.0)	(3.5)	(18.7)	(18.6)	36
Eastern	7.5	1,388	33.6	47.6	14.8	7.5	19.4	45.2	104
Bundelkhand	3.7	160	*	*	*	*	*	*	6
Mother's education									
Illiterate	5.9	2,902	27.7	44.2	31.8	8.0	31.2	43.7	171
Literate, < middle school complete	12.2	393	(13.0)	(22.4)	(31.3)	(18.6)	(28.3)	(41.9)	48
Middle school complete	8.9	224	*	*	*	*	*	*	20
High school complete and above	14.0	198	(8.7)	(18.7)	(45.2)	(15.0)	(50.5)	(49.6)	28
Religion									
Hindu	7.2	2,954	18.2	31.1	34.1	9.9	34.0	45.3	214
Muslim	6.9	742	(35.7)	(50.9)	(28.7)	(15.1)	(29.0)	(37.9)	51
Caste/tribe									
Scheduled caste	6.3	842	23.7	34.4	24.9	9.3	28.2	41.3	53
Scheduled tribe	4.2	89	*	*	*	*	*	*	4
Other backward class	4.7	1,057	(29.1)	(52.8)	(24.6)	(8.1)	(19.3)	(43.3)	49
Other	9.7	1,538	18.8	28.6	37.2	12.4	38.4	44.4	149
Standard of living index									
Low	5.7	1,339	25.5	44.0	30.9	9.4	32.6	39.8	77
Medium	7.1	1,969	19.5	29.0	34.1	11.9	32.8	49.8	141
High	11.7	328	(22.2)	(37.0)	(37.4)	(12.8)	(38.6)	(38.2)	39

Contd...

Table 8.10 Postpartum check-ups (contd.)

Percentage of noninstitutional births during the three years preceding the survey for which a postpartum check-up was received within two months of birth and, among those receiving a postpartum check-up, percentage seen within two days and one week of birth and percentage receiving specific components of check-ups by selected background characteristics, Uttar Pradesh, 1998-99

Background characteristic	Percentage with a postpartum check-up within two months of birth	Number of births	Among those with a postpartum check-up						Number of births followed by a postpartum check-up
			Percentage seen within two days of birth	Percentage seen within one week of birth	Components of postpartum check-up (%)				
					Abdominal examination	Family planning advice	Breast-feeding advice	Baby care advice	
Number of antenatal check-ups									
0	5.7	2,636	25.3	41.8	24.6	7.2	29.3	44.4	150
1	7.4	386	(24.0)	(36.7)	(34.1)	(11.4)	(28.7)	(31.1)	28
2	14.1	295	(9.7)	(24.3)	(43.3)	(17.4)	(39.2)	(44.1)	41
3+	12.5	350	(15.8)	(18.3)	(52.9)	(17.6)	(44.4)	(51.9)	44
Assistance during delivery									
Doctor/ANM/nurse/midwife/									
LHV ¹	13.5	324	(15.7)	(29.7)	(43.5)	(21.9)	(60.0)	(56.7)	44
Dai (TBA)	7.8	1,520	15.8	30.8	43.9	9.8	38.4	41.7	118
Other	5.6	1,872	30.2	41.2	17.5	7.4	16.7	41.8	105
Total	7.2	3,716	21.4	34.7	33.4	10.9	33.4	44.2	267

Note: Table includes only the two most recent births during the three years preceding the survey. Total includes a small number of births to mothers belonging to Sikh and 'other' religions, and births with missing information on religion, caste/tribe, the standard of living index, and number of antenatal check-ups, which are not shown separately.

ANM: Auxiliary nurse midwife; LHV: Lady health visitor; TBA: Traditional birth attendant

() Based on 25-49 unweighted cases

*Percentage not shown; based on fewer than 25 unweighted cases

¹Includes other health professionals

Table 8.10 gives the percentage of noninstitutional births in the three years preceding the survey that were followed by a postpartum check-up within two months of delivery. Among births that were followed by a postpartum check-up, the table also shows the percentage with a check-up within two days of delivery (which is the most crucial period) and within one week of delivery, and the percentage whose mothers received specific recommended components of care during the check-up.

Only 7 percent of noninstitutional births were followed by a check-up within two months of the delivery. Among births that were followed by a check-up, only 21 percent of check-ups took place within two days of birth and only 35 percent took place within one week of birth. Postpartum check-ups are not common for any group of noninstitutional births; the maximum level is 14 percent for births to mothers who have completed high school, births delivered by a health professional, and births for which the mother had two antenatal check-ups.

Mothers who did not deliver in a health facility but who received a postpartum check-up were asked whether they received specific components of postpartum care, including an abdominal examination and advice on family planning, breastfeeding, and baby care. Among these mothers, 33 percent reported an abdominal examination. Forty-four percent received advice

on baby care, 33 percent received advice on breastfeeding, and only 11 percent received family planning advice.

Postpartum Complications

Every woman who had a birth in the three years preceding the survey was asked if she had massive vaginal bleeding or a very high fever—both symptoms of possible postpartum complications—at any time during the two months after delivery. For 17 percent of births, the mother reported a very high fever, and for 9 percent of births, the mother reported massive vaginal bleeding following the birth (Table 8.11). These proportions vary little by age or birth order. Both complications are more common, however, for births to rural mothers than urban mothers. Both complications are more common in the Eastern Region than in other regions. Very high fever is slightly more common for home deliveries than for institutional deliveries. Both complications are more common when the birth is not attended by either a health professional or a traditional birth attendant. However, complications are slightly more prevalent for deliveries assisted by a doctor than for deliveries assisted by another health professional or a TBA. This is not surprising since a doctor is more likely to be summoned when a complication occurs.

8.4 Reproductive Health Problems

Absence of reproductive tract infections (RTIs) is essential for the reproductive health of both women and men and is critical for their ability to meet their reproductive goals. There are three different types of reproductive tract infections for women: endogenous infections that are caused by the multiplying of organisms normally present in the vagina; iatrogenic infections caused by the introduction of bacteria or other infection-causing micro-organisms through medical procedures such as an IUD insertion; and sexually transmitted infections (STIs). Endogenous infections and several of the iatrogenic and sexually transmitted infections are often easily cured if detected early and given proper treatment. If left untreated, RTIs can cause pregnancy-related complications, congenital infections, infertility, and chronic pain. They are also a risk factor for pelvic inflammatory disease and HIV (Population Council, 1999).

A number of studies (Bang et al., 1989; Bang and Bang, 1991; Pachauri and Gittlesohn, 1994; Jeejeebhoy and Rama Rao, 1992) have shown that many Indian women suffer from RTIs. Several researchers have also shown that women in India often bear the symptoms of RTIs silently without seeking health care. RTIs and their sequelae are an important component of programmes for family planning, child survival, women's health, safe motherhood, and HIV prevention. RTIs have profound implications for the success of each of these initiatives, and conversely, these initiatives provide a critical opportunity for the prevention and control of RTIs (Germain et al., 1992). Studies have demonstrated that RTIs are an important reason for the poor acceptance and low continuation rates of contraceptive methods such as the IUD. Bhatia and Cleland (1995) found a higher incidence of gynaecological symptoms among women who had undergone a tubectomy than among other women. The Government of India recognized the importance of RTIs and STIs in undermining the health and welfare of individuals and couples in a policy statement on the Reproductive and Child Health Programme, which states that couples should be 'able to have sexual relations free of fear of pregnancy and contracting diseases' (Ministry of Health and Family Welfare, 1997:2). The Reproductive and Child Health Programme includes the following interventions: establishment of RTI/STI clinics at district hospitals (where not already available), provision of technicians for laboratory diagnosis of

Table 8 11. Symptoms of postpartum complications

Among births during the three years preceding the survey, percentage for which the mother had massive vaginal bleeding or very high fever within two months after the delivery by selected background characteristics, Uttar Pradesh, 1998-99

Background characteristic	Massive vaginal bleeding	Very high fever	Number of births
Residence			
Urban	4.5	13.0	682
Rural	10.3	17.6	3,516
Region			
Hill	9.7	12.0	138
Western	7.9	14.1	1,598
Central	7.1	15.1	716
Eastern	12.0	21.4	1,565
Bundelkhand	8.5	12.0	180
Mother's age at birth			
< 20	11.3	16.7	932
20-34	8.7	16.6	2,997
35-49	10.4	19.3	270
Birth order			
1	9.6	16.3	904
2-3	8.9	15.3	1,612
4-5	9.9	17.5	939
6+	9.5	19.9	743
Place of delivery			
Public health facility	9.0	14.4	317
Private health facility	9.1	14.9	331
Own home	9.3	17.4	3,095
Parents' home	9.9	16.6	407
Other ¹	(14.2)	(10.9)	45
Assistance during delivery			
Doctor	9.7	16.3	600
ANM/nurse/midwife/LHV	7.3	13.1	335
Dai (TBA)	7.5	14.8	1,456
Other ¹	11.1	19.2	1,804
Total	9.4	16.8	4,198

Note: Table includes only the two most recent births during the 2-35 months preceding the survey. Total includes 4 births delivered in nongovernmental organization or trust hospitals/clinics and 3 births assisted by other health professionals, which are not shown separately.

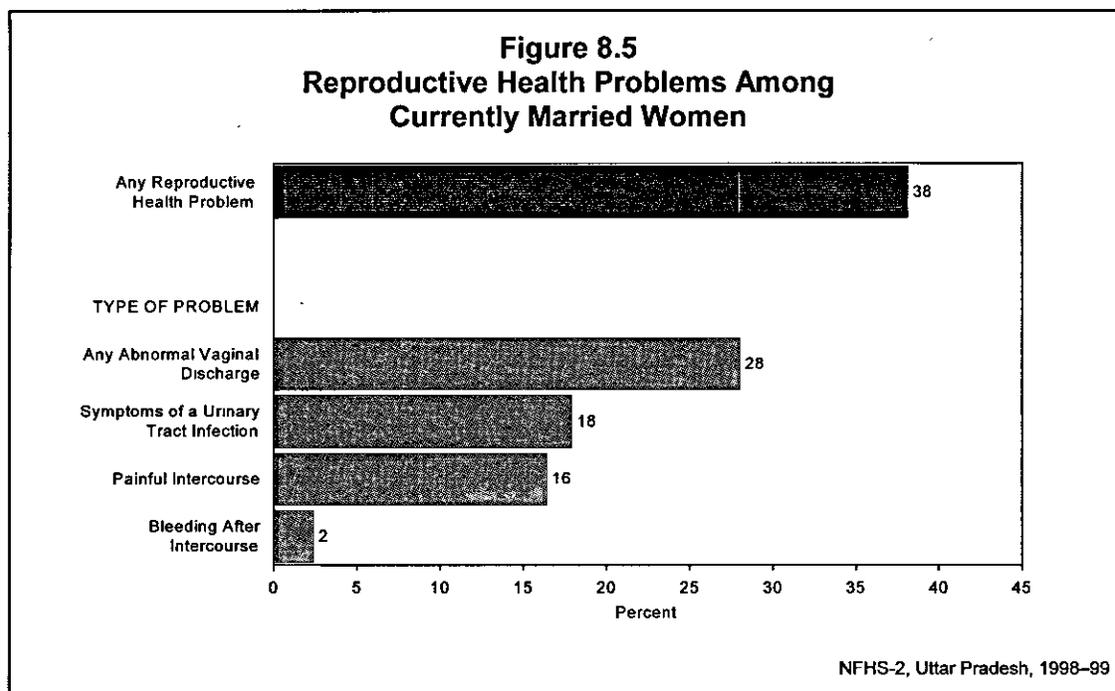
ANM: Auxiliary nurse midwife; LHV: Lady health visitor; TBA: Traditional birth attendant

() Based on 25-49 unweighted cases

¹ Includes missing

RTIs/STIs, and in selected districts, screening and treatment of RTIs/STIs (Ministry of Health and Family Welfare, 1997).

NFHS-2 collected information from women on some common symptoms of RTIs, namely problems with abnormal vaginal discharge or urinary tract infections in the three months preceding the survey, intercourse-related pain (often), and bleeding after intercourse (ever). Specifically, the prevalence of reproductive health problems among ever-married women is



estimated from women's self-reported experience with each of the following problems: vaginal discharge accompanied by itching, by irritation around the vaginal area, by bad odour, by severe lower abdominal pain, by fever, or by any other problem; pain or burning while urinating or frequent or difficult urination; and (among currently married women only) painful intercourse or bleeding after intercourse. Women who experience one or more of these reproductive health problems could either have or be at risk of getting an RTI/STI. However, since information on health problems is based on self-reports rather than clinical tests or examinations, the results should be interpreted with caution.

Table 8.12 shows the prevalence of different reproductive health problems among women in Uttar Pradesh by background characteristics. Twenty-eight percent of ever-married women reported at least one type of problem related to vaginal discharge, and 18 percent reported symptoms of a urinary tract infection. Overall, 34 percent of women reported either problems with vaginal discharge or symptoms of a urinary tract infection. Among problems related to vaginal discharge, itching or irritation was mentioned most frequently (19 percent), followed by severe lower abdominal pain (17 percent) and bad odour (15 percent).

Table 8.12 and Figure 8.5 show that 38 percent of currently married women report one or more reproductive health problems (almost the same as the national average of 39 percent). Sixteen percent report painful intercourse and 2 percent report bleeding after intercourse.

Reproductive health problems are more common among women in the middle of the reproductive age span than at the extremes of 15-19 and 45-49. They are slightly more common among urban women (41 percent) than among rural women (37 percent). Regional differences are much larger. The proportion of currently married women reporting any reproductive health problem ranges from 23 percent in the Central Region to 48 percent in the Western Region. The prevalence of reproductive health problems does not vary in a consistent way by education, but women who have completed at least high school have a slightly lower prevalence level than

Table 8.12 Symptoms of reproductive health problems

Percentage of ever-married women reporting abnormal vaginal discharge or symptoms of a urinary tract infection during the three months preceding the survey and percentage of currently married women reporting painful intercourse or bleeding after intercourse by selected background characteristics, Uttar Pradesh, 1998-99

Background characteristic	Ever-married women										Currently married women			Number of currently married women
	Any abnormal vaginal discharge	Vaginal discharge accompanied by:					Symptoms of a urinary tract infection ²	Any abnormal vaginal discharge or symptoms of a urinary tract infection ²	Number of ever-married women	Painful intercourse (often)	Bleeding after intercourse (ever) ¹	Any reproductive health problem		
		Itching or irritation	Bad odour	Severe lower abdominal pain ¹	Fever	Other problem								
Age														
15-19	21.3	13.6	11.9	14.1	7.6	5.8	13.4	26.5	1,117	18.8	3.6	33.5	1,102	
20-24	26.5	17.9	13.6	16.5	8.2	7.1	16.3	31.7	1,825	18.8	3.1	38.1	1,791	
25-29	28.7	19.8	14.8	17.8	9.9	9.0	18.5	34.5	1,769	17.0	2.0	38.9	1,724	
30-34	32.3	22.3	17.2	19.2	10.9	11.1	19.7	38.7	1,509	16.7	2.1	42.0	1,463	
35-39	30.6	20.9	14.6	18.5	9.6	8.5	17.0	35.4	1,291	15.1	2.1	39.2	1,224	
40-44	28.3	21.0	15.1	17.3	10.1	9.0	20.8	35.8	1,025	12.9	2.0	37.9	946	
45-49	24.2	17.5	13.8	13.7	8.9	6.4	17.7	31.0	756	10.7	1.6	33.7	668	
Residence														
Urban	29.7	19.1	15.9	18.4	8.6	10.5	18.4	36.2	1,860	18.2	2.4	40.8	1,776	
Rural	27.3	19.2	14.2	16.7	9.6	7.7	17.5	33.0	7,432	15.9	2.4	37.4	7,142	
Region														
Hill	35.9	24.1	18.3	19.3	8.0	9.0	19.7	41.0	420	12.4	4.0	44.5	390	
Western	39.6	26.9	23.0	23.1	12.0	12.2	21.8	44.3	3,320	19.6	4.2	47.8	3,184	
Central	12.8	9.0	7.0	9.4	6.6	2.7	12.7	19.5	1,620	10.8	1.3	23.2	1,539	
Eastern	22.2	16.0	9.4	14.1	7.8	7.3	15.3	28.9	3,505	15.8	1.1	34.7	3,391	
Bundelkhand	31.2	19.8	16.2	21.1	13.0	6.7	21.3	35.7	427	20.5	2.1	41.0	413	
Education														
Illiterate	27.8	19.0	15.4	17.3	10.0	8.2	18.2	33.6	6,523	16.1	2.5	37.8	6,230	
Literate, < middle school complete	30.6	21.7	13.3	19.7	9.5	9.8	19.5	37.1	1,101	20.1	2.4	42.1	1,067	
Middle school complete	29.8	20.4	14.5	16.5	10.1	7.4	16.3	36.2	635	15.3	2.1	40.1	620	
High school complete and above	23.5	17.0	10.3	12.8	4.9	7.7	12.6	28.6	1,032	14.9	2.3	34.6	1,000	
Religion														
Hindu	26.4	18.7	13.4	15.8	8.5	7.7	16.7	32.1	7,715	15.1	2.2	36.4	7,413	
Muslim	36.3	22.4	20.5	23.8	14.1	11.7	23.0	42.6	1,483	23.5	3.6	47.8	1,417	
Sikh	12.2	8.0	7.1	9.2	6.4	5.1	15.1	20.2	55	14.3	4.6	26.9	51	
Caste/tribe														
Scheduled caste	25.5	19.1	13.4	15.6	9.0	7.4	18.0	32.0	1,805	15.0	2.1	36.0	1,725	
Scheduled tribe	29.7	22.4	11.7	16.0	7.3	5.6	14.5	36.7	191	11.6	2.9	39.8	185	
Other backward class	25.0	18.3	12.6	15.7	8.0	6.8	15.6	29.9	2,591	15.7	2.3	35.0	2,507	
Other	31.4	20.4	16.9	19.1	10.6	10.0	18.9	37.2	4,276	17.3	2.6	41.3	4,092	

Contd...

Table 8.12 Symptoms of reproductive health problems (contd.)

Percentage of ever-married women reporting abnormal vaginal discharge or symptoms of a urinary tract infection during the three months preceding the survey and percentage of currently married women reporting painful intercourse or bleeding after intercourse by selected background characteristics, Uttar Pradesh, 1998-99

Background characteristic	Ever-married women								Number of ever-married women	Currently married women			Number of currently married women
	Any abnormal vaginal discharge	Vaginal discharge accompanied by:					Symptoms of a urinary tract infection ²	Any abnormal vaginal discharge or symptoms of a urinary tract infection ²		Painful intercourse (often)	Bleeding after intercourse (ever) ¹	Any reproductive health problem	
		Itching or irritation	Bad odour	Severe lower abdominal pain ¹	Fever	Other problem							
Standard of living index													
Low	26.6	19.1	14.5	17.0	9.7	8.0	18.9	33.0	2,598	17.2	2.3	37.6	2,475
Medium	28.5	19.2	15.0	17.5	9.7	7.9	17.4	33.9	4,887	15.9	2.3	38.1	4,692
High	27.9	19.5	13.6	15.8	7.7	9.6	16.7	34.2	1,612	16.5	2.7	39.2	1,563
Work status													
Working in family farm/business	29.0	20.2	14.2	17.8	10.3	8.2	18.1	34.9	1,166	13.9	2.6	37.8	1,101
Employed by someone else	28.2	18.9	12.4	15.8	8.1	10.4	19.0	34.6	672	16.3	1.5	40.5	604
Self-employed	33.6	22.4	14.0	21.3	11.6	9.5	24.8	41.2	322	23.9	2.4	46.3	290
Not worked in past 12 months	27.3	18.9	14.8	16.8	9.2	8.1	17.1	33.0	7,121	16.4	2.5	37.6	6,913
Number of children ever born													
0	23.3	15.7	12.4	14.8	7.7	6.5	14.8	28.6	1,121	20.8	4.6	36.1	1,073
1	22.9	15.6	11.5	13.5	6.4	5.1	12.7	27.6	1,097	15.1	2.6	34.0	1,055
2-3	27.3	18.6	14.2	16.8	8.7	8.1	17.3	32.9	2,756	16.5	2.0	37.7	2,664
4-5	30.2	20.3	16.3	18.7	11.2	9.3	19.7	36.6	2,214	16.4	2.1	40.0	2,120
6+	31.0	22.7	15.9	18.7	10.8	10.3	20.1	37.4	2,104	14.5	2.0	40.0	2,006
All ever-married women	27.8	19.2	14.5	17.0	9.4	8.3	17.6	33.7	9,292	NA	NA	NA	NA
All currently married women	28.0	19.4	14.6	17.2	9.4	8.4	17.9	33.9	8,918	16.4	2.4	38.1	8,918

Note: Total includes a small number of women belonging to other religions, and women with missing information on religion, caste/tribe, the standard of living index, and work status, who are not shown separately.

NA: Not applicable

¹Not related to menstruation

²Includes pain or burning while urinating or more frequent or difficult urination

other women. Every type of reproductive health problem except bleeding after intercourse is more common among Muslim women than among Hindu or Sikh women. By caste/tribe, the prevalence of reproductive health problems ranges from 35 percent among women from other backward classes to 41 percent among women who do not belong to a scheduled caste, a scheduled tribe, or an other backward class. Reproductive health problems do not vary much by the standard of living index. The prevalence of these problems is somewhat higher for women who are self-employed or employed by a person outside the family than for other women. Reproductive health problems are also somewhat higher for women with more children.

Among women who report any reproductive health problems, three-quarters have not seen anyone for advice or treatment (Table 8.13). The proportion of women who have not obtained advice or treatment is higher in rural areas (77 percent) than in urban areas (68 percent). Overall, 84 percent of women who obtained advice or treatment were seen by someone in the private medical sector (84 percent in urban areas and 83 percent in rural areas). Among women who sought advice or treatment, 74 percent saw a private doctor and only 15 percent saw a government doctor.

NFHS-2 results in Uttar Pradesh show that although almost two in every five currently married women report at least one reproductive health problem that could be symptomatic of a more serious reproductive tract infection, three-quarters of them bear the problems silently without seeking advice or treatment. These findings highlight the need to educate women regarding the symptoms and consequences of reproductive health problems and the urgent need to expand counselling and reproductive health services in both rural and urban areas.

Table 8.13 Treatment of reproductive health problems

Among women with a reproductive health problem, the percentage who sought advice or treatment from specific providers by residence, Uttar Pradesh, 1998-99

Provider	Urban	Rural	Total
Public medical sector	6.7	4.4	4.9
Government doctor	6.3	3.1	3.8
Public health nurse	0.6	0.4	0.4
ANM/LHV	0.1	1.0	0.8
Other public medical sector	0.1	0.0	0.0
Private medical sector	27.1	19.3	21.0
Private doctor	23.7	17.1	18.5
Private nurse	2.6	1.3	1.6
Compounder/pharmacist	0.4	0.3	0.3
Vaidya/hakim/homeopath	2.7	1.4	1.7
Dai (TBA)	0.0	0.3	0.2
Traditional healer	0.6	0.4	0.4
Other	0.3	0.4	0.4
None	67.7	76.8	74.9
Number of women	751	2,698	3,449

Note: Table includes currently married women who report abnormal vaginal discharge, symptoms of a urinary tract infection, painful intercourse, or bleeding after intercourse and women who are ever married but not currently married who report abnormal vaginal discharge or symptoms of a urinary tract infection. Percentages add to more than 100.0 because women could report treatment from multiple providers.

ANM: Auxiliary nurse midwife; LHV: Lady health visitor; TBA: Traditional birth attendant

CHAPTER 9

QUALITY OF CARE

The historic International Conference on Population and Development in Cairo in 1994 brought about a paradigm shift in population-related policies. The conference helped focus the attention of governments on making programmes more client-oriented with an emphasis on the quality of services and care. In line with the conference recommendations, the Government of India acknowledged the need to abandon the use of targets for monitoring its family welfare programme. It recognized that the top-down target approach does not reflect user needs and preferences and de-emphasizes the quality of care provided (Ministry of Health and Family Welfare, 1998b). Recent research on the different aspects of service delivery, especially at the grass-roots level, including programme coverage, client-provider interactions, and informed choice, also endorses the need to take a different approach to meeting the reproductive and health needs of the Indian population (Koenig and Khan, 1999). This research suggests that inadequate attention to the quality of care has contributed to the inability of the government's family welfare programme to meet its goals.

In 1996, the existing family welfare programme was transformed into the new Reproductive and Child Health (RCH) Programme. This new programme integrates all family welfare and women and child health services with the explicit objective of providing beneficiaries with 'need based, client centred, demand driven, high quality integrated RCH services' (Ministry of Health and Family Welfare, 1998b:6). The strategy for the RCH Programme shifts the policy emphasis from achieving demographic targets to meeting the reproductive needs of individual clients (Ministry of Health and Family Welfare, 1996).

NFHS-2 included several questions on the quality of care of health and family welfare services provided in the public sector and the private sector. In this chapter, sources of health care for households are described first. The chapter then examines different aspects of home visits by health and family planning workers and visits by respondents to health facilities, including frequency of visits, source of care, and quality of care. Finally, information is presented on the quality of care with respect to family planning services.

9.1 Source of Health Care for Households

To examine the role of different health providers in meeting the health-care needs of households, the NFHS-2 Household Questionnaire included the question, 'When members of your household get sick, where do they generally go for treatment?' Table 9.1 shows the main source of health care according to residence and the standard of living index. A large majority of households (88 percent) normally use the private medical sector when a household member gets sick; only 11 percent use the public medical sector. Overall, four types of health providers are generally used as a source of treatment by 94 percent of households: private doctors (70 percent), private hospitals or clinics (15 percent), government/municipal hospitals (5 percent), and CHCs/rural hospitals/PHCs (5 percent). Private doctors are the most popular source of health care for households in both urban and rural areas, but private doctors are used by a higher proportion of rural households (71 percent) than urban households (63 percent). Hospitals—private

Table 9.1 Source of health care						
Percent distribution of households by main source of health care when household members get sick, according to residence and the standard of living index, Uttar Pradesh, 1998–99						
Source	Residence		Standard of living index			Total
	Urban	Rural	Low	Medium	High	
Public medical sector	15.3	10.4	9.1	11.9	14.9	11.4
Government/municipal hospital	10.9	3.7	3.7	5.0	8.7	5.2
Government dispensary	0.7	0.3	0.1	0.5	0.7	0.4
UHC/UHP/UFWC	2.7	0.3	0.2	0.9	1.6	0.8
CHC/rural hospital/PHC	0.9	5.8	4.8	5.2	3.4	4.7
Sub-centre	0.0	0.3	0.2	0.2	0.3	0.2
Other public medical sector	0.1	0.0	0.0	0.0	0.2	0.0
NGO or trust hospital/clinic	0.3	0.1	0.2	0.1	0.4	0.2
Private medical sector	83.8	89.0	90.2	87.6	83.8	87.9
Private hospital/clinic	18.1	14.2	13.0	14.8	20.1	15.0
Private doctor	62.6	71.3	73.2	69.7	60.8	69.5
Private mobile clinic	0.3	0.3	0.2	0.2	0.4	0.3
Private paramedic	0.8	1.3	1.4	1.1	0.7	1.1
Vaidya/hakim/homeopath	1.5	0.6	0.9	0.5	1.5	0.8
Traditional healer	0.0	1.1	1.1	1.0	0.1	0.8
Pharmacy/drugstore	0.5	0.1	0.2	0.2	0.2	0.2
Other private medical sector	0.1	0.2	0.2	0.1	0.1	0.1
Other source	0.6	0.5	0.5	0.4	0.9	0.5
Shop	0.3	0.1	0.2	0.1	0.2	0.1
Home treatment	0.3	0.4	0.4	0.2	0.7	0.3
Missing	0.0	0.1	0.0	0.1	0.0	0.0
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of households	1,850	6,832	2,920	4,260	1,317	8,682

Note: Total includes 185 households with missing information on the standard of living index, which are not shown separately.
UHC: Urban health centre; UHP: Urban health post; UFWC: Urban family welfare centre; CHC: Community health centre; PHC: Primary Health Centre; NGO: Nongovernmental organization

hospitals/clinics and government/municipal hospitals—are the usual source of treatment for 29 percent of urban households but only 18 percent of rural households.

The type of health care services used is influenced by the standard of living of the household, although the private sector is the dominant health care source for households at all standards of living. As the standard of living increases, the use of public-sector medical services increases and the use of private-sector medical services decreases. Nine percent of households with a low standard of living generally use the public medical sector for treatment, compared with 15 percent of households with a high standard of living. The use of private doctors declines with the standard of living, from 73 percent of households with a low standard of living to 61 percent of households with a high standard of living. These results point to the disproportionate importance of the private medical sector and the marginal role of the public medical sector in providing health care to rich as well as poor households and to urban as well as rural households. It is notable that use of the public medical sector for health care is much lower in Uttar Pradesh (11 percent) than in India as a whole (29 percent), especially in poor households (9 percent in Uttar Pradesh, compared with 34 percent in the whole country).

9.2 Contacts at Home with Health and Family Planning Workers

Under the family welfare programme, health or family planning workers are required to regularly visit each household in their assigned area. During these contacts the female health or family planning worker is supposed to monitor various aspects of the health of women and children, provide information related to health and family planning, counsel and motivate women to adopt appropriate health and family planning practices, and deliver other selected services. These contacts are also important for enhancing the credibility of services and establishing necessary rapport with the clients. Only 3 percent of women in Uttar Pradesh, however, report that they received a home visit from a health or family planning worker during the 12 months preceding the survey (Table 9.2), compared with 13 percent of women in India as a whole. Given the small proportion of women reporting a home visit, the variation in home visits by background characteristics is perforce limited.

Women who reported a home visit from a health or family planning worker during the 12 months preceding the survey were asked the frequency of visits during the past 12 months and the number of months since the most recent visit. These women, on average, received less than two home visits during the year, with the median duration since the most recent visit of 2.4 months. The median number of home visits and the duration since the most recent visit did not vary substantially according to any of the background characteristics measured.

9.3 Quality of Home Visits

The quality of the care provided during home visits can be assessed in terms of client satisfaction with the services received during the visit. Each woman who reported that a health or family planning worker had visited her during the 12 months preceding the survey was asked about the quality of the care received. Questions were asked with reference only to the most recent home visit. The questions covered how the worker talked to the woman during the visit and whether the worker spent enough time with her. Table 9.3 provides this information by the type of services received and whether the worker was from the private or public sector.

A large majority of the recent home visits were provided by public-sector health or family planning workers (77 percent). Among women who received services at home, 84 percent received services related to health and 22 percent received family planning services. Private-sector health workers who visited women at home were much less likely to provide family planning services than public-sector workers. Only 8 percent of women who received a home visit from a private-sector health worker received family planning services, compared with 27 percent of women who were visited by a public-sector worker.

Eighty-six percent of women who were visited at home by a health or family planning worker were satisfied with the amount of time the worker spent with them. The proportion satisfied was somewhat higher among women who were visited by a private-sector worker (95 percent) than a public-sector worker (83 percent). By contrast, satisfaction with the workers' behaviour was relatively low. Only 59 percent of women reported that the worker talked to them nicely. However, women visited by a public-sector worker were much more likely (63 percent) to say that the worker spoke to them nicely than women visited by a private-sector worker (45 percent). The proportion of women who said that the worker did not speak nicely to them, though small, is also slightly higher for women who were visited by a public-sector worker (6 percent) than for women who were visited by a private-sector worker (4 percent). Women who

Table 9.2. Home visits by a health or family planning worker

Percentage of ever-married women who had at least one home visit by a health or family planning worker in the 12 months preceding the survey and, among women who had home visits, median number of visits and median number of months since the most recent visit by selected background characteristics, Uttar Pradesh, 1998-99

Background characteristic	Percentage with at least one visit	Number of women	Median number of visits ¹	Median months since the most recent visit ¹	Number of women with home visit
Age					
15-24	3.6	2,942	1.7	2.0	106
25-34	4.0	3,277	1.9	2.5	130
35-49	1.9	3,073	1.4	3.1	58
Residence					
Urban	1.7	1,860	(1.7)	(3.3)	31
Rural	3.5	7,432	1.7	2.3	263
Region					
Hill	2.4	420	*	*	10
Western	2.9	3,320	1.9	2.5	96
Central	3.8	1,620	1.6	2.1	61
Eastern	3.1	3,505	1.7	2.6	108
Bundelkhand	4.5	427	(1.3)	(2.8)	19
Education					
Illiterate	3.0	6,523	1.7	2.5	197
Literate, < middle school complete	4.2	1,101	(1.4)	(2.5)	47
Middle school complete	4.1	635	(2.5)	(1.9)	26
High school complete and above	2.4	1,032	(1.8)	(2.1)	25
Religion					
Hindu	3.2	7,715	1.8	2.4	246
Muslim	3.2	1,483	(1.4)	(2.4)	47
Sikh	0.0	55	NC	NC	0
Caste/tribe					
Scheduled caste	3.1	1,805	1.6	2.6	56
Scheduled tribe	2.3	191	*	*	4
Other backward class	2.8	2,591	1.8	2.4	73
Other	3.4	4,276	1.7	2.3	144
Standard of living index					
Low	3.5	2,598	1.6	2.5	90
Medium	3.1	4,887	1.7	2.3	151
High	3.2	1,612	2.0	2.3	51
Number of children ever born					
0	1.4	1,121	*	*	16
1	4.2	1,097	(1.7)	(2.3)	46
2	3.2	1,333	(1.6)	(2.4)	43
3	3.5	1,423	1.8	2.5	50
4	3.5	1,216	(1.6)	(2.2)	43
5+	3.2	3,102	1.8	2.8	98
Family planning status					
Sterilized	2.2	1,391	(2.0)	(2.2)	31
Using method other than sterilization	4.4	1,111	(1.9)	(2.6)	49
Nonuser	3.2	6,790	1.6	2.4	214
Total	3.2	9,292	1.7	2.4	295

Note: Total includes women belonging to other religions and women with missing information on religion, caste/tribe, and the standard of living index, who are not shown separately.

NC: Not calculated (no cases)

() Based on 25-49 unweighted cases

*Median not shown; based on fewer than 25 unweighted cases

¹For women who received at least one visit

Table 9.3 Quality of home visits

Quality of care indicators for the most recent home visit by a health or family planning worker during the 12 months preceding the survey, according to type of health worker and type of services received during the visit, Uttar Pradesh, 1998–99

Quality indicator	Types of health worker and type of services received								
	Public sector worker			Private sector/NGO/trust worker			Total		
	Family planning	Health	Family planning or health	Family planning	Health	Family planning or health	Family planning	Health	Family planning or health
Percentage who said worker spent enough time with them	85.2	82.7	83.3	*	96.4	94.5	84.3	86.3	85.8
Percentage who said worker talked to them:									
Nicely	72.4	58.9	62.7	*	46.3	45.4	68.6	55.6	58.7
Somewhat nicely	21.3	33.6	30.7	*	50.1	49.1	23.5	38.0	34.9
Not nicely	6.3	6.8	6.1	*	1.7	3.7	7.9	5.5	5.6
Missing	0.0	0.6	0.5	*	1.8	1.8	0.0	0.9	0.8
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women visited at home	57	171	215	5	62	64	62	234	279

Note: Cases where the source of service was neither the public sector nor the private sector/NGO/trust and cases where neither family planning nor health services were received are excluded from the table. The number of women receiving family planning and health services add to more than the number receiving any visits because some visits were for both family planning and health.
 NGO: Nongovernmental organization
 *Percentage not shown; based on fewer than 25 unweighted cases

received family planning services gave workers a better assessment than did women who received health services.

9.4 Matters Discussed During Home Visits or Visits to Health Facilities

Women who were visited at home by a health or family planning worker, as well as those who visited a health facility during the 12 months preceding the survey, were asked about the different topics discussed with the workers during any of these visits. Table 9.4 shows the percentage of women who discussed specific topics during home visits or visits to a health facility during the past 12 months.

The topic discussed most often during home visits by health or family planning workers was immunization, which was mentioned by 35 percent of women. Other topics commonly discussed (each mentioned by 22–25 percent of women) were family planning, childcare, and treatment of health problems. Discussions about family planning were mentioned more often by current users of contraception (43 percent) than by current nonusers (16 percent) or pregnant women and women with a child less than three years of age (24 percent). As expected, pregnant women and women who had a child less than three years old were much more likely than other women to report discussions of immunization, antenatal care, and delivery care.

The topics most frequently discussed during visits to health facilities were treatment of health problems (55 percent) and childcare (48 percent), followed by immunization (13 percent). Only 2 percent of women reported that family planning was discussed during any of their visits to a health facility in the past year. Even among currently pregnant women and women with

Table 9.4 Matters discussed during contacts with a health or family planning worker

Among ever-married women who had at least one contact with a health or family planning worker in the 12 months preceding the survey, the percentage who discussed specific topics with the health or family planning worker, Uttar Pradesh, 1998–99

Topic discussed	Pregnant women or women with children under age 3	Other women		Total
		Current contraceptive users	Current nonusers	
During home visit				
Family planning	24.2	(42.8)	16.0	25.4
Breastfeeding	0.0	(2.7)	2.0	0.8
Supplementary feeding	0.3	(1.0)	2.0	0.7
Immunization	45.5	(8.3)	18.9	35.3
Nutrition	3.5	(1.1)	2.0	2.9
Disease prevention	0.0	(5.0)	8.1	2.2
Treatment of health problem	12.5	(33.7)	45.2	21.5
Antenatal care	17.4	(3.9)	6.8	13.5
Delivery care	12.5	(2.5)	2.0	9.1
Postpartum care	3.9	(0.0)	0.9	2.8
Childcare	19.6	(25.8)	36.6	23.6
Sanitation/cleanliness	0.0	(2.7)	6.1	1.5
Oral rehydration	0.0	(0.0)	0.9	0.2
Other	1.4	(1.2)	4.1	1.9
Number of women	198	42	54	295
During visit to health facility				
Family planning	3.2	3.2	0.3	2.4
Breastfeeding	0.2	0.0	0.0	0.1
Supplementary feeding	0.1	0.0	0.1	0.1
Immunization	21.3	3.2	2.5	12.5
Nutrition	2.6	0.4	0.4	1.5
Disease prevention	0.6	1.5	0.7	0.8
Treatment of health problem	37.4	70.3	75.8	54.7
Antenatal care	13.7	0.6	1.2	7.6
Delivery care	4.9	0.6	1.1	3.0
Postpartum care	1.1	0.2	0.5	0.7
Childcare	55.1	46.9	35.0	47.8
Sanitation/cleanliness	0.2	0.1	0.5	0.2
Oral rehydration	0.3	0.3	0.2	0.3
Other	0.3	0.5	0.6	0.4
Number of women	2,236	839	1,214	4,289
Note: Percentages add to more than 100.0 because of multiple responses. () Based on 25–49 unweighted cases				

children under age three (many of whom are potentially in need of family planning), only 3 percent discussed family planning. Less than one percent of current nonusers of contraception mentioned discussing family planning. As expected, pregnant women and women with a child less than three years old were most likely to have discussions about childcare and immunization. Although these women were also most likely to mention antenatal and delivery care, the proportions discussing each of these topics is very low—14 percent and 5 percent, respectively. Moreover, only negligible proportions of these women discussed such topics as postpartum care, oral rehydration, and breastfeeding.

These findings suggest that delivery of health and family planning services in Uttar Pradesh is not well integrated. Indeed, in the process of providing health and childcare services, health workers are missing the opportunity to discuss family planning with even the women who

may be most in need of such services. It is also evident that the provision of advice and information on safe motherhood practices to pregnant mothers and mothers with young children is very limited. Finally, many important health-related topics (feeding practices, nutrition, disease prevention, sanitation, and oral rehydration) are rarely discussed during either home visits or visits to a health facility.

9.5 Quality of Services Received at the Most Recent Visit to a Health Facility

NFHS-2 asked women who visited a health facility in the 12 months preceding the survey a number of questions to ascertain their perception of the quality of care they received during their most recent visit. Specific dimensions covered were whether women received the service they went for, the waiting time before receiving the service (or before finding out that the service was not available), whether the staff at the health facility spent enough time with them, whether the staff talked nicely to them, and whether the staff respected their privacy, if they needed privacy. Women were also asked to assess the cleanliness of the facility.

Almost all respondents (99 percent) said that they received the services for which they visited the facility (Table 9.5). The median waiting time to receive services was 25 minutes (29 minutes at public facilities and 19 minutes at private facilities). For public facilities, there was no difference in the median by urban-rural residence. For private facilities, however, the median waiting time was 25 minutes for rural women, compared with 15 minutes for urban women. Satisfaction with the amount of time the staff spent with the woman was generally high, but slightly lower in the public health sector (93 percent) than in the private health sector (97 percent).

Users also rated the private health sector more positively than the public health sector on all of the other indicators of quality. Fifty-eight percent of women who received services in a private-sector facility said that the staff talked to them nicely, compared with 47 percent of women who received services in a public-sector facility. The most dissatisfaction on this indicator was expressed by rural women who visited public-sector facilities, but only 4 percent of these women said that the staff did not talk to them nicely.

Among women who said they needed privacy during their visit, 70 percent were satisfied that the staff respected their need for privacy. This percentage was higher for private-sector facilities (72 percent) than for public-sector facilities (64 percent). It was also higher for women living in urban areas (75 percent) than for women living in rural areas (68 percent). The direction of urban-rural differences, however, varies by the type of facility, and the differential is much larger in private facilities than in public facilities. Specifically, 81 percent of urban women who visited private-sector health facilities said that the staff respected their need for privacy, compared with 69 percent of rural women who visited private-sector health facilities. By contrast, a higher proportion of rural women (66 percent) than urban women (59 percent) visiting public-sector facilities said that the staff respected their need for privacy.

Only half of the women rated the health facility they visited most recently as very clean. Both women living in urban areas and women living in rural areas rated private-sector facilities as cleaner than public-sector facilities. Overall, 55 percent of women who visited a private-sector facility said that the facility was very clean, compared with 41 percent of women who visited a public-sector facility. These data indicate that private-sector facilities on average appear to

Table 9.5 Quality of care during the most recent visit to a health facility

Among ever-married women, indicators of quality of care during the most recent visit to a health facility in the 12 months preceding the survey by sector of most recent visit and residence, Uttar Pradesh, 1998–99

Quality indicator	Public sector			Private sector/NGO/trust			Total		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Percentage who received the service they went for	98.0	97.5	97.6	99.8	99.6	99.7	99.3	99.0	99.1
Median waiting time (minutes)	29.5	29.3	29.3	14.9	24.8	19.7	19.4	29.1	24.9
Percentage who said the staff spent enough time with them	94.5	92.5	93.0	98.0	96.1	96.5	97.0	95.1	95.5
Percentage who said the staff talked to them:									
Nicely	56.5	43.2	46.5	70.9	53.4	57.6	66.7	50.6	54.6
Somewhat nicely	41.2	52.7	49.8	27.9	45.2	41.1	31.8	47.3	43.5
Not nicely	2.3	4.1	3.6	0.8	1.1	1.1	1.2	1.9	1.8
Missing	0.0	0.1	0.1	0.4	0.2	0.2	0.3	0.2	0.2
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Percentage who said the staff respected their need for privacy ¹	59.2	66.2	64.1	81.2	68.7	72.3	74.6	67.9	69.9
Percentage who rated facility as:									
Very clean	50.3	37.9	41.1	72.3	49.8	55.2	66.0	46.6	51.3
Somewhat clean	47.5	59.9	56.8	26.8	48.3	43.2	32.8	51.5	47.0
Not clean	1.9	1.5	1.6	0.5	1.2	1.0	0.9	1.3	1.2
Missing	0.4	0.6	0.6	0.3	0.7	0.6	0.3	0.6	0.6
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	300	886	1,186	743	2,347	3,090	1,043	3,233	4,276
Number of women who said they needed privacy	174	402	576	399	978	1,377	573	1,380	1,953

Note: Cases where the source of service was neither the public sector nor the private sector/NGO/trust are excluded from the table.
 NGO: Nongovernmental organization
¹Among women who said they needed privacy

provide better quality services than public-sector facilities and that women living in urban areas receive better quality services than women living in rural areas.

9.6 Family Planning Information and Advice Received

To gain a better understanding of the information provided to women about different contraceptive methods, women were asked to recollect all the specific methods that had ever been discussed during any of the contacts they had ever had with a health or family planning worker. Overall, 82 percent of women said that they had either no contact or no discussion about any method of family planning with health or family planning personnel (Table 9.6). This proportion was much higher in rural areas (85 percent) than in urban areas (68 percent). Among women who discussed contraception, the most frequently discussed method was female

Table 9.6 Family planning discussions with a health or family planning worker			
Percentage of ever-married women who reported ever discussing specific contraceptive methods with health or family planning workers by residence, Uttar Pradesh, 1998–99			
Method	Urban	Rural	Total
Pill	7.1	4.2	4.8
Condom	9.2	1.9	3.3
IUD	8.4	1.9	3.2
Female sterilization	16.1	10.5	11.7
Male sterilization	1.5	0.6	0.8
Rhythm/safe period	1.9	0.5	0.8
Withdrawal	1.4	0.2	0.4
Other method	0.5	0.2	0.3
No method/no contact	68.3	84.8	81.5
Number of women	1,860	7,432	9,292

Note: Percentages add to more than 100.0 because more than one method may have been discussed.

sterilization. Discussions of the pill, IUD, and condom were each mentioned by less than 5 percent of women. Discussions of traditional methods (rhythm or withdrawal) were rare. Urban women reported discussions of each method more often than rural women, with particularly large differentials for discussions of condoms and IUDs.

9.7 Availability of Pills and Condoms

To explore difficulties faced in the procurement of condoms and pills, NFHS-2 asked current users of these methods if they had been able to get their supply whenever needed. The results are presented in Table 9.7. Only 1 percent of condom users report ever having a problem getting condoms, and only 2 percent of pill users report ever having a problem getting pills. Although the regular supply of pills and condoms does not appear to be a significant problem, 3 percent of rural pill users mentioned having had a problem obtaining pills, but no urban pill users had a problem.

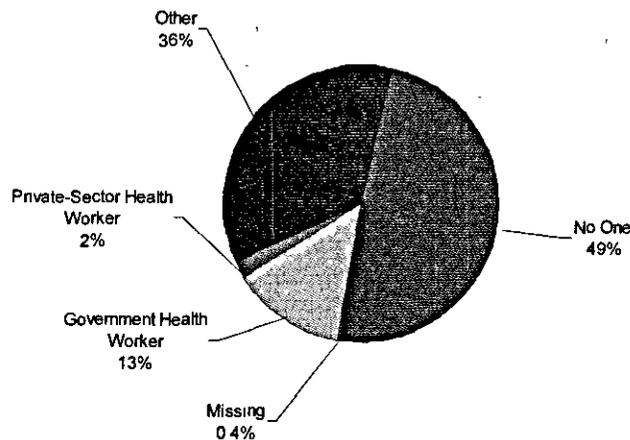
9.8 Person Motivating Users of a Modern Contraceptive Method

To help understand the dynamics of the adoption of contraceptive methods and the roles that different persons play, NFHS-2 asked current users of modern methods who mainly motivated them to use their current method. In Uttar Pradesh, almost half (49 percent) of the current users of a modern method said that they were not motivated by anyone; rather they adopted the method on their own (Table 9.8 and Figure 9.1). Only 13 percent said that a government health worker was the person who mainly motivated them and only 2 percent said they were motivated by a private-sector health worker. The remaining 36 percent reported that the motivator was someone other than a government or private-sector health worker. IUD users are most likely to be self motivated (64 percent), and more than half of users of female and male sterilization reported that no one motivated them to adopt sterilization. Pill users are most likely to have been motivated by a health worker, and condom users are most likely to have been motivated by someone other than a government or private-sector health worker. Urban users of most modern methods were more likely than rural users to say that they were self motivated. As expected, the role of government workers was more important for motivating women in rural areas than in urban areas, especially for adoption of condoms and pills. It is noteworthy that among the acceptors of

Table 9.7 Availability of regular supply of condoms/pills		
Percentage of current condom or pill users who ever had a problem getting a supply of condoms/pills by residence, Uttar Pradesh, 1998-99		
Method/residence	Percentage who had a problem getting supply	Number of users
Condom		
Urban	0.9	224
Rural	1.5	147
Total	1.1	371
Pill		
Urban	(0.0)	41
Rural	3.4	69
Total	2.1	110
() Based on 25-49 unweighted cases		

Table 9.8 Motivation to use family planning							
Percent distribution of current users of modern contraceptive methods by type of person who motivated them to use the method, according to current method and residence, Uttar Pradesh, 1998-99							
Current method	Type of person who motivated the user to use current method					Total percent	Number of users
	Government health worker	Private-sector health worker	Other	No one	Missing		
URBAN							
Pill	(12.4)	(8.0)	(35.3)	(44.3)	(0.0)	100.0	41
Condom	4.6	2.2	58.3	34.6	0.2	100.0	224
IUD	(7.5)	(3.4)	(29.1)	(60.0)	(0.0)	100.0	47
Female sterilization	11.6	1.8	25.7	60.5	0.4	100.0	320
Male sterilization	*	*	*	*	*	100.0	18
All modern methods	8.8	2.6	37.6	50.7	0.3	100.0	650
RURAL							
Pill	20.8	6.8	40.3	30.5	1.6	100.0	69
Condom	14.5	2.2	67.0	16.3	0.0	100.0	147
IUD	(8.1)	(0.0)	(23.2)	(68.7)	(0.0)	100.0	40
Female sterilization	15.9	1.1	30.3	52.2	0.4	100.0	1,010
Male sterilization	11.6	0.0	33.5	54.9	0.0	100.0	43
All modern methods	15.6	1.5	34.9	47.6	0.4	100.0	1,309
TOTAL							
Pill	17.6	7.2	38.4	35.7	1.0	100.0	110
Condom	8.5	2.2	61.8	27.3	0.1	100.0	371
IUD	7.8	1.8	26.4	64.0	0.0	100.0	87
Female sterilization	14.9	1.3	29.2	54.2	0.4	100.0	1,330
Male sterilization	10.2	2.0	29.4	58.5	0.0	100.0	61
All modern methods	13.4	1.8	35.8	48.7	0.4	100.0	1,959
() Based on 25-49 unweighted cases							
*Percentage not shown; based on fewer than 25 unweighted cases							

Figure 9.1
Motivator for Current Users of Modern Contraceptive Methods



Note: Percents add to more than 100.0 due to rounding

NFHS-2, Uttar Pradesh, 1998-99

female sterilization, 61 percent of urban users and 52 percent of rural users said that it was their own decision to use the method, and no one else had motivated them.

9.9 Quality of Care of Family Planning Services

NFHS-2 investigated several other aspects of quality of care. Each current user of a modern family planning method was asked whether the person who motivated her to use her current method informed her about alternative methods of family planning; whether she was told by a health or family planning worker about the possible side effects of her current method at the time she accepted the method; and whether she received any follow-up care after accepting the method either at home or in a health facility. Tables 9.9 and 9.10 present the results of this investigation.

An important indicator of the quality of family planning services is whether women are informed about a variety of available methods and are allowed to make an informed choice about the method most suited to their family planning and reproductive health needs. Women who reported that someone had motivated them to use family planning were asked whether the motivator told them about alternative methods that they could use. Overall, only 14 percent of users of modern contraceptive methods who were motivated by someone were informed about at least one alternative method (Table 9.9). Even among women who were motivated by a government health worker, only 15 percent were told about any other method. The overall situation was slightly better in urban areas (where motivators provided 16 percent of users with information about other methods) than in rural areas (where only 12 percent received such information). However, even in urban areas, five out of six users of modern methods who were motivated by someone to use their method were not told about any other methods of contraception.

Table 9.9 Discussions about alternative methods of family planning				
Percentage of current users of modern contraceptive methods who were told about at least one other method by the person who motivated them to use the current method, according to the sector of the motivator and residence, Uttar Pradesh, 1998-99				
Sector of motivator	Urban	Rural	Total	Number of users
Public health sector	22.2	13.1	15.1	262
Private health sector	*	*	(31.1)	36
Other	13.2	11.3	12.0	701
Total	16.3	12.2	13.5	999

Note: Table excludes women who said that no one motivated them to use their current method.
 () Based on 25-49 unweighted cases
 *Percentage not shown; based on fewer than 25 unweighted cases

Table 9.10 Information on side effects and follow-up for current method			
Percentage of current users of modern contraceptive methods who were told about side effects or other problems of the current method by a health or family planning worker at the time of accepting the method and percentage who received follow-up services after accepting the method by current method and residence, Uttar Pradesh, 1998-99			
Information/follow-up	Urban	Rural	Total
Told about side effects			
Sterilization	14.7	15.8	15.5
Other modern method	10.0	12.9	11.3
Any modern method	12.4	15.2	14.3
Received follow-up			
Sterilization	62.1	51.8	54.3
Other modern method	38.6	44.8	41.4
Any modern method	50.8	50.4	50.5

Another important element of informed contraceptive choice is being fully informed about any side effects and any other problems associated with the method. Table 9.10 shows the percentage of current users of modern contraception who were told about side effects or other problems by a health or family planning worker at the time they accepted their current method. Women were also asked if they received follow-up services after they accepted the method. In Uttar Pradesh, only 14 percent of users of any modern method were informed about possible side effects or problems associated with their current method at the time of adopting the method. Even in the case of sterilization, only 16 percent of women were told about possible side effects of the method. These proportions are similar in urban and rural areas. From these results, it is apparent that health or family planning workers in Uttar Pradesh are not providing couples with the information they need to make an informed choice about contraceptive methods.

The situation is much better with respect to follow-up services. Overall, 51 percent of users of modern contraceptives received follow-up services (54 percent of those who were sterilized and 41 percent of those using other modern methods). Among sterilization users, 52 percent in rural areas and 62 percent in urban areas received follow-up services. Even so, these results indicate that only about half of the users of sterilization and only two in every five users of other modern methods received follow-up services from any source.

REFERENCES

- Agarwal, K.N., D.K. Agarwal, D.G. Benakappa, S.M. Gupta, P.C. Khanduja, S.P. Khatua, K. Ramachandran, P.M. Udani, and C. Gopalan. 1991. *Growth Performance of Affluent Indian Children (Under-fives): Growth Standard for Indian Children*. New Delhi: Nutrition Foundation of India.
- Anandaiah, Ravilla and Minja Kim Choe. 2000. Are the WHO guidelines on breastfeeding appropriate for India? *National Family Health Survey Subject Reports No. 16*. Mumbai: International Institute for Population Sciences; and Honolulu: East-West Center.
- Arnold, Fred. 1996. *Son preference in South Asia*. Paper presented at the Seminar on Comparative Perspectives on Fertility Transition in South Asia, International Union for the Scientific Study of Population, Rawalpindi, 17–20 December.
- Arnold, Fred, Minja Kim Choe, and T.K. Roy. 1998. Son preference, the family-building process and child mortality in India. *Population Studies* 52(3): 301–315.
- Bang, R.A. and A. Bang. 1991. Why women hide them: Rural women's viewpoints on reproductive tract infections. *Manushi* 69:27–30.
- Bang, R.A., A.T. Bang, M. Baitule, Y. Chaudhury, S. Sarmukaddam, and O. Tale. 1989. High prevalence of gynaecological diseases in rural Indian women. *Lancet* 1(8629): 85–88.
- Bardhan, Kalpana. 1985. Women's work, welfare and status: Forces of tradition and change in India. *Economic and Political Weekly* 20(51): 2261–2267.
- Basu, Alaka Malwade. 1989. Is discrimination in food really necessary for explaining sex differentials in childhood mortality? *Population Studies* 43(2): 193–210.
- Basu, Alaka Malwade. 1993. Cultural influences on the timing of first births in India: Large differences that add up to little difference. *Population Studies* 47(1): 85–95.
- Bhatia, J.C. and John Cleland. 1995. On self-reported symptoms of gynecological morbidity and their treatment in South India. *Studies in Family Planning* 26(4): 203–216.
- Bloem, Martin W., Saskia de Pee, and Ian Darnton-Hill. 1997. Vitamin A Deficiency in India, Bangladesh and Nepal. In Stuart Gillespie (ed.), *Malnutrition in South Asia: A Regional Profile*. Kathmandu: Regional Office for South Asia, UNICEF.
- Central Bureau of Health Intelligence (CBHI). 1991. *Health Information of India - 1991*. New Delhi: CBHI, Directorate General of Health Services, Ministry of Health and Family Welfare.
- Das Gupta, Monica. 1987. Selective discrimination against female children in rural Punjab, India. *Population and Development Review* 13(1): 77–100.

- Desai, Sonalde and Devaki Jain. 1994. Maternal employment and changes in family dynamics: The social context of women's work in rural South India. *Population and Development Review* 20(1): 115-136.
- Dibley, M.J., J.B. Goldsby, N.W. Staehling, and F.L. Trowbridge. 1987a. Development of normalized curves for the international growth reference: Historical and technical considerations. *American Journal of Clinical Nutrition* 46(5): 736-748.
- Dibley, M.J., N.W. Staehling, P. Neiburg, and F.L. Trowbridge. 1987b. Interpretation of z-score anthropometric indicators derived from the international growth reference. *American Journal of Clinical Nutrition* 46(5): 749-762.
- Dixon-Mueller, Ruth. 1993. *Population Policies and Women's Rights: Transforming Reproductive Choice*. Westport, Connecticut: Praeger.
- Dyson, Tim and Mick Moore. 1983. On kinship structure, female autonomy and demographic behavior in India. *Population and Development Review* 9(1): 35-60.
- EVALUATION Project. 1997. *Uttar Pradesh: Male Reproductive Health Survey, 1995-1996*. Chapel Hill, North Carolina: The EVALUATION Project, Carolina Population Center, University of North Carolina.
- Foster, Stanley. 1984. Immunizable and Respiratory Diseases and Child Mortality. In W. Henry Mosley and Lincoln C. Chen (eds.), *Child Survival: Strategies for Research*. *Population and Development Review* 10 (Suppl.): 119-140.
- Germain, Adrienne, King K. Holmes, Peter Piot, and Judith N. Wasserheit. 1992. *Reproductive Tract Infections: Global Impact and Priorities for Women's Reproductive Health*. New York: Plenum Press.
- Ghosh, Shanti. 1987. The female child in India: A struggle for survival. *Bulletin of the Nutrition Foundation of India* 8(4).
- Gopalan, C., B.V. Rama Sastri, and S.C. Balasubramanian. 1996. *Nutritive Value of Indian Foods*. Hyderabad: National Institute of Nutrition.
- Govindasamy, Pavalavalli, M. Kathryn Stewart, Shea O. Rutstein, J. Ties Boerma, and A. Elisabeth Sommerfelt. 1993. High-risk births and maternity care. *DHS Comparative Studies No. 8*. Columbia, Maryland: Macro International.
- Harrison, Kelsey A. 1990. The political challenge of maternal mortality in the Third World. *Maternal Mortality and Morbidity - A Call to Women for Action*. Special Issue, May 28, 1990.
- Hegde, Radha S. 1996. Narratives of silence: Rethinking gender, agency and power from the communication experiences of battered women in south India. *Communication Studies* 47:303-317.

Heise, Lori, Mary Ellsberg, and Megan Gottemoeller. 1998. Ending violence among women. *Population Reports, Series L, No. 11*. Baltimore: Population Information Program, Johns Hopkins University School of Public Health.

Heise, Lori, Jacqueline Pitanguy, and Adrienne Germain. 1994. *Violence Against Women: The Hidden Health Burden*. Washington D.C.: The World Bank.

IDD & Nutrition Cell. 1998. *Policy Guidelines on National Iodine Deficiency Disorders Control Programme*. New Delhi: Directorate General of Health Services, Ministry of Health and Family Welfare.

International Clinical Epidemiology Network (INCLEN). 2000. WorldSAFE and IndiaSAFE: Studying the prevalence of family violence. *INCLEN Monograph Series on Critical International Health Issues, Monograph 9*. Philadelphia: INCLEN.

International Institute for Population Sciences (IIPS). 1995. *National Family Health Survey (MCH and Family Planning), India 1992-93*. Bombay: IIPS.

International Institute for Population Sciences (IIPS). 2000. *Reproductive and Child Health Project: Rapid Household Survey-Phase I, 1998*. Mumbai: IIPS.

International Institute for Population Sciences (IIPS) and ORC Macro. 2000. *National Family Health Survey (NFHS-2), 1998-99: India*. Mumbai: IIPS.

Jaisingh, I. 1995. Violence Against Women: The Indian Perspective. In J. Peters and A. Wolper (eds.), *Women's Rights, Human Rights*. New York: Routledge.

Jeffery, Roger and Alaka M. Basu. 1996. *Girls' Schooling, Women's Autonomy and Fertility Change in South Asia*. New Delhi: Sage Publications.

Jejeebhoy, Shireen J. 1998. Associations between wife-beating and fetal and infant death: Impressions from a survey in rural India. *Studies in Family Planning* 29(3): 300-308.

Jejeebhoy, Shireen J. and S. Rama Rao. 1992. *Unsafe motherhood: A review of reproductive health in India*. Paper presented at the Workshop on Health and Development in India, sponsored by the National Council of Applied Economic Research and Harvard University, Center for Population and Development Studies, New Delhi, 2-4 January.

Kanitkar, Tara. 1979. Development of Maternal and Child Health Services in India. In K. Srinivasan, P.C. Saxena, and Tara Kanitkar (eds.), *Child in India*. Bombay: Himalaya Publishing House.

Kapil, Umesh, R.S. Raghuvanshi, Kumud Khanna, B.P. Mathur, T.D. Sharma, Beena, S.S. Swami, and S. Seshadri. 1999. Utility of spot testing kit in the assessment of iodine content of salt - A multicentric study. *Indian Pediatrics* 37:182-186.

Kishor, Sunita. 1995. Gender Differentials in Child Mortality: A Review of Evidence. In Monica Das Gupta, Lincoln C. Chen, and T.N. Krishnan (eds.), *Women's Health in India: Risk and Vulnerability*. Bombay: Oxford University Press.

- Koenig, Michael A. and Gillian H.C. Foo. 1992. Patriarchy, women's status and reproductive behaviour in rural North India. *Demography India* 21(2):145-166.
- Koenig, Michael A. and M.E. Khan (eds.). 1999. *Improving Quality of Care in India's Family Welfare Programme: The Challenge Ahead*. New York: Population Council.
- Krenzischek, D.A. and F.V. Tanseco. 1996. Comparative study of bedside and laboratory measurements of haemoglobin. *American Journal of Critical Care* 5:427-432.
- Kulkarni, Sumati and Minja Kim Choe. 1998. Wanted and unwanted fertility in selected states of India. *National Family Health Survey Subject Reports No. 6*. Mumbai: International Institute for Population Sciences; and Honolulu: East-West Center.
- MacDonald, Paul C. and Jack A. Pritchard. 1980. *Williams Obstetrics*. Sixteenth Edition. New York: Appleton-Century-Crofts.
- Mahmud, Simeen and Anne M. Johnston. 1994. Women's Status, Empowerment and Reproductive Outcomes. In Gita Sen, Adrienne Germain, and Lincoln C. Chen (eds.), *Population Policies Reconsidered: Health, Empowerment and Rights*. Harvard Series on Population and International Health. Boston: Harvard School of Public Health.
- Martorell, R. and J.P. Habicht. 1986. Growth in Early Childhood in Developing Countries. In Frank Falkner and J.M. Tanner (eds.). *Human Growth: A Comprehensive Treatise*, Vol. 3. New York: Plenum Press.
- McNulty, Stephen E., Marc Torjman, Wlodzimierz Grodecki, Alex Marr, and Hugh Schieren. 1995. A comparison of four bedside methods of hemoglobin assessment during cardiac surgery. *Anesthesia and Analgesic* 81(6): 1197-1202.
- Ministry of Health and Family Welfare (MOHFW). 1991. *Family Welfare Programme in India: Year Book, 1989-90*. New Delhi: Department of Family Welfare, MOHFW.
- Ministry of Health and Family Welfare (MOHFW). 1992. *Family Welfare Programme in India: Year Book, 1990-91*. New Delhi: Department of Family Welfare, MOHFW.
- Ministry of Health and Family Welfare (MOHFW). 1994. *Annual Report 1992-93*. New Delhi: MOHFW.
- Ministry of Health and Family Welfare (MOHFW). 1996. *Model Plan for District Based Pilot/Sub-projects of Reproductive and Child Health (RCH)*. New Delhi: MOHFW.
- Ministry of Health and Family Welfare (MOHFW). 1997. *Reproductive and Child Health Programme: Schemes for Implementation*. New Delhi: Department of Family Welfare, MOHFW.
- Ministry of Health and Family Welfare (MOHFW). 1998a. *Family Welfare Programme in India, Year Book, 1996-1997*. New Delhi: Department of Family Welfare, MOHFW.

Ministry of Health and Family Welfare (MOHFW). 1998b. *Manual on Community Needs Assessment Approach in Family Welfare Programme*. New Delhi: Department of Family Welfare, MOHFW.

Ministry of Health and Family Welfare (MOHFW). 1999. *Evaluation of Routine Immunization 1997-98*. New Delhi: Department of Family Welfare, MOHFW.

Ministry of Health and Family Welfare (MOHFW). 2000. *National Population Policy, 2000*. New Delhi: Department of Family Welfare, MOHFW.

Ministry of Health and Family Welfare (MOHFW). n.d. *Reproductive and Child Health Programme*. New Delhi: Department of Family Welfare, MOHFW.

Murray, Christopher J.L. and Alan D. Lopez. 1996. *The Global Burden of Disease*. Cambridge, Massachusetts: Harvard University Press.

Murthi, M., A.-C. Guio, and J. Drèze. 1995. Mortality, fertility, and gender bias in India. *Population and Development Review* 21(4): 745-782.

Nag, Moni. 1991. Sex preference in Bangladesh, India and Pakistan and its effect on fertility. *Demography India* 20(2): 163-185.

Narasimhan, R.L., Robert D. Retherford, Vinod Mishra, Fred Arnold, and T.K. Roy. 1997. Comparison of fertility estimates from India's Sample Registration System and National Family Health Survey. *National Family Health Survey Subject Reports No. 4*. Mumbai: International Institute for Population Sciences; and Honolulu: East-West Center.

Nutrition Foundation of India. 1993. *NFI Bulletin* 14(4).

Office of the Registrar General. 1999a. *Sample Registration System: Statistical Report 1997*. New Delhi: Office of the Registrar General, India.

Office of the Registrar General. 1999b. *SRS Compendium of India's Fertility and Mortality Indicators, 1971-1997 (Based on the Sample Registration System)*. New Delhi: Office of the Registrar General, India.

Office of the Registrar General. 1996. *Report of the Technical Group on Population Projections*. New Delhi: Office of the Registrar General, India.

Pachauri, S. and J. Gittlesohn. 1994. Summary of Research Studies and Implications for Health Policy and Programmes. In J. Gittlesohn, M.E. Bentley, P.J. Pelto, M. Nag, S. Pachauri, A.D. Harrison, and L.T. Landman (eds.), *Listening to Women Talk about Their Health Issues and Evidence from India*. New Delhi: Ford Foundation and Har-Anand Publications.

Pandey, Arvind, Minja Kim Choe, Norman Y. Luther, Damodar Sahu, and Jagdish Chand. 1998. Infant and child mortality in India. *National Family Health Survey Subject Reports No. 11*. Mumbai: International Institute for Population Sciences; and Honolulu: East-West Center.

Pandey, Arvind, Sada Nand Dwivedi, and Ravindra Nath Mishra. 1990. Distribution of closed birth-intervals with some biosociological components: A stochastic model and its applications. *Journal of Mathematical Sociology* 16(1): 89–106.

Parasuraman, Sulabha, T.K. Roy, and S. Sureender. 1994. Sex Composition of Children and Fertility Behaviour in Rural Maharashtra. In K.B. Pathak, U.P. Sinha, and Arvind Pandey (eds.), *Dynamics of Population and Family Welfare*. Bombay: Himalaya Publishing House.

Park, J.E. and K. Park. 1989. *Textbook of Preventive and Social Medicine*. Twelfth Edition. Jabalpur: M/S Banarsidas Bhanot Publishers.

Pathak, K.B. 1997. Population Dynamics in Uttar Pradesh. In Kamla Gupta and Arvind Pandey (eds.), *Population and Development in Uttar Pradesh*. Delhi: B.R. Publishing Corporation.

Population Council. 1999. Reproductive tract infections: A set of factsheets. Bangkok: Population Council.

Prakash, S., U. Kapil, G. Singh, S.N. Dwivedi, and M. Tandon. 1999. Utility of Hemocue in estimation of hemoglobin against standard blood cell counter method. *Journal of the Association of Physicians of India* 47:995–997.

Prasad, Shally. 1999. Medicolegal response to violence against women in India. *Violence Against Women* 5(5): 478–506.

Preston, Samuel H. 1989. Mortality in India. In International Union for the Scientific Study of Population (IUSSP), *International Population Conference, New Delhi, 1989*, Vol. 4. Liege: IUSSP.

Ramachandran, Prema. 1992. Need of organization of antenatal and intrapartum care in India. *Demography India* 21(2): 179–193.

Ramasubban, Radhika and Bhanwar Singh. 1998. 'Ashaktapana' (Weakness) and Reproductive Health in a Slum Population in Mumbai, India. In Carla M. Obermeyer (ed.), *Cultural Perspectives in Reproductive Health*. Oxford: Oxford University Press.

Ramesh, B.M., S.C. Gulati, and Robert D. Retherford. 1996. Contraceptive use in India. *National Family Health Survey Subject Reports No. 2*. Mumbai: International Institute for Population Sciences; and Honolulu: East-West Center.

Rao, Vijayendra and Francis Bloch. 1993. Wife-beating, Its Causes and Its Implications for Nutrition Allocations to Children: An Economic and Anthropological Case Study of a Rural South Indian Community. Washington, D.C.: Policy Research Department, Poverty and Human Resources Division, World Bank.

Retherford, Robert D., Minja Kim Choe, Shyam Thapa, and Bhakta B. Gubhaju. 1989. To what extent does breastfeeding explain birth-interval effects of early childhood mortality? *Demography* 26(3): 439–450.

- Retherford, Robert D., Vinod K. Mishra, and G. Prakasam. 2001. How much has fertility declined in Uttar Pradesh? *National Family Health Survey Subject Reports No. 18*. Mumbai: International Institute for Population Sciences; and Honolulu: East-West Center.
- Retherford, Robert D. and B.M. Ramesh. 1996. Fertility and contraceptive use in Tamil Nadu, Andhra Pradesh and Uttar Pradesh, *National Family Health Survey Bulletin No. 3*. Mumbai: International Institute for Population Sciences; and Honolulu: East-West Center.
- Rutstein, Shea O. 1984. Infant and child mortality: Levels, trends, and demographic differentials. Revised edition. *WFS Comparative Studies No. 43*. Voorburg, Netherlands: International Statistical Institute.
- Sen, Amartya K. 1990. Gender and Cooperative Conflicts. In Irene Tinker (ed.), *Persistent Inequalities: Women and World Development*. New York: Oxford University Press.
- Sen, Gita and Srilatha Batliwala. 1997. *Empowering women for reproductive rights: Moving beyond Cairo*. Paper presented at the Seminar on Female Empowerment and Demographic Processes: Moving Beyond Cairo, IUSSP, Lund, Sweden, 21–24 April.
- Seshadri, Subadra. 1997. Nutritional Anaemia in South Asia. In Stuart Gillespie (ed.), *Malnutrition in South Asia: A Regional Profile*. Kathmandu: Regional Office for South Asia, UNICEF.
- Seshadri, Subadra. 1998. *A Data Base on Iron Deficiency Anemia (IDA) in India: Prevalence, Causes, Consequences and Strategies for Prevention*. Vadodara: The Maharaja Sayajirao University of Baroda.
- Stolzfus, Rebecca J. and Michele L. Dreyfuss. 1998. *Guidelines for the Use of Iron Supplements to Prevent and Treat Iron Deficiency Anemia*. International Nutritional Anemia Consultative Group. Washington, DC: International Life Sciences Institute Press.
- Tabutin, Dominique and Michel Willems. 1995. Excess female child mortality in the developing world in the 1970s and 1980s. *Population Bulletin of the United Nations* 39:45–78.
- United Nations. 1955. *Methods of Appraisal of Quality of Basic Data for Population Estimates*. New York: United Nations.
- United Nations General Assembly. 1991. Advancement of women: Convention on the elimination of all forms of discrimination against women, Report of the Secretary-General. New York: United Nations.
- Vir, Sheila. 1995. Iodine deficiency in India. *Indian Journal of Public Health* 39(4): 132–134.
- Visaria, Leela. 1999. Violence Against Women in India: Evidence from Rural Gujarat. In International Center for Research on Women (ICRW), *Domestic Violence in India; A Summary Report of Three Studies*. Washington, DC: ICRW.
- Von Schenk, H., M. Falkensson, and B. Lundberg. 1986. Evaluation of “HemoCue”, a new device for determining hemoglobin. *Clinical Chemistry* 32(3): 526–529.

Youssef, Nadia H. 1982. The Interrelationship Between the Division of Labor in the Household, Women's Roles and Their Impact on Fertility. In R. Anker, M. Buvinic, and N.H. Youssef (eds.), *Women's Roles and Population Trends in the Third World*. London: Croom Helm.

APPENDIX A

ESTIMATES OF SAMPLING ERRORS

Two types of errors affect the estimates from a sample survey: (1) nonsampling errors and (2) sampling errors. Nonsampling errors are the result of errors committed during 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 NFHS-2 to minimize nonsampling errors, they are impossible to avoid and difficult to evaluate statistically.

Sampling errors, on the other hand, can be evaluated statistically. The sample of women selected in NFHS-2 is only one of many samples that could have been selected from the same population, using the same design and expected sample size. Each of these samples would yield results that differ somewhat from the results of the actual sample selected. The sampling error is a measure of the variability among all possible samples. Although the degree of variability is not known exactly, it can be estimated from the survey results.

The sampling error is usually measured by the *standard error* for a particular statistic (for example, a mean or percentage), 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, calculated as the value of the statistic 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 women had been selected as a simple random sample, it would have been possible, for many statistics, to use straightforward formulas for calculating sampling errors. However, the NFHS-2 sample is the result of a multi-stage stratified sample design, and it is therefore necessary to use more complex formulas. The computer software used to calculate sampling errors for NFHS-2 is ISSA (the Integrated System for Survey Analysis). The linear Taylor series approximation method for variance estimation is used for estimates of means, proportions, and ratios. The JACKKNIFE repeated replication method is used with ISSA for variance estimation for more complex statistics such as fertility and mortality rates.

The ISSA package treats any percentage or average as a ratio estimate, $r = y/x$, where y represents the sample value for variable y , and x represents the 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:

$$\text{var}(r) = \frac{1-f}{x^2} \sum_{h=1}^H \left[\frac{m_h}{m_h-1} \left(\sum_{i=1}^{m_h} z_{hi}^2 - \frac{z_h^2}{m_h} \right) \right]$$

in which

$$z_{hi} = y_{hi} - rx_{hi}$$

$$z_h = y_h - rx_h$$

where

- h = the stratum that varies from 1 to H,
- m_h = the total number of PSUs selected in the h^{th} stratum,
- y_{hi} = the sum of the values of variable y in PSU i in the h^{th} stratum,
- x_{hi} = the sum of the number of cases in PSU i in the h^{th} stratum,
- f = the overall sampling fraction, which is so small that the program ignores it.

In addition to the standard error, ISSA computes the relative standard error, confidence limits for the estimates, and the design effect (DEFT) for each estimate. The design effect is defined as the ratio of the standard error using the given sample design to 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.

Sampling errors for NFHS-2 are calculated for selected variables considered to be of primary interest. The results in this appendix are presented for the state as a whole and for urban and rural areas separately, except for the variable on salt iodization for which the results are shown separately for large cities, small cities, towns, and rural areas. For each variable, the type of statistic (mean, proportion, ratio, or rate) and the base population are given in Table A.1. Table A.2 presents the value of the statistic (R), its standard error (SE), the relative standard error (SE/R), and the 95 percent confidence limits ($R \pm 2SE$) for each variable. In addition, for all variables except the fertility and mortality rates, the table shows the unweighted number of cases (N), the weighted number of cases (WN), the standard error assuming a simple random sample (SER), and the design effect (DEFT).

Table A.1 List of selected variables for sampling errors, Uttar Pradesh, 1998-99

Variable	Estimate	Base population
Sex ratio	Ratio	<i>De facto</i> household population
Illiterate	Proportion	<i>De facto</i> household population age 6 and above
Have tuberculosis	Rate	1,000 <i>de jure</i> household population
Salt iodized at 15ppm or more	Proportion	Households
Illiterate	Proportion	Ever-married women age 15-49
High school complete and above	Proportion	Ever-married women age 15-49
Currently married	Proportion	Ever-married women age 15-49
Number of children ever born	Mean	Currently married women age 15-49
Number of living children	Mean	Currently married women age 15-49
Have ever used any method	Proportion	Currently married women age 15-49
Currently using any method	Proportion	Currently married women age 15-49
Currently using any modern method	Proportion	Currently married women age 15-49
Currently using pills	Proportion	Currently married women age 15-49
Currently using IUD	Proportion	Currently married women age 15-49
Currently using condoms	Proportion	Currently married women age 15-49
Currently using female sterilization	Proportion	Currently married women age 15-49
Currently using male sterilization	Proportion	Currently married women age 15-49
Currently using rhythm/safe period	Proportion	Currently married women age 15-49
Using public source for modern method	Proportion	Current users of modern methods
Do not want any more children	Proportion	Currently married women age 15-49
Want to delay birth at least 2 years	Proportion	Currently married women age 15-49
Ideal number of children	Mean	Ever-married women age 15-49
Ideal number of sons	Mean	Ever-married women age 15-49
Ideal number of daughters	Mean	Ever-married women age 15-49
Visited by health/family planning worker	Proportion	Ever-married women age 15-49
Received no antenatal check-up	Proportion	Births in the past 3 years
Received iron and folic acid tablets or syrup	Proportion	Births in the past 3 years
Received medical assistance during delivery	Proportion	Births in the past 3 years
Received postpartum check-up	Proportion	Noninstitutional births in the past 3 years
Had diarrhoea in the past 2 weeks	Proportion	Children under 3 years
Treated with ORS packets	Proportion	Children under 3 with diarrhoea in past 2 weeks
Taken to a health facility/provider for diarrhoea	Proportion	Children under 3 with diarrhoea in past 2 weeks
Showing a vaccination card	Proportion	Children age 12-23 months
Received BCG vaccination	Proportion	Children age 12-23 months
Received DPT vaccination (3 doses)	Proportion	Children age 12-23 months
Received polio vaccination (3 doses)	Proportion	Children age 12-23 months
Received measles vaccination	Proportion	Children age 12-23 months
Fully vaccinated	Proportion	Children age 12-23 months
Received vitamin A	Proportion	Children age 12-35 months
Had reproductive health problem	Proportion	Currently married women age 15-49
Not involved in any decisionmaking	Proportion	Ever-married women age 15-49
Ever beaten or physically mistreated since age 15	Proportion	Ever-married women age 15-49
Not worked in past 12 months	Proportion	Ever-married women age 15-49
Anaemic women	Proportion	Ever-married women age 15-49
Anaemic children	Proportion	Children age 6-35 months
Fertility rates	Rate	All women, population
Mortality rates	Rate	Births, population

Table A.2 Sampling errors, Uttar Pradesh, 1998-99

Variable/ residence	Value (R)	Standard error (SE)	Number of cases		Standard error assuming SRS (SER)	Design effect (DEFT)	Relative standard error (SE/R)	Confidence limits	
			Unweighted (N)	Weighted (WN)				R-2SE	R+2SE
Sex ratio (<i>De facto</i> household population)									
Urban	931	18.298	5653	5810	13.883	1.318	0.020	894	968
Rural	948	10.149	21716	21822	7.548	1.345	0.011	928	968
Total	944	8.863	27369	27631	6.637	1.335	0.009	927	962
Illiterate (<i>De facto</i> household population age 6 and above)									
Urban	0.251	0.020	9454	9697	0.007	2.883	0.080	0.211	0.291
Rural	0.471	0.008	34750	34743	0.004	2.147	0.017	0.455	0.488
Total	0.423	0.010	44204	44440	0.003	2.741	0.023	0.404	0.442
Have tuberculosis (1,000 <i>de jure</i> household population)									
Urban	4.900	1.012	10942	11208	0.967	1.046	0.207	2.876	6.925
Rural	5.664	0.415	42797	42973	0.386	1.075	0.073	4.834	6.495
Total	5.506	0.390	53739	54181	0.366	1.066	0.071	4.726	6.286
Salt iodized at 15ppm or more (Households)									
Large city	0.889	0.035	202	244	0.022	1.601	0.040	0.818	0.960
Small city	0.745	0.046	700	711	0.016	2.802	0.062	0.652	0.837
Town	0.735	0.035	933	895	0.014	2.391	0.047	0.666	0.804
Rural	0.415	0.013	6847	6832	0.006	2.195	0.031	0.389	0.441
Total	0.488	0.014	8682	8682	0.005	2.689	0.030	0.460	0.517
Illiterate (Ever-married women age 15-49)									
Urban	0.425	0.031	1813	1860	0.012	2.669	0.073	0.363	0.487
Rural	0.771	0.009	7479	7432	0.005	1.849	0.012	0.753	0.789
Total	0.702	0.013	9292	9292	0.005	2.706	0.018	0.677	0.728
High school complete and above (Ever-married women age 15-49)									
Urban	0.336	0.031	1813	1860	0.011	2.773	0.091	0.275	0.398
Rural	0.055	0.004	7479	7432	0.003	1.682	0.081	0.046	0.064
Total	0.111	0.010	9292	9292	0.003	2.979	0.087	0.092	0.131
Currently married (Ever-married women age 15-49)									
Urban	0.955	0.005	1813	1860	0.005	1.015	0.005	0.945	0.965
Rural	0.961	0.002	7479	7432	0.002	1.066	0.002	0.956	0.966
Total	0.960	0.002	9292	9292	0.002	1.068	0.002	0.955	0.964
Number of children ever born (Currently married women age 15-49)									
Urban	3.387	0.096	1731	1776	0.058	1.655	0.028	3.194	3.580
Rural	3.613	0.035	7175	7142	0.031	1.153	0.010	3.543	3.684
Total	3.568	0.034	8906	8918	0.027	1.261	0.010	3.500	3.637
Number of living children (Currently married women age 15-49)									
Urban	2.972	0.083	1731	1776	0.049	1.685	0.028	2.805	3.138
Rural	2.978	0.028	7175	7142	0.025	1.139	0.009	2.922	3.034
Total	2.976	0.028	8906	8918	0.022	1.259	0.009	2.921	3.032
Have ever used any method (Currently married women age 15-49)									
Urban	0.569	0.020	1731	1776	0.012	1.653	0.035	0.530	0.609
Rural	0.328	0.009	7175	7142	0.006	1.636	0.028	0.309	0.346
Total	0.376	0.010	8906	8918	0.005	1.979	0.027	0.355	0.396

Table A.2 Sampling errors, Uttar Pradesh, 1998-99 (contd.)

Variable/ residence	Value (R)	Standard error (SE)	Number of cases		Standard error assuming SRS (SER)	Design effect (DEFT)	Relative standard error (SE/R)	Confidence limits	
			Unweighted (N)	Weighted (WN)				R-2SE	R+2SE
Currently using any method (Currently married women age 15-49)									
Urban	0.448	0.020	1731	1776	0.012	1.641	0.044	0.408	0.487
Rural	0.239	0.008	7175	7142	0.005	1.590	0.034	0.223	0.255
Total	0.281	0.009	8906	8918	0.005	1.908	0.032	0.262	0.299
Currently using any modern method (Currently married women age 15-49)									
Urban	0.366	0.018	1731	1776	0.012	1.545	0.049	0.330	0.402
Rural	0.183	0.008	7175	7142	0.005	1.664	0.041	0.168	0.199
Total	0.220	0.008	8906	8918	0.004	1.903	0.038	0.203	0.236
Currently using pills (Currently married women age 15-49)									
Urban	0.023	0.004	1731	1776	0.004	1.073	0.167	0.016	0.031
Rural	0.010	0.001	7175	7142	0.001	1.139	0.136	0.007	0.012
Total	0.012	0.001	8906	8918	0.001	1.163	0.110	0.010	0.015
Currently using IUD (Currently married women age 15-49)									
Urban	0.026	0.005	1731	1776	0.004	1.323	0.193	0.016	0.037
Rural	0.006	0.001	7175	7142	0.001	1.074	0.169	0.004	0.008
Total	0.010	0.001	8906	8918	0.001	1.326	0.141	0.007	0.013
Currently using condoms (Currently married women age 15-49)									
Urban	0.126	0.012	1731	1776	0.008	1.442	0.091	0.103	0.149
Rural	0.021	0.002	7175	7142	0.002	1.289	0.105	0.016	0.025
Total	0.042	0.004	8906	8918	0.002	1.819	0.093	0.034	0.049
Currently using female sterilization (Currently married women age 15-49)									
Urban	0.180	0.017	1731	1776	0.009	1.818	0.093	0.147	0.214
Rural	0.141	0.007	7175	7142	0.004	1.637	0.048	0.128	0.155
Total	0.149	0.006	8906	8918	0.004	1.689	0.043	0.136	0.162
Currently using male sterilization (Currently married women age 15-49)									
Urban	0.010	0.002	1731	1776	0.002	1.033	0.247	0.005	0.015
Rural	0.006	0.001	7175	7142	0.001	1.117	0.170	0.004	0.008
Total	0.007	0.001	8906	8918	0.001	1.097	0.141	0.005	0.009
Currently using rhythm/safe period (Currently married women age 15-49)									
Urban	0.043	0.007	1731	1776	0.005	1.405	0.159	0.030	0.057
Rural	0.040	0.003	7175	7142	0.002	1.338	0.078	0.034	0.046
Total	0.041	0.003	8906	8918	0.002	1.350	0.070	0.035	0.046
Using public source for modern method (Current users of modern methods)									
Urban	0.498	0.032	650	650	0.020	1.638	0.065	0.434	0.562
Rural	0.817	0.013	1444	1309	0.010	1.262	0.016	0.791	0.843
Total	0.711	0.018	2094	1959	0.010	1.817	0.025	0.675	0.747
Do not want any more children (Currently married women age 15-49)									
Urban	0.467	0.018	1731	1776	0.012	1.523	0.039	0.431	0.504
Rural	0.360	0.008	7175	7142	0.006	1.420	0.022	0.344	0.376
Total	0.381	0.008	8906	8918	0.005	1.554	0.021	0.365	0.397
Want to delay birth at least two years (Currently married women age 15-49)									
Urban	0.141	0.011	1731	1776	0.008	1.273	0.075	0.120	0.163
Rural	0.187	0.007	7175	7142	0.005	1.423	0.035	0.174	0.200
Total	0.178	0.006	8906	8918	0.004	1.428	0.033	0.166	0.189

Table A.2 Sampling errors, Uttar Pradesh, 1998-99 (contd.)

Variable/ residence	Value (R)	Standard error (SE)	Number of cases		Standard error assuming SRS (SER)	Design effect (DEFT)	Relative standard error (SE/R)	Confidence limits	
			Unweighted (N)	Weighted (WN)				R-2SE	R+2SE
Ideal number of children (Ever-married women age 15-49)									
Urban	2.645	0.055	1619	1650	0.025	2.249	0.021	2.535	2.755
Rural	3.249	0.029	6621	6574	0.015	1.887	0.009	3.191	3.307
Total	3.128	0.030	8240	8224	0.013	2.230	0.010	3.068	3.188
Ideal number of sons (Ever-married women age 15-49)									
Urban	1.453	0.042	1619	1650	0.021	1.984	0.029	1.370	1.536
Rural	1.941	0.022	6620	6573	0.012	1.781	0.011	1.897	1.985
Total	1.843	0.023	8239	8224	0.011	2.104	0.012	1.797	1.889
Ideal number of daughters (Ever-married women age 15-49)									
Urban	0.977	0.023	1619	1650	0.014	1.701	0.024	0.930	1.023
Rural	1.174	0.012	6620	6573	0.008	1.489	0.010	1.151	1.197
Total	1.134	0.012	8239	8224	0.007	1.679	0.010	1.111	1.158
Visited by health/family planning worker (Ever-married women age 15-49)									
Urban	0.017	0.004	1813	1860	0.003	1.250	0.224	0.009	0.024
Rural	0.035	0.003	7478	7432	0.002	1.378	0.083	0.030	0.041
Total	0.032	0.003	9291	9292	0.002	1.377	0.079	0.027	0.037
Received no antenatal check-up (Births in past 3 years)									
Urban	0.341	0.035	694	713	0.019	1.801	0.103	0.270	0.411
Rural	0.696	0.012	3630	3700	0.008	1.520	0.018	0.672	0.721
Total	0.639	0.014	4324	4414	0.008	1.834	0.022	0.610	0.667
Received iron and folic acid tablets or syrup (Births in past 3 years)									
Urban	0.520	0.036	694	713	0.019	1.884	0.069	0.448	0.591
Rural	0.286	0.012	3630	3700	0.007	1.632	0.043	0.261	0.310
Total	0.324	0.013	4324	4414	0.007	1.820	0.040	0.298	0.350
Received medical assistance during delivery (Births in past 3 years)									
Urban	0.517	0.036	694	713	0.021	1.709	0.069	0.446	0.589
Rural	0.167	0.010	3630	3700	0.006	1.517	0.059	0.148	0.187
Total	0.224	0.012	4324	4414	0.007	1.847	0.056	0.199	0.249
Received postpartum check-up (Noninstitutional births in past 3 years)									
Urban	0.059	0.014	434	446	0.011	1.227	0.235	0.032	0.087
Rural	0.073	0.007	3209	3271	0.005	1.518	0.095	0.059	0.087
Total	0.072	0.006	3643	3716	0.004	1.493	0.089	0.059	0.084
Had diarrhoea in the past 2 weeks (Children under 3 years)									
Urban	0.194	0.018	643	659	0.016	1.173	0.094	0.157	0.231
Rural	0.241	0.011	3263	3324	0.007	1.477	0.046	0.219	0.263
Total	0.233	0.010	3906	3983	0.007	1.446	0.042	0.214	0.253
Treated with ORS packets (Children under 3 with diarrhoea in past 2 weeks)									
Urban	0.152	0.036	125	128	0.032	1.128	0.240	0.079	0.225
Rural	0.159	0.014	761	801	0.013	1.064	0.088	0.131	0.186
Total	0.158	0.013	886	929	0.012	1.067	0.082	0.132	0.184
Taken to a health facility/provider for diarrhoea (Children under 3 with diarrhoea in past 2 weeks)									
Urban	0.680	0.050	125	128	0.042	1.184	0.073	0.580	0.779
Rural	0.612	0.021	761	801	0.018	1.169	0.034	0.571	0.653
Total	0.621	0.019	886	929	0.016	1.175	0.031	0.583	0.659

Table A.2 Sampling errors, Uttar Pradesh, 1998-99 (contd.)

Variable/ residence	Value (R)	Standard error (SE)	Number of cases		Standard error assuming SRS (SER)	Design effect (DEFT)	Relative standard error (SE/R)	Confidence limits	
			Unweighted (N)	Weighted (WN)				R-2SE	R+2SE
Showing a vaccination card (Children age 12-23 months)									
Urban	0.252	0.034	208	210	0.030	1.127	0.136	0.184	0.321
Rural	0.195	0.015	1092	1119	0.012	1.270	0.077	0.165	0.225
Total	0.204	0.014	1300	1329	0.011	1.249	0.068	0.176	0.232
Received BCG vaccination (Children age 12-23 months)									
Urban	0.743	0.034	208	210	0.031	1.126	0.046	0.674	0.812
Rural	0.543	0.021	1092	1119	0.015	1.425	0.039	0.500	0.586
Total	0.575	0.020	1300	1329	0.014	1.434	0.034	0.536	0.614
Received DPT vaccination (3 doses) (Children age 12-23 months)									
Urban	0.496	0.041	208	210	0.035	1.165	0.082	0.414	0.577
Rural	0.309	0.018	1092	1119	0.014	1.298	0.058	0.274	0.345
Total	0.339	0.017	1300	1329	0.013	1.322	0.051	0.305	0.373
Received polio vaccination (3 doses) (Children age 12-23 months)									
Urban	0.597	0.037	208	210	0.034	1.082	0.062	0.523	0.672
Rural	0.391	0.019	1092	1119	0.015	1.286	0.048	0.353	0.428
Total	0.423	0.018	1300	1329	0.014	1.311	0.042	0.388	0.459
Received measles vaccination (Children age 12-23 months)									
Urban	0.500	0.047	208	210	0.035	1.343	0.094	0.406	0.594
Rural	0.317	0.018	1092	1119	0.014	1.294	0.057	0.281	0.353
Total	0.346	0.017	1300	1329	0.013	1.335	0.050	0.311	0.381
Fully vaccinated (Children age 12-23 months)									
Urban	0.323	0.041	208	210	0.033	1.246	0.126	0.242	0.405
Rural	0.192	0.015	1092	1119	0.012	1.241	0.076	0.162	0.221
Total	0.212	0.014	1300	1329	0.011	1.273	0.067	0.184	0.241
Received vitamin A (Children age 12-35 months)									
Urban	0.211	0.024	436	444	0.020	1.198	0.115	0.162	0.259
Rural	0.125	0.009	2168	2216	0.007	1.271	0.073	0.107	0.143
Total	0.139	0.009	2604	2660	0.007	1.270	0.063	0.122	0.157
Had reproductive health problem (Currently married women age 15-49)									
Urban	0.408	0.031	1731	1776	0.012	2.653	0.077	0.345	0.471
Rural	0.374	0.012	7175	7142	0.006	2.098	0.032	0.350	0.398
Total	0.381	0.011	8906	8918	0.005	2.226	0.030	0.358	0.404
Not involved in any decisionmaking (Ever-married women age 15-49)									
Urban	0.106	0.013	1813	1860	0.007	1.834	0.126	0.080	0.132
Rural	0.178	0.008	7479	7432	0.004	1.714	0.043	0.162	0.194
Total	0.164	0.007	9292	9292	0.004	1.797	0.042	0.150	0.178
Ever beaten or physically mistreated since age 15 (Ever-married women age 15-49)									
Urban	0.168	0.015	1813	1860	0.009	1.651	0.086	0.139	0.197
Rural	0.238	0.008	7479	7432	0.005	1.584	0.033	0.223	0.254
Total	0.224	0.007	9292	9292	0.004	1.641	0.032	0.210	0.238
Not worked in past 12 months (Ever-married women age 15-49)									
Urban	0.857	0.012	1813	1860	0.008	1.479	0.014	0.832	0.881
Rural	0.744	0.011	7479	7432	0.005	2.278	0.015	0.721	0.767
Total	0.766	0.010	9292	9292	0.004	2.262	0.013	0.747	0.786

Table A.2 Sampling errors, Uttar Pradesh, 1998-99 (contd.)

Variable/ residence	Value (R)	Standard error (SE)	Number of cases		Standard error assuming SRS (SER)	Design effect (DEFT)	Relative standard error (SE/R)	Confidence limits	
			Unweighted (N)	Weighted (WN)				R-2SE	R+2SE
Anaemic women (Ever-married women age 15-49)									
Urban	0.460	0.025	1083	1137	0.015	1.627	0.054	0.411	0.509
Rural	0.494	0.012	4598	4544	0.007	1.646	0.025	0.470	0.518
Total	0.487	0.011	5681	5681	0.007	1.649	0.022	0.465	0.509
Anaemic children (Children age 6-35 months)									
Urban	0.741	0.033	257	262	0.027	1.190	0.044	0.676	0.806
Rural	0.739	0.018	1374	1369	0.012	1.497	0.024	0.704	0.775
Total	0.739	0.016	1631	1632	0.011	1.446	0.021	0.708	0.771

Table A.2 Sampling errors, Uttar Pradesh, 1998-99 (contd.)

Variable/ residence	Value (R)	Standard error (SE)	Relative standard error (SE/R)	Confidence limits	
				R-2SE	R+2SE
Total fertility rate (Women age 15-49)					
Urban	2.880	0.147	0.051	2.586	3.174
Rural	4.307	0.080	0.019	4.146	4.468
Total	3.989	0.071	0.018	3.847	4.132
Age-specific fertility rate (Women age 15-19)					
Urban	0.057	0.010	0.180	0.036	0.077
Rural	0.137	0.005	0.036	0.127	0.147
Total	0.120	0.004	0.035	0.111	0.128
Age-specific fertility rate (Women age 20-24)					
Urban	0.195	0.011	0.054	0.174	0.216
Rural	0.272	0.006	0.023	0.260	0.284
Total	0.256	0.005	0.021	0.245	0.267
Age-specific fertility rate (Women age 25-29)					
Urban	0.173	0.012	0.072	0.148	0.198
Rural	0.217	0.007	0.031	0.204	0.231
Total	0.208	0.006	0.028	0.196	0.220
Age-specific fertility rate (Women age 30-34)					
Urban	0.095	0.011	0.113	0.074	0.117
Rural	0.137	0.006	0.046	0.125	0.150
Total	0.127	0.006	0.044	0.116	0.138
Age-specific fertility rate (Women age 35-39)					
Urban	0.040	0.007	0.185	0.025	0.055
Rural	0.071	0.006	0.077	0.060	0.082
Total	0.064	0.005	0.072	0.055	0.073
Age-specific fertility rate (Women age 40-44)					
Urban	0.012	0.005	0.423	0.002	0.022
Rural	0.020	0.003	0.173	0.013	0.027
Total	0.018	0.003	0.162	0.012	0.024
Age-specific fertility rate (Women age 45-49)					
Urban	0.004	0.003	0.767	0.000	0.011
Rural	0.006	0.003	0.473	0.000	0.013
Total	0.006	0.002	0.408	0.001	0.011

Table A 2 Sampling errors, Uttar Pradesh, 1998-99 (contd)

Variable/ residence	Value (R)	Standard error (SE)	Relative standard error (SE/R)	Confidence limits	
				R-2SE	R+2SE
Neonatal mortality (5-year period preceding survey)					
Urban	38.299	6.408	0.167	25.484	51.114
Rural	56.559	3.116	0.055	50.327	62.791
Total	53.645	2.823	0.053	48.000	59.291
Infant mortality ${}_4q_0$ (5-year period preceding survey)					
Urban	60.355	6.938	0.115	46.479	74.231
Rural	91.732	4.107	0.045	83.518	99.947
Total	86.738	3.649	0.042	79.439	94.037
Child mortality ${}_4q_1$ (5-year period preceding survey)					
Urban	27.058	4.669	0.173	17.721	36.395
Rural	41.634	2.937	0.071	35.761	47.508
Total	39.206	2.596	0.066	34.014	44.398
Under-five mortality ${}_5q_0$ (5-year period preceding survey)					
Urban	85.780	8.398	0.098	68.983	102.576
Rural	129.548	5.184	0.040	119.179	139.916
Total	122.543	4.634	0.038	113.275	131.812
Crude death rate (Based on Household Questionnaire)					
Urban	7.921	0.604	0.076	6.713	9.129
Rural	10.853	0.521	0.048	9.811	11.895
Total	10.247	0.458	0.045	9.331	11.163
Crude birth rate (Based on women's birth history)					
Urban	23.452	1.273	0.054	20.905	25.999
Rural	33.018	0.532	0.016	31.953	34.083
Total	31.113	0.491	0.016	30.130	32.095
SRS: Simple random sample					

APPENDIX B

DATA QUALITY TABLES

The purpose of this appendix is to provide the data user with an overview of the general quality of the NFHS-2 data. Whereas Appendix A is concerned with sampling errors and their effects on the survey results, the tables in this appendix refer to possible *nonsampling* errors: for example, rounding or heaping on certain ages or dates; omission of events occurring further in the past; deliberate distortion of information by some interviewers in an attempt to lighten their workload; noncooperation of the respondent in providing information; or refusal to have children measured for height and weight or tested for anaemia. A description of the likely magnitude of such nonsampling errors is provided in this appendix.

The distribution of the *de facto* household population by single years of age and sex is presented in Table B.1. In many (but not all) cases, the respondent was the head of the household. It is well documented that ages are poorly reported in most parts of India. Ages are of little relevance to much of the rural population in particular, and no amount of probing will ensure that ages are properly recorded. In interviewer training for NFHS-2, a great deal of emphasis was placed on obtaining as accurate information as possible on ages and dates of events. Nevertheless, it is clear that age reporting in NFHS-2 shares the same problems inherent in all Indian censuses and surveys. Heaping on ages ending in 0, 2, 5, and 8 is considerable and is particularly severe in the older age groups. Another measure of the quality of the NFHS-2 age data is the percentage of persons whose ages were recorded as not known or missing. In Uttar Pradesh, information on age was missing for only 10 persons out of 53,725 persons who stayed in the sample households the night before the interview.

Table B.2 examines the possibility that some eligible women (that is, ever-married women age 15–49) were not properly identified in NFHS-2. In some surveys, interviewers may try to reduce their workload by pushing women out of the eligible age range or recording ever-married women as never married so that they will not have to be interviewed. If such practices were being followed to a noticeable extent, Table B.2 would normally show (1) a shortage of ever-married women in the 45–49 age group and an excess in the 50–54 age group or (2) an unusually low proportion of ever-married women by age. Neither of these patterns is evident in the NFHS-2 data. It can, therefore, be concluded that there was no concerted effort to misidentify eligible women in NFHS-2 in Uttar Pradesh.

One traditional measure of the quality of data is the extent to which information is missing on key variables. Although completeness of responses does not necessarily indicate that the results are accurate, the existence of missing information for a large number of cases would suggest that data collection was not carried out with sufficient care. In NFHS-2 in Uttar Pradesh, the extent of missing information is very low for age at first marriage, woman's education, and prevalence of diarrhoea in the two weeks preceding the survey (Table B.3). Missing information is higher for the month of birth and, for children who died, the age at death of children born in the past 15 years. It is important to note, however, that the year of birth is recorded in almost every case in which the month is missing. Data on height and weight of children are available for only 65–67 percent of the members of the respective reference groups. Many children could not be measured because they were not at home or they were ill at the time of the survey. In some

Table B.1 Household age distribution									
Single-year age distribution of <i>de facto</i> household population by sex (weighted), Uttar Pradesh, 1998-99									
Age	Male		Female		Age	Male		Female	
	Number	Percent	Number	Percent		Number	Percent	Number	Percent
< 1	793	2.9	726	2.8	38	198	0.7	225	0.9
1	721	2.6	665	2.5	39	25	0.1	84	0.3
2	757	2.7	701	2.7	40	1,000	3.6	715	2.7
3	710	2.6	735	2.8	41	20	0.1	59	0.2
4	844	3.1	811	3.1	42	155	0.6	171	0.7
5	995	3.6	829	3.2	43	33	0.1	79	0.3
6	877	3.2	829	3.2	44	34	0.1	57	0.2
7	781	2.8	680	2.6	45	794	2.9	645	2.5
8	1,003	3.6	815	3.1	46	64	0.2	79	0.3
9	564	2.0	521	2.0	47	41	0.1	100	0.4
10	1,091	3.9	940	3.6	48	125	0.5	174	0.7
11	532	1.9	433	1.7	49	21	0.1	28	0.1
12	945	3.4	779	3.0	50	723	2.6	412	1.6
13	600	2.2	512	2.0	51	14	0.0	69	0.3
14	663	2.4	563	2.2	52	82	0.3	116	0.4
15	743	2.7	658	2.5	53	19	0.1	47	0.2
16	665	2.4	616	2.4	54	23	0.1	27	0.1
17	442	1.6	441	1.7	55	419	1.5	473	1.8
18	804	2.9	843	3.2	56	19	0.1	36	0.1
19	260	0.9	312	1.2	57	19	0.1	27	0.1
20	774	2.8	964	3.7	58	55	0.2	65	0.2
21	238	0.9	213	0.8	59	12	0.0	9	0.0
22	561	2.0	570	2.2	60	718	2.6	694	2.7
23	247	0.9	279	1.1	61	5	0.0	7	0.0
24	232	0.8	286	1.1	62	39	0.1	41	0.2
25	894	3.2	983	3.8	63	14	0.1	14	0.1
26	286	1.0	294	1.1	64	11	0.0	11	0.0
27	183	0.7	208	0.8	65	427	1.5	395	1.5
28	385	1.4	452	1.7	66	13	0.0	9	0.0
29	54	0.2	96	0.4	67	9	0.0	5	0.0
30	1,053	3.8	1,012	3.9	68	23	0.1	16	0.1
31	33	0.1	79	0.3	69	6	0.0	0	0.0
32	294	1.1	301	1.2	70+	984	3.6	706	2.7
33	68	0.2	113	0.4	Don't				
34	65	0.2	93	0.4	know/				
35	1,144	4.1	878	3.4	missing	3	0.0	7	0.0
36	128	0.5	163	0.6					
37	56	0.2	100	0.4	Total	27,631	100.0	26,094	100.0

Note: The *de facto* population includes all usual residents and visitors who stayed in the household the night before the interview.

cases when the child was at home, either the child refused to be measured or the mother refused to allow the child to be measured. Data on woman's haemoglobin level are available for 64 percent of respondents and data on child's haemoglobin level are available for only 52 percent of children. Before undertaking haemoglobin measurements, a separate 'informed consent' statement was read to the respondent explaining that participation in the haemoglobin testing was completely voluntary. At this point, some women declined to take part in the anaemia testing and/or to have their children participate.

Because the nonresponse rates for anaemia and height/weight were abnormally high in Uttar Pradesh, specific questions on the reasons for the nonresponse were included in a reassessment survey of the quality of the data that was conducted in the sample households after the main survey. That survey found that in many cases the questionnaires indicated that women

Table B.2 Age distribution of eligible and interviewed women

Age distribution of the *de facto* household population of women age 10–54 and of interviewed women age 15–49, and percentage of eligible women who were interviewed (weighted), Uttar Pradesh, 1998–99

Age	All women	Ever-married women	Interviewed women		Percent interviewed
			Number	Percent	
10–14	3,227	17	NA	NA	NA
15–19	2,869	911	844	9.1	92.7
20–24	2,312	1,980	1,831	19.7	92.5
25–29	2,032	1,984	1,857	19.9	93.6
30–34	1,599	1,582	1,486	16.0	94.0
35–39	1,450	1,447	1,362	14.6	94.2
40–44	1,081	1,078	1,002	10.8	93.0
45–49	1,026	1,023	929	10.0	90.8
50–54	671	668	NA	NA	NA
15–49	12,369	10,003	9,313	100.0	93.1

Note: The *de facto* population includes all usual residents and visitors who stayed in the household the night before the interview. For all columns, the age distribution is taken from ages reported in the Household Questionnaire. The total number of interviewed women in this table differs from the total number in earlier tables because this table uses household weights rather than women's weights for the calculations.
NA: Not applicable

Table B.3 Completeness of reporting

Percentage of observations with missing information for selected demographic and health indicators (weighted), Uttar Pradesh, 1998–99

Indicator	Reference group	Percentage missing information	Number of cases
Birth date	Births in past 15 years		
Month only		1.78	23,106
Month and year		0.01	23,106
Age at death	Deaths to births in past 15 years	1.71	3,183
Age at first marriage	Ever-married women age 15–49	0.08	9,292
Woman's education	Ever-married women age 15–49	0.07	9,292
Anthropometry	Living children age 0–35 months		
Height		33.28	4,064
Weight		34.75	4,064
Height or weight		35.12	4,064
Woman's haemoglobin level	Ever-married women age 15–49	36.42	9,292
Child's haemoglobin level	Living children age 6–35 months	48.06	3,283
Diarrhoea in past 2 weeks	Living children age 1–35 months	0.21	3,983

and children were not at home or did not agree to be tested even though the health investigators had not actually visited the households. As indicated in Chapter 7, the high levels of nonresponse on anaemia and height/weight in Uttar Pradesh could bias any estimates that are based on those tests. However, the potential bias is reduced because the nonresponse cases were fairly evenly spread across the different population subgroups. In addition, an adjustment was made for differential nonresponse by area to ensure proper geographic representation. Nevertheless, anaemia and height/weight results in Uttar Pradesh should be interpreted with caution because of the high level on nonresponse on these measurements.

Another measure of data quality is the completeness and accuracy of information on births. Table B.4 examines the distribution of births by calendar year to identify any unusual patterns that may indicate that births have been omitted or that the ages of children have been displaced. Overall, 98 percent of living children listed in the birth history had complete birth dates recorded, as did 94 percent of children who had died. The completeness of data on birth dates for both surviving and nonsurviving children is good overall and is excellent in recent years. The annual data on the number of births can be examined to see if there is an abnormally large decline in the number of births after January 1995, the cutoff point for the health questions and measurements made on young children in the survey. It is typical for the annual number of births to fluctuate somewhat, so small annual fluctuations are to be expected. However, the sharp drop in the annual number of births between 1992–94 and 1995–98 (particularly for nonsurviving children) suggests that there has been some omission of recent births or displacement of birth dates that could result in an underestimate of both fertility and infant mortality rates for recent years.

Many surveys that include both demographic information and health information for children below a specified age have been subject to a substantial amount of age displacement. In particular, there is often a tendency for interviewers to 'age' children out of the eligible period for asking health questions. This problem was well known before NFHS-2 began; therefore, interviewer training stressed this issue to try to reduce the extent of biases due to age displacement. Apparently, the training was not entirely successful in avoiding this type of problem, however.

Table B.5 presents information on the reporting of age at death in days. Results from the table suggest that early infant deaths have not been seriously underreported in Uttar Pradesh, because the ratios of deaths under seven days to all neonatal deaths are consistently high (a ratio of less than 25 percent is often used as a guideline to indicate underreporting of early neonatal deaths). The ratios are 74 for 0–4 years, 71 for 5–9 years, and 66 for 10–14 years preceding the survey. Although there was no severe underreporting of early neonatal deaths in NFHS-2, there was some misreporting of age at death due to a preference for reporting the age at death at 3, 6, 8, 10, 15, and 20 days (Table B.5).

Table B.6 shows the percentage of infant deaths that occurred during the neonatal period. These percentages are also quite high, suggesting that there is no major omission of early deaths.

One problem that is inherent in most retrospective surveys is heaping of the age at death on certain digits, e.g., 6, 12, and 18 months. Misreporting of age at death will bias estimates of the age pattern of mortality if the net result of misreporting is the transference of deaths between

Table B.4 Births by calendar year

Number of births, percent with complete birth date, sex ratio at birth, and calendar year ratio for children still alive at the time of the survey (L), children who died by the time of the survey (D), and total children (T), by calendar year (weighted), Uttar Pradesh, 1998–99

Calendar year	Number of births			Percent with complete birth date ¹			Sex ratio at birth ²			Calendar year ratio ³		
	L	D	T	L	D	T	L	D	T	L	D	T
1999	93	1	95	100.0	100.0	100.0	1,074	NC	1,102	NA	NA	NA
1998	1,418	115	1,533	99.9	99.1	99.9	885	986	892	NC	NC	NC
1997	1,314	116	1,430	99.5	100.0	99.5	960	1,012	965	NC	NC	NC
1996	1,345	147	1,492	99.6	97.4	99.4	935	1,222	960	104.8	116.8	105.9
1995	1,253	135	1,388	99.1	96.1	98.8	992	1,256	1,015	86.2	64.2	83.4
1994	1,562	275	1,837	98.8	98.5	98.8	955	1,318	1,002	108.8	147.9	113.3
1993	1,618	237	1,854	98.7	97.3	98.6	911	1,037	926	103.7	88.4	101.5
1992	1,558	261	1,818	98.5	96.1	98.1	916	1,070	937	106.0	121.5	108.0
1991	1,321	192	1,513	98.6	92.2	97.8	830	1,273	876	85.5	73.0	83.7
1990	1,531	265	1,796	98.2	94.5	97.6	844	1,016	867	128.0	123.6	127.4
1989	1,071	237	1,308	97.6	95.6	97.2	957	949	955	68.0	88.4	71.0
1988	1,619	271	1,890	98.6	94.3	98.0	885	1,008	902	159.9	118.8	152.3
1993–97	7,091	910	8,001	99.1	97.8	99.0	948	1,174	972	NA	NA	NA
1988–92	7,099	1,226	8,326	98.3	94.6	97.8	882	1,048	905	NA	NA	NA
1983–87	5,308	1,176	6,484	97.8	94.6	97.2	841	1,018	871	NA	NA	NA
1978–82	3,881	1,019	4,899	97.6	93.7	96.8	851	1,109	899	NA	NA	NA
1977 or earlier	2,749	1,176	3,925	97.5	91.4	95.7	821	847	829	NA	NA	NA
All	27,640	5,623	33,263	98.3	94.4	97.7	881	1,024	903	NA	NA	NA

NA: Not applicable

NC: Not calculated because full-year data were not collected for 1998 and 1999 (the survey began during 1998) or because the sex ratio at birth is undefined.

¹ Both year and month of birth given

² $(B_f/B_m) \times 1000$, where B_f and B_m are the numbers of female and male births, respectively

³ $[2B_x / (B_{x-1} + B_{x+1})] \times 100$, where B_x is the number of births in calendar year x

Table B.5 Reporting of age at death in days				
Distribution of reported deaths under 1 month of age by age at death in days and percentage of neonatal deaths reported to occur at age 0–6 days, for births occurring during five-year periods preceding the survey (weighted), Uttar Pradesh, 1998–99				
Age at death (days)	Years preceding survey			
	0–4	5–9	10–14	0–14
< 1	136	172	123	431
1	50	61	52	163
2	24	31	33	88
3	38	50	30	117
4	13	18	21	52
5	16	28	34	78
6	20	38	42	99
7	11	21	21	53
8	22	34	37	93
9	6	9	11	26
10	8	16	26	50
11	5	9	8	23
12	9	9	7	25
13	3	5	6	13
14	4	4	3	12
15	19	28	21	68
16	0	2	2	4
17	1	3	0	4
18	1	6	1	8
19	2	2	3	8
20	4	9	7	20
21	4	2	0	5
22	1	1	2	5
23	0	0	1	1
24	0	1	3	5
25	1	0	3	4
26	0	1	0	1
27	0	1	0	1
28	0	0	1	1
29	0	0	3	3
30	0	0	3	3
Missing	0	0	1	2
0–30	399	562	506	1,466
Percent early neonatal ¹	74.2	70.9	66.2	70.2

¹Deaths during the first 6 days divided by deaths during the first 30 days

age segments for which the rates are calculated. For example, 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 year 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 may have actually occurred during infancy (that is, at ages 0–11 months). In this case, heaping would bias the infant mortality rate downward and the child mortality rate upward.

Examination of the distribution of deaths under age two years during the 15 years before the survey by month of death (Table B.6) indicates that there is substantial heaping of deaths at 6, 12, and 18 months of age. The heaping at 12 months is considerable despite the strong emphasis on this problem during the training of interviewers for the NFHS-2 fieldwork. Nevertheless, even if one-third of the deaths reported at age 12 months or age one year actually

Table B.6 Reporting of age at death in months				
Distribution of reported deaths under two years of age by age at death in months and percentage of infant deaths reported to occur at age under one month, for births occurring during five-year periods preceding the survey (weighted), Uttar Pradesh, 1998–99				
Age at death (months)	Years preceding survey			
	0–4	5–9	10–14	0–14
< 1	399	562	507	1,468
1	53	67	78	198
2	27	32	38	97
3	22	22	31	75
4	15	19	19	54
5	9	23	23	55
6	30	38	32	100
7	14	15	14	43
8	23	14	16	54
9	18	15	25	58
10	9	8	17	35
11	9	10	8	27
12	55	79	76	211
13	4	1	2	8
14	1	1	3	6
15	2	0	4	6
16	1	0	1	2
17	0	0	0	0
18	8	27	28	63
19	0	0	0	0
20	2	1	1	4
21	1	0	0	1
22	1	1	1	3
23	0	2	0	2
1 year	5	10	16	31
0–11 months	629	826	809	2,263
Percent neonatal ¹	63.4	68.1	62.7	64.9

¹Deaths during the first month divided by deaths during the first year

occurred at less than 12 months of age, the infant mortality rate for the five years before the survey would be underestimated by only 3 percent. Therefore, the degree of heaping on 12 months and one year might lead to a slight underestimate of the postneonatal and infant mortality rates, but a more substantial overestimate of the child mortality rate.

APPENDIX C

UTTAR PRADESH NFHS-2 STAFF

ACNielsen Research Services Private Limited, New Delhi

Mr. Jyoti Shankar Tewari
(Project Director)

Mr. Yatinder Singh
Mr. Inderjeet Singh Hira
(Field Coordinators)

Team Supervisors

Mr. Alok Kumar
Mr. M.P. Singh
Mr. Shiva Kant
Mr. Hemant Gandhi
Mr. Ravi Prakash Srivastava
Mr. Vijay Nigam
Ms. Geetika Pandey
Mr. Mohammad Zahid
Mr. Himanshu Mishra
Mr. G.S. Singh
Mr. Shailendra Singh
Mr. D.D. Meena

Mr. Anantha Rao
Dr. M.A. Vasudeva Rao
Ms. Rupa Jakharia
(Project Coordinators)

Field Editors

Ms. Kavita Rawat
Ms. Seema Sharma
Ms. Poonam Singh
Ms. Mamta Bisth
Ms. Saroj Dixit
Ms. Seema Jouhari
Ms. Kiran Kanwar
Ms. Sonika
Ms. Ranjana Rawat
Mrs. Nutan Gupta
Mrs. Bindu

Health Investigators

Mr. Manoj Dewedi
Mr. Anoop Kumar Ahirwar
Ms. Kiran Gupta
Mr. Furkhan Ahmed
Mr. Gyanendra Ojha
Mr. Brijesh Kumar

Mr. R.P. Singh
Mr. Budhiram
Mr. Vijayendra Kumar
Dr. Dalchana
Mr. Yogesh Arya

Interviewers

Ms. Simmi Awasthi
Ms. Nimmi Awasthi
Mrs. Vandana Singh
Mrs. Sadhana Choudhary
Ms. Arti Singh
Ms. Mukta Agarwal
Mrs. Sarita Saxena
Mrs. Uma Arora

Ms. Abha Agarwal
Mrs. Anju Singh
Mrs. Lalita Tyagi
Mrs. Vijaya Sachdeva
Ms. Sapna Sachdeva
Mrs. Babita Kataria
Mrs. Neelam Dhir
Ms. Sikha Bharadwaj

Interviewers

Mrs. Sarla Srivastava
Ms. Shalini Khare
Ms. Nisha Tiwari
Ms. Sushma Asthana
Ms. Suman Sharma
Ms. Neetu Singh
Ms. Varsha Variya
Ms. Manisha Jouhari
Ms. Preeti Verma
Mrs. Madhu Agarwal
Ms. Sarita Tewari
Ms. Kiran Verma
Ms. Poonam Singh (IInd)
Ms. Neelima Gupta
MS. Asha Mishra
Ms. Shikha Srivastava

Mr. Anantha Rao
(Data Processing Coordinator)

Ms. Kaushalya Pokhriyal
Ms. Rupvati
Ms. Sashi Sharma (I)
Mrs. Shashi Sharma (II)
Mrs. Jyoti Benjamin
Mrs. Vimlesh Shukla
Ms. Shivani James
Mrs. Savitri
Mrs. Rajini
Ms. Monika
Mrs. Sheema Sharma
Mrs. Kamal Chawla
Ms. Anju Verma
Ms. Rajni Gautam
Mrs. Asha Kaushal
Mrs. Saroj

Mr. Rickie Khosla
Mr. Prahallad Rout
(Data Entry Supervisor)

Household Listing Coordinators and Field Assistance

Mr. Rana Ranbir Singh
Mr. R.K. Manocha

Mr. Omkar Arora

Household Listing Supervisors

Mr. Ranjan Sharma
Mr. Arun Kr.
Mr. Sanjit Kumar
Mr. Rajeev Ranjan
Mr. Hemant Gandhi
Mr. Ravi Prakash Srivastava

Mr. Vijay Nigam
Mr. Rajesh Kumar Verma
Mr. Dilip
Mr. Rakesh Kumar Tripathi
Mr. Shiva Kumar Tripathi

Household Listers & Mappers

Mr. Shiva Soni
Mr. Kazisabi Hul Haq
Mr. Dinesh Kumar Srivastava
Mr. Yogesh Kumar Srivastava
Mr. Rajesh Kumar Gaur
Mr. Avinash Sonkar
Mr. Shailendra Singh
Mr. Sudhir Singh
Mr. Vinod Kumar Srivastava

Mr. Jwala Kumar
Mr. Bhola Prasad
Mr. Raman Kumar
Mr. Rajkumar Singh
Mr. Surender Pal
Mr. Rishipal
Mr. Luit Mohanta
Mr. Pawan Sharma
Mr. Mahavir Prasad

Household Listers and Mappers

Mr. Praveen Kumar Singh
Mr. Pankaj Shahu
Mr. Virendra Singh
Mr. Shahshank Shukla
Mr. Vimal Kumar Verma
Mr. Kulveer Singh Rawat
Mr. Manoj Kumar Rastogi
Mr. Suresh Yadav
Mr. Prem Pal Singh
Mr. Mohd. Arif
Mr. Yashwant Srivastava
Mr. Shailendra Srivastava
Mr. Sunil Singh
Mr. Pradeep Tiwari
Mr. Ball Mukund Pandey
Mr. Sunil Srivastava
Mr. Santosh Pandey
Mr. Manoj Kumar Singh
Mr. Sanjay Kumar Singh
Mr. Daya Shankar Soni
Mr. Sunil Kumar Chaudhry
Mr. Jitendra Bahadur Singh

Mr. Brijraj Singh
Mr. Lalit Kumar Jha
Mr. Surinder Kumar
Mr. J. Akber
Mr. Digambar Mishra
Mr. Ravindrer Kumar Susonja
Mr. S.K. Singh
Mr. Mohan Kumar Priyadarshan
Mr. Bijendra Pratap Singh
Mr. Rajan Singh
Mr. Abhay Mohan Mishra
Mr. Santosh Kumar
Mr. Shashi Kant
Mr. Satya Prakash
Mr. Himanshu Mishra
Mr. Prabhakar Gurung
Mr. M. Gyasuddin
Mr. Pawan Kumar Singh
Mr. Nishant Singh
Mr. Pradeep Dey
Mr. Rahul Kumar
Mr. Dinesh Giri

Office Editors

Mr. Bijay K. Barik
Mr. Suvaprada Sarangi
Mr. Ranjan K. Parida
Mr. Jitesh K.

Mr. Swapnajit Ghosh
Mr. Lalit Mahakud
Mr. Srikrishna Malik

Data Entry Operators

Ms. Shiny Saju
Mr. Gangadhar Mohanty
Mr. Sultan Ahmed
Mr. Jitender Singh
Mr. Kalyan Sundaram
Mr. Ashok Kumar
Mr. Shailendra Singh
Mr. Yunush Alam

Mr. Pramod Singh
Mr. Rajesh Pandey
Mr. Rohit K. Mandal
Mr. Prasenjit K. Das
Mr. Kanchan Bhowmik
Mr. Pradeep K. Mohapatra
Mr. Vinu Krishan Kutty

International Institute for Population Sciences, Mumbai

Prof. K. B. Pathak
Prof. T. K. Roy
(Project Directors)

Dr. Sumati Kulkarni
Dr. Arvind Pandey
Dr. Kamla Gupta
Dr. Parveen Nangia
(Project Coordinators)

Senior Research Officers

Dr. Rajeshri Chitanand
Dr. Damodar Sahu
Dr. Yonah Bhutia

Health Coordinators

Dr. Vikash Chandra
Dr. P.V. Kaushik
Dr. Sanjeev P. Walokar

Research Officers

Mr. Mukul Agarwal
Dr. Sushanta Kumar Banerjee
Ms. Shahina Begum
Mr. B.N.N. Chowdary
Dr. Madhumita Das
Mrs. N. Hemalata
Dr. A.A. Jayachandran
Dr. V. Jayachandran
Dr. Biranchi N. Jena
Mr. Nizamuddin Khan

Mr. Anurag Mishra
Mr. M.N. Murthy
Mr. Rajesh Nainakwal
Mr. Anup Murari Rajan
Dr. K.I. Shajy
Mr. Vivek Sharma
Mr. Vishal Dev Shastri
Ms. Preeti Upadhyaya
Ms. Pavani Upadrashta
Mrs. Y. Vaidehi

Accounts and Administrative Staff

Mr. R.S. Hegde, Sr. Accountant
Mr. D. Lokanathan, Sr. Secretarial Assistant
Mr. Sadashiv Jathade, Jr. Secretarial Assistant

Mr. Pramod T. Sawant, Office Boy
Mr. Parasnath Verma, Office Boy

Consultants

Dr. Rajib Acharya
Dr. Fred Arnold
Mr. David Cantor
Ms. Anne Currie
Dr. Umesh Kapil
Mr. Zaheer Ahmad Khan
Dr. Sunita Kishor
Mr. Sushil Kumar
Dr. Vinod K. Mishra

Mr. Hendrik J. Raggars
Dr. Robert D. Retherford
Dr. Tulshi Saha
Mr. O.P. Sharma
Dr. Almaz Sharman
Dr. Vijay K. Verma
Ms. Sidney B. Westley
Mr. Martin Wulfe

Steering Committee for NFHS-2

Secretary (Family Welfare)
Ministry of Health and Family Welfare
New Delhi

Joint Secretary (S)
Department of Family Welfare
Ministry of Health and Family Welfare
New Delhi

Joint Secretary and Financial Advisor
Ministry of Health and Family Welfare
New Delhi

Chief Director (S)
Department of Family Welfare
Ministry of Health and Family Welfare
New Delhi

Advisor (Health)
Planning Commission
New Delhi

Secretary
Department of Statistics
Ministry of Planning and Programme
Implementation
New Delhi

Secretary
Women and Child Welfare
Ministry of Human Resource Development
New Delhi

Registrar General, India
New Delhi

Director General of Health Services
Ministry of Health and Family Welfare
New Delhi

Representative
United States Agency for International
Development
New Delhi

Prof. M.M. Gandotra
Additional Director
Population Research Centre
M.S. University of Baroda
Vadodara

Prof. K. Srinivasan
Executive Director
Population Foundation of India
New Delhi

Prof. Pravin Visaria
Director
Institute of Economic Growth
New Delhi

Director
International Institute for Population
Sciences
Mumbai

Administrative and Financial Management Committee for NFHS-2

Joint Secretary and Financial Advisor
Ministry of Health and Family Welfare
New Delhi

Joint Secretary (S)
Department of Family Welfare
Ministry of Health and Family Welfare
New Delhi

Chief Director (S)
Department of Family Welfare
Ministry of Health and Family Welfare
New Delhi

Representative
ORC Macro
Calverton, Maryland, USA

Representative
United States Agency for International
Development
New Delhi

Dr. A.K. Sengupta
Honorary Director
Population Research Centre
Department of Economics
Lucknow University
Lucknow

Dr. Sumati Kulkarni
Professor & Head
Department of Development Studies
International Institute for Population
Sciences
Mumbai

Director
International Institute for Population
Sciences
Mumbai

Technical Advisory Committee for NFHS-2

Dr. T.K. Roy
Director
International Institute for Population
Sciences
Mumbai

Chief Director (S)
Department of Family Welfare
Ministry of Health and Family Welfare
New Delhi

Secretary
Department of Statistics
Ministry of Planning and Programme
Implementation
New Delhi

Prof. P.N. Mari Bhat
Head
Population Research Centre
Institute of Economic Growth
New Delhi

Prof. M.M. Gandotra
Additional Director
Population Research Centre
M.S. University of Baroda
Vadodara

Prof. P. Hanumantha Rayappa
Former Head
Population Research Centre
Institute of Social and Economic Change
Bangalore

Dr. Sumati Kulkarni
Professor & Head
Department of Development Studies
International Institute for Population
Sciences
Mumbai

Representative
ORC Macro
Calverton, Maryland, USA

Representative
East-West Center
Honolulu, Hawaii, USA

Representative
United States Agency for International
Development
New Delhi

LIST OF CONTRIBUTORS

Dr. Arvind Pandey, Director, Institute for Research on Medical Statistics (IRMS), ICMR, Medical Enclave, Ansari Nagar, New Delhi-110 029, India

Dr. Fred Arnold, Vice President, ORC Macro, 11785 Beltsville Drive, Calverton, Maryland 20705, USA

Dr. T.K. Roy, Director, International Institute for Population Sciences, Govandi Station Rd., Deonar, Mumbai-400 088, India

Dr. Robert D. Retherford, Coordinator, Population and Health Studies Research Program, East-West Center, 1601 East-West Rd., Honolulu, Hawaii 96848, USA

Dr. Pradeep Mishra, Additional Director, Population Research Centre, Department of Economics, University of Lucknow, Lucknow-226 010, India

Dr. Sunita Kishor, Senior Gender Specialist, ORC Macro, 11785 Beltsville Drive, Calverton, Maryland 20705, USA

Dr. Sumati Kulkarni, Professor and Head, Department of Development Studies, International Institute for Population Sciences, Govandi Station Rd., Deonar, Mumbai-400 088, India

Dr. Kamla Gupta, Professor, Department of Migration and Urban Studies, International Institute for Population Sciences, Govandi Station Rd., Deonar, Mumbai-400 088, India

Dr. P.K. Mangain, Assistant Director, Population Research Centre, Department of Economics, University of Lucknow, Lucknow-226 010, India

Mr. Zaheer Ahmad Khan, Consultant, ORC Macro, 11785 Beltsville Drive, Calverton, Maryland 20705, USA

Dr. Damodar Sahu, Senior Research Officer, International Institute for Population Sciences, Govandi Station Rd., Deonar, Mumbai-400 088, India

APPENDIX D
SURVEY INSTRUMENTS

NATIONAL FAMILY HEALTH SURVEY, 1998-99 (NFHS-2)
HOUSEHOLD QUESTIONNAIRE

CONFIDENTIAL
For Research
Purposes Only

INDIA

IDENTIFICATION																																																																			
STATE _____	<table border="1"> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>																																																																		
DISTRICT _____																																																																			
TEHSIL/TALUK _____																																																																			
CITY/TOWN/VILLAGE _____																																																																			
URBAN/RURAL (urban=1, rural=2).....																																																																			
LARGE CITY/SMALL CITY/TOWN/RURAL AREA..... (large city=1, small city=2, town=3, rural area=4)																																																																			
PSU NUMBER.....																																																																			
HOUSEHOLD NUMBER.....																																																																			
NAME OF HOUSEHOLD HEAD _____																																																																			
ADDRESS OF HOUSEHOLD _____																																																																			

INTERVIEWER VISITS											
	1	2	3	FINAL VISIT							
DATE				DAY <table border="1"><tr><td></td><td></td></tr></table> MONTH <table border="1"><tr><td></td><td></td></tr></table> YEAR <table border="1"><tr><td>1</td><td>9</td></tr></table>					1	9	
1	9										
INTERVIEWER'S NAME				NAME CODE <table border="1"><tr><td></td><td></td></tr></table>							
RESULT*				RESULT CODE <table border="1"><tr><td></td><td></td></tr></table>							
NEXT VISIT: DATE TIME			<table border="1"><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>							TOTAL NUMBER OF VISITS <table border="1"><tr><td></td></tr></table>	
*RESULT CODES: 1 COMPLETED 2 NO HOUSEHOLD MEMBER AT HOME OR NO COMPETENT RESPONDENT AT HOME AT THE TIME OF VISIT 3 ENTIRE HOUSEHOLD ABSENT FOR EXTENDED PERIOD 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 <table border="1"><tr><td></td><td></td></tr></table> TOTAL ELIGIBLE WOMEN <table border="1"><tr><td></td><td></td></tr></table> LINE NO. OF RESP. TO HOUSEHOLD SCHEDULE <table border="1"><tr><td></td><td></td></tr></table>							

DATE	SUPERVISOR <table border="1"><tr><td></td><td></td></tr></table>			FIELD EDITOR <table border="1"><tr><td></td><td></td></tr></table>			OFFICE EDITOR <table border="1"><tr><td></td><td></td></tr></table>			KEYED BY <table border="1"><tr><td></td><td></td></tr></table>		
NAME												

HOUSEHOLD SCHEDULE (CONTINUED)

(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
			YES NO	YES NO	M F	IN YEARS	CM NG S DS D W NM		YES NO	YES NO	REASON	GRADE	YES NO	REASON
09			1 2	1 2	1 2		1 2 3 4 5 6 7	09	1 2	1 2			1 2	
10			1 2	1 2	1 2		1 2 3 4 5 6 7	10	1 2	1 2			1 2	
11			1 2	1 2	1 2		1 2 3 4 5 6 7	11	1 2	1 2			1 2	
12			1 2	1 2	1 2		1 2 3 4 5 6 7	12	1 2	1 2			1 2	
13			1 2	1 2	1 2		1 2 3 4 5 6 7	13	1 2	1 2			1 2	
14			1 2	1 2	1 2		1 2 3 4 5 6 7	14	1 2	1 2			1 2	
15			1 2	1 2	1 2		1 2 3 4 5 6 7	15	1 2	1 2			1 2	
16			1 2	1 2	1 2		1 2 3 4 5 6 7	16	1 2	1 2			1 2	

TICK HERE IF CONTINUATION SHEET USED TOTAL NUMBER OF ELIGIBLE WOMEN

265

* CODES FOR Q.4

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= BROTHER-IN-LAW OR SISTER-IN-LAW
- 10= NIECE OR NEPHEW
- 11= OTHER RELATIVE
- 12= ADOPTED/FOSTER CHILD
- 13= NOT RELATED

** CODES FOR Q.8

- 00= AGE LESS THAN ONE YEAR
- 95= AGE 95 YEARS OR MORE

*** CODES FOR Q.9

- MARITAL STATUS:
- 1= CURRENTLY MARRIED
 - 2= MARRIED, BUT GAUNA
 - 3= NOT PERFORMED
 - 4= SEPARATED
 - 5= DESERTED
 - 6= DIVORCED
 - 7= WIDOWED
 - 8= NEVER MARRIED

****CODES FOR Q.13

- 01= SCHOOL TOO FAR AWAY
- 02= TRANSPORT NOT AVAILABLE
- 03= EDUCATION NOT CONSIDERED NECESSARY
- 04= REQUIRED FOR HOUSEHOLD WORK
- 05= REQUIRED FOR WORK ON FARM/FAMILY BUSINESS
- 06= REQUIRED FOR OUTSIDE WORK FOR PAYMENT IN CASH OR KIND
- 07= COST TOO MUCH
- 08= NO PROPER SCHOOL FACILITIES FOR GIRLS
- 09= REQUIRED FOR CARE OF SIBLINGS
- 10= NOT INTERESTED IN STUDIES
- 96= OTHER
- 98= DK

*****CODES FOR Q.14

- GRADE:
- 00= LESS THAN 1 YEAR COMPLETED

*****CODES FOR Q.16

- 01= SCHOOL TOO FAR AWAY
- 02= TRANSPORT NOT AVAILABLE
- 03= FURTHER EDUCATION NOT CONSIDERED NECESSARY
- 04= REQUIRED FOR HOUSEHOLD WORK
- 05= REQUIRED FOR WORK ON FARM/FAMILY BUSINESS
- 06= REQUIRED FOR OUTSIDE WORK FOR PAYMENT IN CASH OR KIND
- 07= COST TOO MUCH
- 08= NO PROPER SCHOOL FACILITIES FOR GIRLS
- 09= REQUIRED FOR CARE OF SIBLINGS
- 10= NOT INTERESTED IN STUDIES
- 11= REPEATED FAILURES
- 12= GOT MARRIED
- 96= OTHER
- 98= DK

PSU NO. _____

HH NO. _____

LINE NO.	IF AGE 6 YEARS OR OLDER		AFTER COMPLETING COLUMNS 1-18 FOR ALL LISTED PERSONS, ASK:																		
	OCCUPATION		Does anyone listed suffer from:										Does anyone listed:			Has any (other) person listed ever smoked regularly? RECORD FOR CURRENT NONSMOKERS ONLY (27)					
	What kind of work does (NAME) do most of the time? (17)	IF WORKING Does (NAME) earn cash for this work? (18)	Asthma? RECORD FOR EACH PERSON (19)	Tuberculosis? RECORD FOR EACH PERSON (20)	IF SUFFERS FROM TUBERCULOSIS		Did anyone listed suffer from malaria at any time during the last <u>three</u> months? RECORD FOR EACH PERSON (22)	Did anyone listed suffer from jaundice at any time during the last <u>twelve</u> months? RECORD FOR EACH PERSON (23)	Chew paan masala or tobacco? RECORD FOR EACH PERSON (24)	Drink alcohol? RECORD FOR EACH PERSON (25)	Smoke? RECORD FOR EACH PERSON (26)										
Has (NAME) received medical treatment for tuberculosis? (21)						YES						NO	YES	NO	YES		NO	YES	NO	YES	NO
01			1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	3
02			1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	3
03			1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	3
04			1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	3
05			1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	3
06			1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	3
07			1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	3
08			1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	3

PSU NO. _____

HH NO. _____

	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)
		YES NO DK									
09	<input type="checkbox"/>	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2 3
10	<input type="checkbox"/>	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2 3
11	<input type="checkbox"/>	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2 3
12	<input type="checkbox"/>	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2 3
13	<input type="checkbox"/>	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2 3
14	<input type="checkbox"/>	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2 3
15	<input type="checkbox"/>	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2 3
16	<input type="checkbox"/>	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2 3

267

28 Just to make sure that I have a complete listing:

- 1) Are there any other persons such as small children or infants that we have not listed? YES → ENTER EACH IN TABLE NO
- 2) In addition, are there any other people who may not be members of your family, such as domestic servants, lodgers or friends who usually live here? YES → ENTER EACH IN TABLE NO
- 3) Do you have any guests or temporary visitors staying here, or anyone else who stayed here last night? YES → ENTER EACH IN TABLE NO

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
29	When members of your household get sick, where do they generally go for treatment?	PUBLIC MEDICAL SECTOR GOVT./MUNICIPAL HOSPITAL.....11 GOVT. DISPENSARY.....12 UHC/UHP/UFWC.....13 CHC/RURAL HOSPITAL/PHC.....14 SUB-CENTRE.....15 GOVT. MOBILE CLINIC.....16 GOVT. PARAMEDIC.....17 OTHER PUBLIC SECTOR HEALTH FACILITY.....18 NGO/TRUST HOSPITAL/CLINIC.....21 NGO WORKER.....22 PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC.....31 PVT. DOCTOR.....32 PVT. MOBILE CLINIC.....33 PVT. PARAMEDIC.....34 VAIDYA/HAKIM/HOMEOPATH.....35 TRADITIONAL HEALER.....36 PHARMACY/DRUGSTORE.....37 DAI (TBA).....38 OTHER PRIVATE SECTOR HEALTH FACILITY.....39 OTHER SHOP.....41 HOME TREATMENT.....42 OTHER _____ 96 (SPECIFY)	
30	What is the main source of drinking water for members of your household?	PIPED WATER PIPED INTO RESIDENCE/YARD/PLOT.....11 →32 PUBLIC TAP.....12 GROUND WATER HANDPUMP IN RESIDENCE/ YARD/PLOT.....21 →32 PUBLIC HANDPUMP.....22 WELL WATER WELL IN RESIDENCE/YARD/PLOT COVERED WELL.....31 OPEN WELL.....32 →32 PUBLIC WELL COVERED WELL.....33 OPEN WELL.....34 SURFACE WATER SPRING.....41 RIVER/STREAM.....42 POND/LAKE.....43 DAM.....44 RAINWATER.....51 TANKER TRUCK.....61 OTHER _____ 96 (SPECIFY)	
31	How long does it take to go there, get water, and come back in one trip?	MINUTES..... <input type="text"/> <input type="text"/> <input type="text"/>	
32	What do you do to purify drinking water, if anything? RECORD ALL MENTIONED.	STRAIN BY CLOTH.....A ALUM.....B WATER FILTER.....C BOILING.....D ELECTRONIC PURIFIER.....E NOTHING.....F OTHER _____ X (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
33	What kind of toilet facility does your household have?	FLUSH TOILET OWN FLUSH TOILET.....11 SHARED FLUSH TOILET.....12 PUBLIC FLUSH TOILET.....13 PIT TOILET/LATRINE OWN PIT TOILET/LATRINE.....21 SHARED PIT TOILET/LATRINE.....22 PUBLIC PIT TOILET/LATRINE.....23 NO FACILITY/BUSH/FIELD.....31 OTHER _____ 96 (SPECIFY)	
34	What is the main source of lighting for your household?	ELECTRICITY.....1 KEROSENE.....2 GAS.....3 OIL.....4 OTHER _____ 6 (SPECIFY)	
35	How many rooms are there in your household?	ROOMS..... <input type="text"/>	
36	Do you have a separate room which is used as a kitchen?	YES.....1 NO.....2	
37	What type of fuel does your household mainly use for cooking?	WOOD.....01 CROP RESIDUES.....02 DUNG CAKES.....03 COAL/COKE/LIGNITE.....04 CHARCOAL.....05 KEROSENE.....06 ELECTRICITY.....07 LIQUID PETROLEUM GAS.....08 BIO-GAS.....09 OTHER _____ 96 (SPECIFY)	
38	What other types of fuel does your household commonly use for cooking or heating? RECORD ALL MENTIONED.	WOOD.....A CROP RESIDUES.....B DUNG CAKES.....C COAL/COKE/LIGNITE.....D CHARCOAL.....E KEROSENE.....F ELECTRICITY.....G LIQUID PETROLEUM GAS.....H BIO-GAS.....I OTHER _____ X (SPECIFY) NO OTHER TYPE.....Y	
39	What is the religion of the head of the household?	HINDU.....01 MUSLIM.....02 CHRISTIAN.....03 SIKH.....04 BUDDHIST/NEO BUDDHIST.....05 JAIN.....06 JEWISH.....07 ZOROASTRIAN/PARSI.....08 NO RELIGION.....09 OTHER _____ 96 (SPECIFY)	
40	What is the caste or tribe of the head of the household?	CASTE _____ 1 (SPECIFY) TRIBE _____ 2 (SPECIFY) NO CASTE/TRIBE.....3 →42	
41	Is this a scheduled caste, a scheduled tribe, other backward caste, or none of them?	SC.....1 ST.....2 OBC.....3 NONE OF THEM.....4	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP																																																															
42	Does this household own this house or any other house?	YES.....1 NO.....2																																																																
43	Does this household own any agricultural land?	YES.....1 NO.....2	→46																																																															
44	_____ (SIZE AND UNIT) How much agricultural land does this household own?	ACRES..... <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/>																																																																
45	_____ (SIZE AND UNIT) Out of this land, how much is irrigated?	ACRES..... <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> NONE.....9995																																																																
46	Does this household own any livestock?	YES.....1 NO.....2																																																																
47	Does the household own any of the following:	<table border="0"> <thead> <tr> <th></th> <th>YES</th> <th>NO</th> </tr> </thead> <tbody> <tr><td>MATTRESS.....</td><td>1</td><td>2</td></tr> <tr><td>PRESSURE COOKER.....</td><td>1</td><td>2</td></tr> <tr><td>CHAIR.....</td><td>1</td><td>2</td></tr> <tr><td>COT/BED.....</td><td>1</td><td>2</td></tr> <tr><td>TABLE.....</td><td>1</td><td>2</td></tr> <tr><td>CLOCK/WATCH.....</td><td>1</td><td>2</td></tr> <tr><td>ELECTRIC FAN.....</td><td>1</td><td>2</td></tr> <tr><td>BICYCLE.....</td><td>1</td><td>2</td></tr> <tr><td>RADIO/TRANSISTOR.....</td><td>1</td><td>2</td></tr> <tr><td>SEWING MACHINE.....</td><td>1</td><td>2</td></tr> <tr><td>TELEPHONE.....</td><td>1</td><td>2</td></tr> <tr><td>REFRIGERATOR.....</td><td>1</td><td>2</td></tr> <tr><td>TELEVISION (B&W).....</td><td>1</td><td>2</td></tr> <tr><td>TELEVISION (COLOUR).....</td><td>1</td><td>2</td></tr> <tr><td>MOPED/SCOOTER/MOTORCYCLE...1</td><td>2</td><td></td></tr> <tr><td>CAR.....</td><td>1</td><td>2</td></tr> <tr><td>WATER PUMP.....</td><td>1</td><td>2</td></tr> <tr><td>BULLOCK CART.....</td><td>1</td><td>2</td></tr> <tr><td>THRESHER.....</td><td>1</td><td>2</td></tr> <tr><td>TRACTOR.....</td><td>1</td><td>2</td></tr> </tbody> </table>		YES	NO	MATTRESS.....	1	2	PRESSURE COOKER.....	1	2	CHAIR.....	1	2	COT/BED.....	1	2	TABLE.....	1	2	CLOCK/WATCH.....	1	2	ELECTRIC FAN.....	1	2	BICYCLE.....	1	2	RADIO/TRANSISTOR.....	1	2	SEWING MACHINE.....	1	2	TELEPHONE.....	1	2	REFRIGERATOR.....	1	2	TELEVISION (B&W).....	1	2	TELEVISION (COLOUR).....	1	2	MOPED/SCOOTER/MOTORCYCLE...1	2		CAR.....	1	2	WATER PUMP.....	1	2	BULLOCK CART.....	1	2	THRESHER.....	1	2	TRACTOR.....	1	2	
	YES	NO																																																																
MATTRESS.....	1	2																																																																
PRESSURE COOKER.....	1	2																																																																
CHAIR.....	1	2																																																																
COT/BED.....	1	2																																																																
TABLE.....	1	2																																																																
CLOCK/WATCH.....	1	2																																																																
ELECTRIC FAN.....	1	2																																																																
BICYCLE.....	1	2																																																																
RADIO/TRANSISTOR.....	1	2																																																																
SEWING MACHINE.....	1	2																																																																
TELEPHONE.....	1	2																																																																
REFRIGERATOR.....	1	2																																																																
TELEVISION (B&W).....	1	2																																																																
TELEVISION (COLOUR).....	1	2																																																																
MOPED/SCOOTER/MOTORCYCLE...1	2																																																																	
CAR.....	1	2																																																																
WATER PUMP.....	1	2																																																																
BULLOCK CART.....	1	2																																																																
THRESHER.....	1	2																																																																
TRACTOR.....	1	2																																																																
48	What is the main type of kitchenware this household uses?	<table border="0"> <tbody> <tr><td>CLAY.....</td><td>1</td></tr> <tr><td>ALUMINIUM.....</td><td>2</td></tr> <tr><td>CAST IRON.....</td><td>3</td></tr> <tr><td>BRASS/COPPER.....</td><td>4</td></tr> <tr><td>STAINLESS STEEL.....</td><td>5</td></tr> <tr><td>OTHER.....</td><td>6</td></tr> </tbody> </table> <p>(SPECIFY)</p>	CLAY.....	1	ALUMINIUM.....	2	CAST IRON.....	3	BRASS/COPPER.....	4	STAINLESS STEEL.....	5	OTHER.....	6																																																				
CLAY.....	1																																																																	
ALUMINIUM.....	2																																																																	
CAST IRON.....	3																																																																	
BRASS/COPPER.....	4																																																																	
STAINLESS STEEL.....	5																																																																	
OTHER.....	6																																																																	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
-----	-----------------------	-------------------	------

51	Did any usual resident of this household die since January 1996?	YES.....1 NO.....2 → 63	
----	--	----------------------------	--

52	How many persons died?	TOTAL DEATHS..... <input style="width:20px;" type="text"/>	
----	------------------------	--	--

53	54	55	56	57	58	59	60	61	62
What (was/were) the name(s) of the person(s) who died?	Was (NAME) a male or a female?	How old was he/she when he/she died? <small>RECORD DAYS IF LESS THAN ONE MONTH, MONTHS IF LESS THAN TWO YEARS, OR YEARS</small>	In what month and year did (NAME) die?	What did (NAME) die of?	CHECK 54 AND 55: DECEASED WAS FEMALE AGED 15-49 AT THE TIME OF DEATH	Was (NAME) pregnant when she died?	Did (NAME) die during childbirth?	Did (NAME) die within two months after the end of a pregnancy or childbirth?	Was the death of (NAME) due to a complication of the pregnancy or childbirth?

272

01	MALE.....1 FEMALE...2 (NAME)	DAYS....1 <input style="width:20px;" type="text"/> MONTHS..2 <input style="width:20px;" type="text"/> YEARS...3 <input style="width:20px;" type="text"/>	MONTH.. <input style="width:20px;" type="text"/> YEAR... <input style="width:20px;" type="text"/>		YES.....1 NO.....2 (GO TO NEXT DEATH) <	YES.....1 (GO TO 62) < NO.....2	YES.....1 (GO TO NEXT DEATH) < NO.....2	YES.....1 NO.....2 (GO TO NEXT DEATH) <	YES.....1 NO.....2
02	MALE.....1 FEMALE...2 (NAME)	DAYS....1 <input style="width:20px;" type="text"/> MONTHS..2 <input style="width:20px;" type="text"/> YEARS...3 <input style="width:20px;" type="text"/>	MONTH.. <input style="width:20px;" type="text"/> YEAR... <input style="width:20px;" type="text"/>		YES.....1 NO.....2 (GO TO NEXT DEATH) <	YES.....1 (GO TO 62) < NO.....2	YES.....1 (GO TO NEXT DEATH) < NO.....2	YES.....1 NO.....2 (GO TO NEXT DEATH) <	YES.....1 NO.....2
03	MALE.....1 FEMALE...2 (NAME)	DAYS....1 <input style="width:20px;" type="text"/> MONTHS..2 <input style="width:20px;" type="text"/> YEARS...3 <input style="width:20px;" type="text"/>	MONTH.. <input style="width:20px;" type="text"/> YEAR... <input style="width:20px;" type="text"/>		YES.....1 NO.....2 (GO TO NEXT DEATH) <	YES.....1 (GO TO 62) < NO.....2	YES.....1 (GO TO NEXT DEATH) < NO.....2	YES.....1 NO.....2 (GO TO NEXT DEATH) <	YES.....1 NO.....2

63	RECORD THE TIME.	HOUR..... <input style="width:20px;" type="text"/> MINUTES..... <input style="width:20px;" type="text"/>
----	------------------	---

NATIONAL FAMILY HEALTH SURVEY, 1998-99 (NFHS-2)
WOMAN'S QUESTIONNAIRE

CONFIDENTIAL
For Research
Purposes Only

INDIA

IDENTIFICATION																																																	
STATE _____	<table border="1"> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>																																																
DISTRICT _____																																																	
TEHSIL/TALUK _____																																																	
CITY/TOWN/VILLAGE _____																																																	
URBAN/RURAL (urban=1, rural=2).....																																																	
LARGE CITY/SMALL CITY/TOWN/RURAL AREA..... (large city=1, small city=2, town=3, rural area=4)																																																	
PSU NUMBER.....																																																	
HOUSEHOLD NUMBER.....																																																	
NAME AND LINE NUMBER OF WOMAN _____	<table border="1"> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>																																																
ADDRESS OF HOUSEHOLD _____																																																	

INTERVIEWER VISITS										
	1	2	3	FINAL VISIT						
DATE				DAY <table border="1"><tr><td></td><td></td></tr></table> MONTH <table border="1"><tr><td></td><td></td></tr></table> YEAR <table border="1"><tr><td>1</td><td>9</td></tr></table>					1	9
1	9									
INTERVIEWER'S NAME				NAME CODE <table border="1"><tr><td></td><td></td></tr></table>						
RESULT*				RESULT CODE <table border="1"><tr><td></td><td></td></tr></table>						
NEXT VISIT: DATE TIME				TOTAL NUMBER OF VISITS <table border="1"><tr><td></td></tr></table>						
*RESULT CODES: 1 COMPLETED 3 POSTPONED 5 PARTLY COMPLETED 2 NOT AT HOME 4 REFUSED 6 OTHER (SPECIFY) _____										
NATIVE LANGUAGE OF RESPONDENT**..... <table border="1"><tr><td></td><td></td></tr></table> **LANGUAGE CODES: 01 Assamese 05 Hindi 09 Manipuri 14 Konkani 02 Bengali 06 Kannada 10 Marathi 15 Sindhi 03 English 07 Kashmiri 11 Nepali 16 Tamil 04 Gujarati 08 Malayalam 12 Oriya 17 Telugu 19 Other (SPECIFY) _____ 13 Punjabi 18 Urdu										

DATE	SUPERVISOR <table border="1"><tr><td></td><td></td></tr></table>			FIELD EDITOR <table border="1"><tr><td></td><td></td></tr></table>			OFFICE EDITOR <table border="1"><tr><td></td><td></td></tr></table>			KEYED BY <table border="1"><tr><td></td><td></td></tr></table>		
NAME												

SECTION 1. RESPONDENT'S BACKGROUND

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
101	RECORD THE TIME.	HOUR..... MINUTES.....	<input type="checkbox"/> <input type="checkbox"/>
<p>Namaste. My name is _____ and I am working with (NAME OF THE ORGANISATION). We are conducting a national survey about the health of women and children. We would very much appreciate your participation in this survey.</p> <p>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 amount of time needed will be less than one hour. Participation in this survey is voluntary. If you decide to participate, you may stop answering questions at any time. Whatever information you provide will be kept strictly confidential and will not be shown to other persons.</p> <p>We hope that you will participate in the survey since your views are important. Do you want to ask me anything about the survey at this time?</p> <p>Signature of Interviewer: _____ Date: _____</p> <p>RESPONDENT AGREES FOR INTERVIEW.....1 RESPONDENT DOES NOT AGREE FOR INTERVIEW.....2 → END</p>			
102	First I would like to ask some questions about you and your household. For most of the time until you were 12 years old, did you live in a city, a town, or a village?	CITY/TOWN.....1 VILLAGE.....2	
103	How long have you been living continuously in (NAME OF CURRENT PLACE OF RESIDENCE)?	YEARS..... SINCE BIRTH.....95 VISITOR.....96	<input type="checkbox"/> →105
104	Just before you moved here, did you live in a city, a town, or a village?	CITY/TOWN.....1 VILLAGE.....2	
105	In what month and year were you born?	MONTH..... DK MONTH.....98 YEAR..... DK YEAR.....9998	<input type="checkbox"/> <input type="checkbox"/>
106	How old were you at your last birthday? COMPARE AND CORRECT 105 AND/OR 106 IF INCONSISTENT.	AGE IN COMPLETED YEARS.....	<input type="checkbox"/>

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
107	What is your current marital status?	CURRENTLY MARRIED.....1 MARRIED BUT GAUNA NOT PERFORMED..2 SEPARATED.....3 DESERTED.....4 DIVORCED.....5 WIDOWED.....6 NEVER MARRIED.....7	→END →110 →END
108	Are you living with your husband now or is he staying elsewhere?	LIVING WITH HUSBAND.....1 STAYING ELSEWHERE.....2	→110
109	For how long have you and your husband not been living together? IF LESS THAN 1 YEAR, RECORD MONTHS; OTHERWISE RECORD COMPLETED YEARS.	MONTHS.....1 YEARS.....2	<input type="text"/> <input type="text"/>
110	Now I would like to ask you some questions about your marriage. Have you been married only once or more than once?	ONCE.....1 MORE THAN ONCE.....2	→114
111	How old were you at the time of your <u>first</u> marriage?	AGE IN COMPLETED YEARS.....	<input type="text"/> <input type="text"/>
112	How old were you when you started living with your <u>first</u> husband?	AGE IN COMPLETED YEARS..... GAUNA HAD NOT TAKEN PLACE..... 96	<input type="text"/> <input type="text"/>
113	How old were you when your <u>first</u> marriage dissolved?	AGE IN COMPLETED YEARS.....	<input type="text"/> <input type="text"/>
114	How old were you at the time of your (current) marriage?	AGE IN COMPLETED YEARS.....	<input type="text"/> <input type="text"/>
115	How old were you when you started living with your (current) husband?	AGE IN COMPLETED YEARS..... GAUNA HAS NOT TAKEN PLACE.....96	→END

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
116	Have you ever attended school?	YES.....1 NO.....2	→119
117	What is the highest grade you completed?	GRADE..... <input type="text"/>	
118	CHECK 117: GRADE 0-5 <input type="checkbox"/> GRADE 6 AND ABOVE <input type="checkbox"/>		→120
119	Can you read and write?	YES.....1 NO.....2	→121
120	Do you usually read a newspaper or a magazine at least once a week?	YES.....1 NO.....2	
121	Do you usually listen to a radio at least once a week?	YES.....1 NO.....2	
122	Do you usually watch television at least once a week?	YES.....1 NO.....2	
123	Do you usually go to a cinema hall or theatre to see a movie at least once a month?	YES.....1 NO.....2	
124	How often do you yourself consume the following items: daily, weekly, occasionally, or never:		
	Milk or Curd?	MILK OR CURD..1 2 3 4	
	Pulses or beans?	PULSES/BEANS..1 2 3 4	
	Green leafy vegetables?	GREEN LEAFY...1 2 3 4	
	Other vegetables?	OTH. VEG.....1 2 3 4	
	Fruits?	FRUITS.....1 2 3 4	
	Eggs?	EGGS.....1 2 3 4	
	Chicken, meat, or fish?	CHICKEN/MEAT/ FISH.....1 2 3 4	

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.....	<input type="text"/> <input type="text"/>
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.....	<input type="text"/> <input type="text"/>
206	Have you ever given birth to a boy or a girl who was born alive but later died? IF NO, PROBE: Any baby who cried or showed any sign of life but only survived a few hours or days?	YES.....1 NO.....2	→208
207	In all, how many boys have died? And how many girls have died? IF NONE, RECORD '00'.	BOYS DEAD..... GIRLS DEAD.....	<input type="text"/> <input type="text"/>
208	SUM ANSWERS TO 203, 205, AND 207, AND ENTER TOTAL. IF NONE RECORD '00'.	TOTAL.....	<input type="text"/> <input type="text"/>
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 <input type="checkbox"/> NO <input type="checkbox"/> PROBE AND CORRECT 201-208 AS NECESSARY		
210	CHECK 208: ONE OR MORE BIRTHS <input type="checkbox"/> NO BIRTHS <input type="checkbox"/>		→225

211

Now I would like to talk to you about all the births in your lifetime, whether currently alive or not, starting with the first one you had.
RECORD NAMES OF ALL THE LIVE BIRTHS IN 212. RECORD TWINS AND TRIPLETS ON SEPARATE LINES.

212	213	214	215	216	217	218	218A	219	220*
What name was given to your (first, next) baby?	Were any of these twins?	Is (NAME) a boy or a girl?	In what month and year was (NAME) born? PROBE: What is his/her birthday?	Is (NAME) still alive?	How old was (NAME) at his/her last birthday? RECORD AGE IN COMPLETED YEARS.	IF ALIVE: Is (NAME) living with you?	IF ALIVE: RECORD HOUSEHOLD LINE NUMBER OF CHILD (RECORD '00' IF CHILD NOT LISTED IN HOUSEHOLD)	IF DEAD: How old was (NAME) when he/she died? IF "1 YEAR", PROBE: How many months old was (NAME)? RECORD DAYS IF LESS THAN 1 MONTH, MONTHS IF LESS THAN TWO YEARS, OR YEARS.	Between (NAME OF PREVIOUS BIRTH) and (NAME OF THIS BIRTH) did you have any stillbirth, spontaneous abortion, or induced abortion? (* FOR FIRST CHILD ASK: Before (NAME), did you have any stillbirth, spontaneous abortion, or induced abortion?) IF NONE, RECORD '0'. FOR SECOND TWIN, RECORD '0' IN EACH BOX WITHOUT ASKING.
01 _____ (NAME)	SING...1 MULT...2	BOY...1 GIRL...2	MONTH..... YEAR..	YES...1 NO...2 v 219	AGE IN YEARS 	YES.....1 NO.....2	LINE NUMBER ↓ (GO TO 220)	DAYS...1 MONTHS..2 YEARS...3	NUMBER OF STILLBIRTHS..... NUMBER OF SPON. ABORTIONS..... NUMBER OF INDUCED ABORTIONS.....
02 _____ (NAME)	SING...1 MULT...2	BOY...1 GIRL...2	MONTH..... YEAR..	YES...1 NO...2 v 219	AGE IN YEARS 	YES.....1 NO.....2	LINE NUMBER ↓ (GO TO 220)	DAYS...1 MONTHS..2 YEARS...3	NUMBER OF STILLBIRTHS..... NUMBER OF SPON. ABORTIONS..... NUMBER OF INDUCED ABORTIONS.....
03 _____ (NAME)	SING...1 MULT...2	BOY...1 GIRL...2	MONTH..... YEAR..	YES...1 NO...2 v 219	AGE IN YEARS 	YES.....1 NO.....2	LINE NUMBER ↓ (GO TO 220)	DAYS...1 MONTHS..2 YEARS...3	NUMBER OF STILLBIRTHS..... NUMBER OF SPON. ABORTIONS..... NUMBER OF INDUCED ABORTIONS.....
04 _____ (NAME)	SING...1 MULT...2	BOY...1 GIRL...2	MONTH..... YEAR..	YES...1 NO...2 v 219	AGE IN YEARS 	YES.....1 NO.....2	LINE NUMBER ↓ (GO TO 220)	DAYS...1 MONTHS..2 YEARS...3	NUMBER OF STILLBIRTHS..... NUMBER OF SPON. ABORTIONS..... NUMBER OF INDUCED ABORTIONS.....

212	213	214	215	216	217	218	218A	219	220*
05 <hr/> (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH..... YEAR..	YES...1 NO...2 ↓ v 219	AGE IN YEARS 	YES.....1 NO.....2	LINE NUMBER ↓ (GO TO 220)	DAYS...1 MONTHS..2 YEARS...3	NUMBER OF STILLBIRTHS..... NUMBER OF SPON. ABORTIONS..... NUMBER OF INDUCED ABORTIONS.....
06 <hr/> (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH..... YEAR..	YES...1 NO...2 ↓ v 219	AGE IN YEARS 	YES.....1 NO.....2	LINE NUMBER ↓ (GO TO 220)	DAYS...1 MONTHS..2 YEARS...3	NUMBER OF STILLBIRTHS..... NUMBER OF SPON. ABORTIONS..... NUMBER OF INDUCED ABORTIONS.....
07 <hr/> (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH..... YEAR..	YES...1 NO...2 ↓ v 219	AGE IN YEARS 	YES.....1 NO.....2	LINE NUMBER ↓ (GO TO 220)	DAYS...1 MONTHS..2 YEARS...3	NUMBER OF STILLBIRTHS..... NUMBER OF SPON. ABORTIONS..... NUMBER OF INDUCED ABORTIONS.....
08 <hr/> (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH..... YEAR..	YES...1 NO...2 ↓ v 219	AGE IN YEARS 	YES.....1 NO.....2	LINE NUMBER ↓ (GO TO 220)	DAYS...1 MONTHS..2 YEARS...3	NUMBER OF STILLBIRTHS..... NUMBER OF SPON. ABORTIONS..... NUMBER OF INDUCED ABORTIONS.....
09 <hr/> (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH..... YEAR..	YES...1 NO...2 ↓ v 219	AGE IN YEARS 	YES.....1 NO.....2	LINE NUMBER ↓ (GO TO 220)	DAYS...1 MONTHS..2 YEARS...3	NUMBER OF STILLBIRTHS..... NUMBER OF SPON. ABORTIONS..... NUMBER OF INDUCED ABORTIONS.....
10 <hr/> (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH..... YEAR..	YES...1 NO...2 ↓ v 219	AGE IN YEARS 	YES.....1 NO.....2	LINE NUMBER ↓ (GO TO 220)	DAYS...1 MONTHS..2 YEARS...3	NUMBER OF STILLBIRTHS..... NUMBER OF SPON. ABORTIONS..... NUMBER OF INDUCED ABORTIONS.....
11 <hr/> (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH..... YEAR..	YES...1 NO...2 ↓ v 219	AGE IN YEARS 	YES.....1 NO.....2	LINE NUMBER ↓ (GO TO 220)	DAYS...1 MONTHS..2 YEARS...3	NUMBER OF STILLBIRTHS..... NUMBER OF SPON. ABORTIONS..... NUMBER OF INDUCED ABORTIONS.....

212	213	214	215	216	217	218	218A	219	220*
12 _____ (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH..... YEAR..	YES...1 NO....2 v 219	AGE IN YEARS 	YES.....1 NO.....2	LINE NUMBER ↓ (GO TO 220)	DAYS....1 MONTHS..2 YEARS...3	NUMBER OF STILLBIRTHS..... NUMBER OF SPON. ABORTIONS..... NUMBER OF INDUCED ABORTIONS.....

221	<p>After the last birth, did you have any stillbirth, spontaneous abortion, or induced abortion? IF NONE, RECORD '0'</p>	<p>NUMBER OF STILLBIRTHS..... NUMBER OF SPON. ABORTIONS..... NUMBER OF INDUCED ABORTIONS.....</p>
-----	--	---

222	<p>CHECK 220 AND 221:</p> <p>Just to make sure that I have this right: you have had in TOTAL _____ STILLBIRTHS, _____ SPONTANEOUS ABORTIONS, and _____ INDUCED ABORTIONS during your life: Is that correct? YES, <input type="checkbox"/> NO <input type="checkbox"/> → PROBE AND CORRECT 220 - 221 AS NECESSARY</p>
-----	--

223	<p>COMPARE 208 WITH NUMBER OF BIRTHS IN HISTORY ABOVE AND MARK:</p> <p>NUMBERS ARE SAME <input type="checkbox"/> NUMBERS ARE DIFFERENT <input type="checkbox"/> → (PROBE AND RECONCILE)</p> <p>CHECK: FOR EACH BIRTH: YEAR OF BIRTH IS RECORDED. FOR EACH LIVING CHILD: CURRENT AGE IS RECORDED. FOR EACH DEAD CHILD: AGE AT DEATH IS RECORDED. FOR AGE AT DEATH 12 MONTHS: PROBE TO DETERMINE EXACT NUMBER OF MONTHS. FOR EACH CALENDAR BIRTH INTERVAL 4 OR MORE YEARS: EXPLANATION IS GIVEN.</p>
-----	--

224	<p>CHECK 215 AND ENTER THE NUMBER OF BIRTHS SINCE JANUARY 1995. IF NONE, RECORD '0'.</p>	<p><input type="checkbox"/> → 229</p>
-----	--	---------------------------------------

280

SECTION 3A. QUALITY OF CARE

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
301	<p>During the last 12 months, has a health or family planning worker visited you at home?</p>	<p>YES.....1 NO.....2</p>	<p>>308</p>
302	<p>How many times did a worker visit you in the last 12 months?</p>	<p>NUMBER OF TIMES..... <input type="text"/> <input type="text"/></p>	
303	<p>During these visits, what were the different matters talked about?</p> <p>Anything else?</p> <p>RECORD ALL MENTIONED.</p>	<p>FAMILY PLANNING.....A BREASTFEEDING.....B SUPPLEMENTARY FEEDING.....C IMMUNIZATION.....D NUTRITION.....E DISEASE PREVENTION.....F TREATMENT OF HEALTH PROBLEM.....G ANTENATAL CARE.....H DELIVERY CARE.....I POSTPARTUM CARE.....J CHILD CARE.....K SANITATION/CLEANLINESS.....L ORAL REHYDRATION.....M OTHER.....X (SPECIFY)</p>	
304	<p>When was the last time a health or family planning worker visited you at home?</p> <p>IF LESS THAN ONE MONTH, RECORD '00' MONTHS.</p>	<p>MONTHS AGO..... <input type="text"/> <input type="text"/></p>	
305	<p>Who visited you at that time?</p>	<p>PUBLIC SECTOR WORKER GOVT. DOCTOR.....11 PUBLIC HEALTH NURSE.....12 ANM/LHV.....13 MALE MPW/SUPERVISOR.....14 ANGANWADI WORKER.....15 VILLAGE HEALTH GUIDE.....16 OTHER PUBLIC SECTOR HEALTH WORKER.....17 NGO DOCTOR.....21 NGO WORKER.....22 PRIVATE SECTOR WORKER PRIVATE DOCTOR.....31 PRIVATE NURSE.....32 COMPOUNDER.....33 TRADITIONAL HEALER.....34 DAI (TBA).....35 OTHER PRIVATE SECTOR HEALTH WORKER.....36 OTHER.....96 (SPECIFY)</p>	
305A	<p>What type of services did you receive during this visit?</p> <p>Any other service?</p> <p>RECORD ALL MENTIONED.</p>	<p>PILL SUPPLY.....A CONDOM SUPPLY.....B FOLLOW-UP FOR STERILIZATION.....C FOLLOW-UP FOR IUD INSERTION.....D FAMILY PLANNING ADVICE.....E OTHER FAMILY PLANNING SERVICE...F IMMUNIZATION.....G ANTENATAL CARE.....H DELIVERY CARE.....I POSTPARTUM CARE.....J DISEASE PREVENTION.....K MEDICAL TREATMENT FOR SELF.....L TREATMENT FOR SICK CHILD.....M TREATMENT FOR OTHER PERSON.....N OTHER.....X (SPECIFY)</p>	
306	<p>Did she/he spend enough time with you?</p>	<p>YES.....1 NO.....2</p>	

NO	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
307	Did she/he talk to you nicely, somewhat nicely, or not nicely?	NICELY.....1 SOMEWHAT NICELY.....2 NOT NICELY.....3	
308	Have you visited a health facility or camp for any reason for yourself (or your children) in the last 12 months?	YES.....1 NO.....2	→317
309	During these visits in the last 12 months, what were the different matters talked about? Anything else? RECORD ALL MENTIONED.	FAMILY PLANNING.....A BREASTFEEDING.....B SUPPLEMENTARY FEEDING.....C IMMUNIZATION.....D NUTRITION.....E DISEASE PREVENTION.....F TREATMENT OF HEALTH PROBLEM...G ANTENATAL CARE.....H DELIVERY CARE.....I POSTPARTUM CARE.....J CHILD CARE.....K SANITATION/CLEANLINESS.....L ORAL REHYDRATION.....M OTHER _____ X (SPECIFY)	
310	What type of health facility did you visit most recently for yourself (or your children)?	PUBLIC MEDICAL SECTOR GOVT./MUNICIPAL HOSPITAL.....11 GOVT. DISPENSARY.....12 UHC/UHP/UFWC.....13 CHC/RURAL HOSPITAL/PHC.....14 SUB-CENTRE.....15 GOVT. MOBILE CLINIC.....16 CAMP.....17 OTHER PUBLIC SECTOR HEALTH FACILITY.....18 NGO/TRUST HOSPITAL/CLINIC.....21 PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC.....31 PVT. MOBILE CLINIC.....32 PHARMACY/DRUGSTORE.....33 OTHER PRIVATE SECTOR HEALTH FACILITY.....34 OTHER _____ 96 (SPECIFY)	
311	What service did you go for? Any other service? RECORD ALL MENTIONED.	PILL SUPPLY.....A CONDOM SUPPLY.....B IUD/LOOP INSERTION.....C STERILIZATION OPERATION.....D FOLLOW-UP FOR STERILIZATION.....E FOLLOW-UP FOR IUD INSERTION...F FAMILY PLANNING ADVICE.....G OTHER FAMILY PLANNING SERVICE..H IMMUNIZATION.....I ANTENATAL CARE.....J DELIVERY CARE.....K POSTPARTUM CARE.....L DISEASE PREVENTION.....M MEDICAL TREATMENT FOR SELF....N TREATMENT FOR SICK CHILD.....O TREATMENT FOR OTHER PERSON....P OTHER _____ X (SPECIFY)	
311A	Did you receive the service that you went for?	YES.....1 NO.....2	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
312	<p>CHECK 311A: RECEIVED SERVICE <input type="checkbox"/> DID NOT RECEIVE SERVICE <input type="checkbox"/> v v</p> <p>How long did you have to wait before being served? How long did you have to wait before you learned that the service you went for would not be available?</p>	<p>MINUTES.....1 <input type="text"/><input type="text"/></p> <p>HOURS.....2 <input type="text"/><input type="text"/></p> <p>NO WAIT AT ALL.....995</p> <p>OTHER _____ 996 (SPECIFY)</p>	
313	<p>During this visit did the staff spend enough time with you?</p>	<p>YES.....1</p> <p>NO.....2</p>	
314	<p>Did the staff talk to you nicely, somewhat nicely, or not nicely?</p>	<p>NICELY.....1</p> <p>SOMEWHAT NICELY.....2</p> <p>NOT NICELY.....3</p>	
315	<p>Did the staff respect your need for privacy?</p>	<p>YES.....1</p> <p>NO.....2</p> <p>SAYS PRIVACY NOT NEEDED.....3</p>	
316	<p>Would you say the health facility was very clean, somewhat clean, or not clean?</p>	<p>VERY CLEAN.....1</p> <p>SOMEWHAT CLEAN.....2</p> <p>NOT CLEAN.....3</p>	
317	<p>Now I would like to ask about all the contacts you have had with health or family planning workers at home or anywhere else in the last 12 months or ever before.</p> <p>During any of these contacts, which methods of delaying or avoiding pregnancy were discussed, if any?</p> <p>PROBE: Any other methods discussed?</p> <p>RECORD ALL MENTIONED.</p>	<p>PILL.....A</p> <p>CONDOM/NIRODH.....B</p> <p>IUD/LOOP.....C</p> <p>FEMALE STERILIZATION.....D</p> <p>MALE STERILIZATION.....E</p> <p>RHYTHM/SAFE PERIOD.....F</p> <p>WITHDRAWAL.....G</p> <p>OTHER _____ X (SPECIFY)</p> <p>NONE/NEVER DISCUSSED.....Y</p>	

SECTION 3B. CONTRACEPTION

318. 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.

For each method I mention, please tell me if you have ever heard of the method and whether you have ever used the method at any time in your life?

<p>01 <u>Pill</u> Women can take a pill daily or weekly.</p>	<p>HAS USED.....1 HAS HEARD, BUT HAS NOT USED.....2 HAS NOT HEARD.....3</p>
<p>02 <u>Condom or Nirodh</u> Men can use a rubber sheath during sexual intercourse.</p>	<p>HAS USED1 HAS HEARD, BUT HAS NOT USED.....2 HAS NOT HEARD.....3</p>
<p>03 <u>IUD or Loop</u> Women can have a loop or coil placed inside them by a doctor or a nurse.</p>	<p>HAS USED.....1 HAS HEARD, BUT HAS NOT USED.....2 HAS NOT HEARD.....3</p>
<p>04 <u>Female sterilization</u> Women can have an operation to avoid having any more children.</p>	<p>Have you ever heard of female sterilization? IF YES: Have you ever had an operation to avoid having any more children?</p> <p>HAS USED.....1 HAS HEARD, BUT HAS NOT USED.....2 HAS NOT HEARD.....3</p>
<p>05 <u>Male sterilization</u> Men can have an operation to avoid having any more children.</p>	<p>Have you ever heard of male sterilization? IF YES: Has your husband ever had an operation to avoid having any more children?</p> <p>HAS USED.....1 HAS HEARD, BUT HAS NOT USED.....2 HAS NOT HEARD.....3</p>
<p>06 <u>Rhythm or safe period method</u> Couples can avoid having sexual intercourse on certain days of the month when the woman is more likely to become pregnant.</p>	<p>HAS USED.....1 HAS HEARD, BUT HAS NOT USED.....2 HAS NOT HEARD.....3</p>
<p>07 <u>Withdrawal</u> Men can be careful and pull out before climax.</p>	<p>HAS USED.....1 HAS HEARD, BUT HAS NOT USED.....2 HAS NOT HEARD.....3</p>
<p>08 Have you ever heard of any other ways or methods that women or men can use to delay or avoid pregnancy? IF YES: Have you ever used this method?</p> <p>1 _____ (SPECIFY)</p> <p>2 _____ (SPECIFY)</p>	<p>HAS USED.....1 HAS HEARD, BUT HAS NOT USED.....2 HAS NOT HEARD.....3</p> <p>HAS USED.....1 HAS HEARD, BUT HAS NOT USED.....2 HAS NOT HEARD.....3</p>

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
319	CHECK 318: NOT A SINGLE CODE '1' (NEVER USED) <input type="checkbox"/>	AT LEAST ONE CODE '1' (EVER USED) <input type="checkbox"/> → SKIP TO 322	
320	Have you ever used anything or tried in any way to delay or avoid getting pregnant?	YES.....1 NO.....2 → 356	
321	What have you used or done? CORRECT 318 AND 319.		
322	Now I would like to ask you about the time when you first did something or used a method to delay or avoid getting pregnant. How many living children did you have at that time, if any? IF NONE, RECORD '00'.	NUMBER OF CHILDREN..... <input type="text"/>	
323	CHECK 107: CURRENTLY MARRIED <input type="checkbox"/>	SEPARATED DESERTED DIVORCED WIDOWED <input type="checkbox"/> → 364	
324	CHECK 230: NOT PREGNANT OR UNSURE <input type="checkbox"/>	PREGNANT <input type="checkbox"/> → 358	
325	CHECK 318: NEITHER STERILIZED <input type="checkbox"/>	HE OR SHE STERILIZED <input type="checkbox"/> → 327A	
326	Are you or your husband currently doing something or using any method to delay or avoid getting pregnant?	YES.....1 NO.....2 → 355	
327	Which method are you using? 327A CIRCLE '04' FOR FEMALE STERILIZATION. CIRCLE '05' FOR MALE STERILIZATION.	PILL.....01 CONDOM/NIRODH.....02 IUD/LOOP.....03 → 336 FEMALE STERILIZATION.....04 MALE STERILIZATION.....05 → 339 RHYTHM/SAFE PERIOD.....06 WITHDRAWAL.....07 → 350 OTHER.....96 (SPECIFY)	

328	<p>For how many months have you been using pills/condoms continuously? IF LESS THAN 1 MONTH, RECORD '00'.</p>	<p>MONTHS..... <input style="width:20px; height:15px;" type="text"/> <input style="width:20px; height:15px;" type="text"/></p> <p>8 YEARS OR LONGER.....96</p>	
-----	---	--	--

329	<p>Where did you obtain the pills/condoms the last time?</p> <p>IF SOURCE IS HOSPITAL OR CLINIC, WRITE THE NAME OF THE PLACE. PROBE TO IDENTIFY THE TYPE OF PLACE AND CIRCLE THE APPROPRIATE CODE.</p> <p style="text-align: center;">_____ (NAME OF PLACE IF HOSPITAL OR CLINIC)</p>	<p>PUBLIC MEDICAL SECTOR</p> <ul style="list-style-type: none"> GOVT./MUNICIPAL HOSPITAL.....11 GOVT. DISPENSARY.....12 UHC/UHP/UFWC.....13 CHC/RURAL HOSPITAL/PHC.....14 SUB-CENTRE.....15 GOVT. MOBILE CLINIC.....16 GOVT. PARAMEDIC.....17 CAMP.....18 OTHER PUBLIC SECTOR HEALTH FACILITY.....19 <p>NGO/TRUST HOSPITAL/CLINIC.....21 →331</p> <p>NGO WORKER.....22</p> <p>PRIVATE MEDICAL SECTOR</p> <ul style="list-style-type: none"> PVT. HOSPITAL/CLINIC.....31 PVT. DOCTOR.....32 PVT. MOBILE CLINIC.....33 PVT. PARAMEDIC.....34 VAIDYA/HAKIM/HOMEOPATH.....35 TRADITIONAL HEALER.....36 PHARMACY/DRUGSTORE.....37 DAI (TBA).....38 OTHER PRIVATE SECTOR HEALTH FACILITY.....39 <p>OTHER SOURCE</p> <ul style="list-style-type: none"> SHOP.....41 HUSBAND.....42 FRIEND/OTHER RELATIVE.....43 <p>OTHER.....96 →331</p> <p style="text-align: center;">(SPECIFY)</p>	
-----	---	---	--

330	<p>Do you know where this person obtained the pills/condoms the last time?</p> <p>IF SOURCE IS HOSPITAL OR CLINIC, WRITE THE NAME OF THE PLACE. PROBE TO IDENTIFY THE TYPE OF PLACE AND CIRCLE THE APPROPRIATE CODE.</p> <p style="text-align: center;">_____ (NAME OF PLACE IF HOSPITAL OR CLINIC)</p>	<p>PUBLIC MEDICAL SECTOR</p> <ul style="list-style-type: none"> GOVT./MUNICIPAL HOSPITAL.....11 GOVT. DISPENSARY.....12 UHC/UHP/UFWC.....13 CHC/RURAL HOSPITAL/PHC.....14 SUB-CENTRE.....15 GOVT. MOBILE CLINIC.....16 GOVT. PARAMEDIC.....17 CAMP.....18 OTHER PUBLIC SECTOR HEALTH FACILITY.....19 <p>NGO/TRUST HOSPITAL/CLINIC.....21</p> <p>NGO WORKER.....22</p> <p>PRIVATE MEDICAL SECTOR</p> <ul style="list-style-type: none"> PVT. HOSPITAL/CLINIC.....31 PVT. DOCTOR.....32 PVT. MOBILE CLINIC.....33 PVT. PARAMEDIC.....34 VAIDYA/HAKIM/HOMEOPATH.....35 TRADITIONAL HEALER.....36 PHARMACY/DRUGSTORE.....37 DAI (TBA).....38 OTHER PRIVATE SECTOR HEALTH FACILITY.....39 <p>OTHER SOURCE</p> <ul style="list-style-type: none"> SHOP.....41 <p>OTHER.....96</p> <p style="text-align: center;">(SPECIFY)</p> <p>DK.....98</p>	
-----	---	--	--

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
331	<p>May I see the packet of pills/condoms you are using now?</p> <p>IF PACKET SEEN, RECORD BRAND NAME.</p>	<p>PACKET SEEN.....1</p> <p>BRAND NAME _____ [] [] [] [] →333</p> <p>PACKET NOT SEEN.....2</p>	
332	<p>Do you know the brand name of the pills/condoms you are using now?</p>	<p>BRAND NAME _____ [] [] [] []</p> <p>DK.....998</p>	
333	<p>How much does one packet of pills/condoms cost you?</p>	<p>COST Rs:..... [] [] [] []</p> <p>FREE.....995</p> <p>DK.....998 →335</p>	
334	<p>For that cost how many condoms/pill cycles do you get?</p>	<p>NUMBER..... [] []</p>	
335	<p>Have you been able to get the supply of pills/condoms whenever you need them?</p>	<p>YES.....1</p> <p>NO.....2 →344</p>	
336	<p>For how many months have you been using the IUD/LOOP continuously?</p> <p>IF LESS THAN 1 MONTH, RECORD '00'.</p>	<p>MONTHS..... [] []</p> <p>8 YEARS OR LONGER.....96</p>	
337	<p>Who inserted the IUD/LOOP?</p>	<p>GOVERNMENT DOCTOR.....01</p> <p>GOVERNMENT NURSE/PARAMEDIC.....02</p> <p>NGO DOCTOR.....03</p> <p>NGO NURSE/PARAMEDIC.....04</p> <p>PRIVATE DOCTOR.....05</p> <p>PRIVATE NURSE/PARAMEDIC.....06</p> <p>OTHER _____ 96</p> <p>(SPECIFY)</p>	
338	<p>Where did you go to get the IUD/LOOP inserted?</p> <p>_____ (NAME OF PLACE IF HOSPITAL OR CLINIC)</p>	<p>PUBLIC MEDICAL SECTOR</p> <p>GOVT./MUNICIPAL HOSPITAL.....11</p> <p>GOVT. DISPENSARY.....12</p> <p>UHC/UHP/UFWC.....13</p> <p>CHC/RURAL HOSPITAL/PHC.....14</p> <p>SUB-CENTRE.....15</p> <p>GOVT. MOBILE CLINIC.....16</p> <p>CAMP.....17</p> <p>OTHER PUBLIC SECTOR</p> <p>HEALTH FACILITY.....18</p> <p>NGO/TRUST HOSPITAL/CLINIC.....21</p> <p>PRIVATE MEDICAL SECTOR</p> <p>PVT. HOSPITAL/CLINIC.....31</p> <p>PVT. DOCTOR.....32</p> <p>PVT. MOBILE CLINIC.....33</p> <p>OTHER PRIVATE SECTOR</p> <p>HEALTH FACILITY.....34</p> <p>OTHER _____ 96</p> <p>(SPECIFY)</p>	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
338A	<p>How much did the IUD/LOOP insertion cost you? IF NO CHARGE, RECORD '0000'.</p>	<p>COST Rs:..... <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/></p> <p>DK.....9998</p>	<p>1 >342</p>
339	<p>In what month and year was your/your husband's sterilization operation performed?</p>	<p>MONTH..... <input type="text"/> <input type="text"/></p> <p>YEAR..... <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/></p>	
340	<p>Where did you/your husband get sterilized?</p> <p>_____</p> <p>(NAME OF PLACE IF HOSPITAL OR CLINIC)</p>	<p>PUBLIC MEDICAL SECTOR</p> <p>GOVT./MUNICIPAL HOSPITAL.....11</p> <p>UHC/UHP/UFWC.....12</p> <p>CHC/RURAL HOSPITAL/PHC.....13</p> <p>GOVT. MOBILE CLINIC.....14</p> <p>CAMP.....15</p> <p>OTHER PUBLIC SECTOR</p> <p>HEALTH FACILITY.....16</p> <p>NGO/TRUST HOSPITAL/CLINIC.....21</p> <p>PRIVATE MEDICAL SECTOR</p> <p>PVT. HOSPITAL/CLINIC.....31</p> <p>PVT. DOCTOR.....32</p> <p>PVT. MOBILE CLINIC.....33</p> <p>OTHER PRIVATE SECTOR</p> <p>HEALTH FACILITY.....34</p> <p>OTHER _____ 96</p> <p>(SPECIFY)</p>	
341	<p>How much did the operation cost you? IF NO CHARGE, RECORD '0000'.</p>	<p>COST Rs..... <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/></p> <p>DK.....9998</p>	
342	<p>How would you rate the care you/your husband received during or immediately after the operation/IUD insertion: very good, all right, not so good, or bad?</p>	<p>VERY GOOD.....1</p> <p>ALL RIGHT.....2</p> <p>NOT SO GOOD.....3</p> <p>BAD.....4</p>	
343	<p>What improvements would you suggest in the care you/your husband received during or immediately after the operation/IUD insertion?</p> <p>Anything else?</p> <p>RECORD ALL MENTIONED.</p>	<p>MORE CLEANLINESS.....A</p> <p>MORE PRIVACY.....B</p> <p>BETTER CARE BY THE DOCTOR.....C</p> <p>BETTER CARE BY THE OTHER STAFF...D</p> <p>SHORTER WAITING TIME.....E</p> <p>LOWER COST.....F</p> <p>OTHER _____ X</p> <p>(SPECIFY)</p> <p>NONE.....Y</p>	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
344	Who mainly motivated you to use (CURRENT METHOD)?	GOVT. DOCTOR.....01 PUBLIC HEALTH NURSE.....02 ANM/LHV.....03 MALE MPW/SUPERVISOR.....04 ANGANWADI WORKER.....05 OTHER GOVT. HEALTH WORKER.....06 NGO WORKER.....07 PRIVATE DOCTOR.....08 PRIVATE PARAMEDIC.....09 DAI (TBA).....10 TEACHER.....11 RELIGIOUS LEADER.....12 POLITICAL LEADER.....13 HUSBAND.....14 MOTHER/MOTHER-IN-LAW.....15 OTHER RELATIVE/FRIEND.....16 NO ONE/SELF.....17 OTHER _____ 96 (SPECIFY)	->347
345	Did he/she tell you about any other methods that you might use?	YES.....1 NO.....2	->347
346	Which other methods were you told about? RECORD ALL MENTIONED.	PILL.....A CONDOM/NIRODH.....B IUD/LOOP.....C FEMALE STERILIZATION.....D MALE STERILIZATION.....E RHYTHM/SAFE PERIOD.....F WITHDRAWAL.....G OTHER _____ X (SPECIFY)	
347	At the time when you accepted the (CURRENT METHOD) did any health or family planning worker tell you about side effects or other problems you might have using the (CURRENT METHOD)?	YES.....1 NO.....2	
348	Were you told what to do in case you experienced problems with the method?	YES.....1 NO.....2	
349	Did you receive any follow-up, either at home or in a health facility, after you accepted the (CURRENT METHOD)? PROBE FOR TYPE OF VISIT.	AT HOME ONLY.....1 IN A FACILITY ONLY.....2 BOTH.....3 NEITHER.....4	->351
350	For how long have you been using this method continuously? IF LESS THAN 1 MONTH, RECORD '00'.	MONTHS..... <input type="text"/> <input type="text"/> 8 YEARS OR LONGER.....96	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
351	<p>Have you had any problems related to the use of (CURRENT METHOD)?</p>	<p>YES.....1 NO.....2</p>	<p>→362</p>
352	<p>What problems have you had related to the use of (CURRENT METHOD)?</p> <p>PROBE: Any other problems?</p> <p>RECORD ALL MENTIONED.</p>	<p>WEIGHT GAIN.....A WEIGHT LOSS.....B TOO MUCH BLEEDING.....C HYPERTENSION.....D HEADACHE/BODYACHE/BACKACHE.....E NAUSEA/VOMITING.....F NO MENSTRUATION.....G WEAKNESS/TIREDNESS.....H DIZZINESS.....I FEVER.....J CRAMPS.....K SPOTTING.....L INCONVENIENT TO USE.....M ABDOMINAL PAIN.....N WHITE DISCHARGE.....O IRREGULAR PERIODS.....P BREAST TENDERNESS.....Q ALLERGY.....R EXPULSION.....S REDUCED SEXUAL SATISFACTION.....T</p> <p>OTHER _____ X (SPECIFY)</p>	
353	<p>When you first started having these problems, did you talk to anyone about these problems?</p>	<p>YES.....1 NO.....2</p>	<p>→362</p>
354	<p>Who did you talk to about these problems?</p> <p>Any other person?</p> <p>RECORD ALL PERSONS TALKED TO.</p>	<p>GOVT. DOCTOR.....A PUBLIC HEALTH NURSE.....B ANM/LHV.....C ANGANWADI WORKER.....D OTHER GOVT. HEALTH WORKER.....E NGO DOCTOR.....F NGO WORKER.....G PRIVATE DOCTOR.....H PRIVATE PARAMEDIC.....I COMPOUNDER/PHARMACIST.....J TRADITIONAL HEALER.....K HUSBAND.....L FRIEND/OTHER RELATIVE.....M</p> <p>OTHER _____ X (SPECIFY)</p>	<p>→362</p>
355	<p>What is the main reason you stopped using family planning?</p>	<p>METHOD FAILED/GOT PREGNANT.....01 LACK OF SEXUAL SATISFACTION.....02 CREATED MENSTRUAL PROBLEM.....03 CREATED HEALTH PROBLEM.....04 INCONVENIENT TO USE.....05 HARD TO GET METHOD.....06 PUT ON WEIGHT.....07 DID NOT LIKE THE METHOD.....08 WANTED TO HAVE A CHILD.....09 WANTED TO REPLACE DEAD CHILD.....10 LACK OF PRIVACY FOR USE.....11 HUSBAND AWAY.....12 COST TOO MUCH.....13</p> <p>OTHER _____ 96 (SPECIFY)</p>	<p>→358</p>

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
356	CHECK 107:	SEPARATED DESERTED DIVORCED WIDOWED	→364
356A	CHECK 230:	PREGNANT	→358
357	What is the main reason you are not using a method of contraception to delay or avoid pregnancy?	HUSBAND AWAY.....11 FERTILITY-RELATED REASONS NOT HAVING SEX.....21 INFREQUENT SEX.....22 MENOPAUSAL/HAD HYSTERECTOMY..23 →362 SUBFECUND/INFECUND.....24 POSTPARTUM/BREASTFEEDING....25 WANTS MORE CHILDREN.....26 OPPOSITION TO USE OPPOSED TO FAMILY PLANNING...31 HUSBAND OPPOSED.....32 OTHER PEOPLE OPPOSED.....33 AGAINST RELIGION.....34 LACK OF KNOWLEDGE KNOWS NO METHOD.....41 KNOWS NO SOURCE.....42 METHOD-RELATED REASONS HEALTH CONCERNS.....51 WORRY ABOUT SIDE EFFECTS....52 HARD TO GET METHOD.....53 COSTS TOO MUCH.....54 INCONVENIENT.....55 AFRAID OF STERILIZATION.....56 DON'T LIKE EXISTING METHODS..57 OTHER _____ 96 (SPECIFY) DK.....98	
358	Do you think you will use a method to delay or avoid pregnancy within the next 12 months?	YES.....1 →360 NO.....2 DK.....8	
359	Do you think you will use a method to delay or avoid pregnancy at any time in the future?	YES.....1 NO.....2 DK.....8 →361	
360	Which method would you prefer to use?	PILL.....01 CONDOM/NIRODH.....02 IUD/LOOP.....03 FEMALE STERILIZATION.....04 MALE STERILIZATION.....05 →362 RHYTHM/SAFE PERIOD.....06 WITHDRAWAL.....07 OTHER _____ 96 (SPECIFY) DK/UNSURE.....98	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP																					
361	<p>What is the main reason that you think you will not use a family planning method at any time in the future?</p>	<p>FERTILITY-RELATED REASONS NOT HAVING SEX.....11 INFREQUENT SEX.....12 MENOPAUSAL/HAD HYSTERECTOMY...13 SUBFECUND/INFECUND.....14 WANTS AS MANY CHILDREN AS POSSIBLE.....15</p> <p>OPPOSITION TO USE OPPOSED TO FAMILY PLANNING...21 HUSBAND OPPOSED.....22 OTHER PEOPLE OPPOSED.....23 AGAINST RELIGION.....24</p> <p>LACK OF KNOWLEDGE KNOWS NO METHOD.....31 KNOWS NO SOURCE.....32</p> <p>METHOD-RELATED REASONS HEALTH CONCERNS.....41 WORRY ABOUT SIDE EFFECTS....42 HARD TO GET METHOD.....43 COSTS TOO MUCH.....44 INCONVENIENT.....45 AFRAID OF STERILIZATION.....46 DON'T LIKE EXISTING METHODS..47</p> <p>OTHER _____ 96 (SPECIFY)</p> <p>DK.....98</p>																						
362	<p>In the last few months, have you discussed the practice of family planning with your husband, friends, neighbours, or relatives?</p>	<p>YES.....1 NO.....2</p>	<p>→364</p>																					
363	<p>With whom? Anyone else? RECORD ALL MENTIONED.</p>	<p>HUSBAND.....A MOTHER.....B SISTER(S).....C DAUGHTER.....D MOTHER-IN-LAW.....E SISTER-IN-LAW.....F FRIEND/NEIGHBOUR.....G</p> <p>OTHER _____ X (SPECIFY)</p>																						
364	<p>In the last few months, have you heard or seen any message about family planning:</p> <p>on radio? on television? in a cinema or film show? in a newspaper or magazine? on a wall painting or hoarding? in a drama, folk dance, or street play?</p>	<table border="0"> <thead> <tr> <th></th> <th>YES</th> <th>NO</th> </tr> </thead> <tbody> <tr> <td>RADIO.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>TELEVISION.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>CINEMA/FILM SHOW.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>NEWSPAPER/MAGAZINE.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>WALL PAINTING/HOARDING... 1</td> <td>2</td> <td></td> </tr> <tr> <td>DRAMA/FOLK DANCE/STREET PLAY.....</td> <td>1</td> <td>2</td> </tr> </tbody> </table>		YES	NO	RADIO.....	1	2	TELEVISION.....	1	2	CINEMA/FILM SHOW.....	1	2	NEWSPAPER/MAGAZINE.....	1	2	WALL PAINTING/HOARDING... 1	2		DRAMA/FOLK DANCE/STREET PLAY.....	1	2	
	YES	NO																						
RADIO.....	1	2																						
TELEVISION.....	1	2																						
CINEMA/FILM SHOW.....	1	2																						
NEWSPAPER/MAGAZINE.....	1	2																						
WALL PAINTING/HOARDING... 1	2																							
DRAMA/FOLK DANCE/STREET PLAY.....	1	2																						

SECTION 4A. ANTENATAL, NATAL, AND POSTNATAL CARE

401	CHECK 224 ONE OR MORE BIRTHS SINCE JAN. 1995 <input type="checkbox"/>	NO BIRTHS SINCE JAN. 1995 <input type="checkbox"/> → (SKIP TO 486)
-----	---	---

402 ENTER THE LINE NUMBER, NAME, AND SURVIVAL STATUS OF LAST TWO BIRTHS SINCE JANUARY 1995 IN THE TABLE. ASK THE QUESTIONS ABOUT THESE TWO BIRTHS. BEGIN WITH THE LAST BIRTH. (IF THERE ARE MORE THAN 2 BIRTHS, RECORD ONLY LAST TWO BIRTHS.)

Now I would like to ask you some questions about the health of your children born since January 1995. (We will talk about one child at a time.)

LINE NUMBER FROM Q. 212	LAST BIRTH	NEXT-TO-LAST BIRTH
FROM Q. 212	NAME _____ ALIVE <input type="checkbox"/> DEAD <input type="checkbox"/>	NAME _____ ALIVE <input type="checkbox"/> DEAD <input type="checkbox"/>
AND Q. 216		

403	THEN.....1 (SKIP TO 405) ← <input type="checkbox"/>	THEN.....1 (SKIP TO 405) ← <input type="checkbox"/>
	LATER.....2	LATER.....2
	NO MORE.....3 (SKIP TO 405) ← <input type="checkbox"/>	NO MORE.....3 (SKIP TO 405) ← <input type="checkbox"/>
At the time you became pregnant with (NAME), did you want to become pregnant then, did you want to wait until later, or did you want no (more) children at all?		

404	MONTHS.....1 <input type="checkbox"/> YEARS.....2 <input type="checkbox"/> DK.....998	MONTHS.....1 <input type="checkbox"/> YEARS.....2 <input type="checkbox"/> DK.....998
How much longer would you like to have waited?		

405	YES.....1 NO.....2 (SKIP TO 407) ← <input type="checkbox"/>	YES.....1 NO.....2 (SKIP TO 407) ← <input type="checkbox"/>
When you were pregnant with (NAME), did you go for an antenatal check-up?		

406	HEALTH PROFESSIONAL DOCTOR.....A ANM/NURSE/MIDWIFE/LHV...B OTHER HEALTH PROFSSNL...C TRADITIONAL BIRTH ATTENDANT (DAI).....D OTHER _____ X (SPECIFY)	HEALTH PROFESSIONAL DOCTOR.....A ANM/NURSE/MIDWIFE/LHV...B OTHER HEALTH PROFSSNL...C TRADITIONAL BIRTH ATTENDANT (DAI).....D OTHER _____ X (SPECIFY)
Whom did you see?		
Anyone else?		
RECORD ALL PERSONS SEEN.		

407	YES.....1 NO.....2	YES.....1 NO.....2
When you were pregnant with (NAME), did any health worker visit you at home for an antenatal check-up?		

408	CHECK 405 AND 407: YES IN EITHER <input type="checkbox"/> NO IN BOTH <input type="checkbox"/> (SKIP TO 413)	YES IN EITHER <input type="checkbox"/> NO IN BOTH <input type="checkbox"/> (SKIP TO 413)
-----	---	--

	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____
409	MONTHS..... <input type="text"/> <input type="text"/>	MONTHS..... <input type="text"/> <input type="text"/>
How many months pregnant were you when you first received an antenatal check-up?		
410	NO. OF TIMES..... <input type="text"/> <input type="text"/>	NO. OF TIMES..... <input type="text"/> <input type="text"/>
How many times did you receive antenatal check-ups during this pregnancy?		
411	<p>Did you have the following performed at least once during any of your antenatal check-ups for this pregnancy:</p> <p>YES NO</p> <p>Weight measured? WEIGHT..... 1 2</p> <p>Height measured? HEIGHT..... 1 2</p> <p>Blood pressure checked? BLOOD PRESSURE.... 1 2</p> <p>Blood test? BLOOD TEST..... 1 2</p> <p>Urine test? URINE TEST..... 1 2</p> <p>Abdomen examined? ABDOMEN EXAMINED.. 1 2</p> <p>Internal exam? INTERNAL EXAM.... 1 2</p> <p>X-ray? X-RAY..... 1 2</p> <p>Sonogram or ultrasound? SONOGRAM/ULTRAS... 1 2</p> <p>Amniocentesis? AMNIOCENTESIS.... 1 2</p>	<p>YES NO</p> <p>Weight measured? WEIGHT..... 1 2</p> <p>Height measured? HEIGHT..... 1 2</p> <p>Blood pressure checked? BLOOD PRESSURE.... 1 2</p> <p>Blood test? BLOOD TEST..... 1 2</p> <p>Urine test? URINE TEST..... 1 2</p> <p>Abdomen examined? ABDOMEN EXAMINED.. 1 2</p> <p>Internal exam? INTERNAL EXAM.... 1 2</p> <p>X-ray? X-RAY..... 1 2</p> <p>Sonogram or ultrasound? SONOGRAM/ULTRAS... 1 2</p> <p>Amniocentesis? AMNIOCENTESIS.... 1 2</p>
412	<p>Did you receive advice on any of the following during at least one of your antenatal check-ups for this pregnancy:</p> <p>YES NO</p> <p>Diet? DIET..... 1 2</p> <p>Danger signs of pregnancy? DANGER SIGNS..... 1 2</p> <p>Delivery care? DELIVERY CARE..... 1 2</p> <p>Newborn care? NEWBORN CARE..... 1 2</p> <p>Family planning? FAMILY PLANNING.... 1 2 (SKIP TO 414) < <input type="checkbox"/> <input checked="" type="checkbox"/></p>	<p>YES NO</p> <p>Diet? DIET..... 1 2</p> <p>Danger signs of pregnancy? DANGER SIGNS..... 1 2</p> <p>Delivery care? DELIVERY CARE..... 1 2</p> <p>Newborn care? NEWBORN CARE..... 1 2</p> <p>Family planning? FAMILY PLANNING.... 1 2 (SKIP TO 414) < <input type="checkbox"/> <input checked="" type="checkbox"/></p>
413	<p>What is the main reason you did not receive an antenatal check-up?</p> <p>NOT NECESSARY.....01</p> <p>NOT CUSTOMARY.....02</p> <p>COST TOO MUCH.....03</p> <p>TOO FAR/NO TRANSPORT...04</p> <p>POOR QUALITY SERVICE...05</p> <p>NO TIME TO GO.....06</p> <p>FAMILY DID NOT ALLOW...07</p> <p>LACK OF KNOWLEDGE.....08</p> <p>NO HEALTH WORKER VISITED.....09</p> <p>OTHER _____ 96 (SPECIFY)</p>	<p>NOT NECESSARY.....01</p> <p>NOT CUSTOMARY.....02</p> <p>COST TOO MUCH.....03</p> <p>TOO FAR/NO TRANSPORT...04</p> <p>POOR QUALITY SERVICE...05</p> <p>NO TIME TO GO.....06</p> <p>FAMILY DID NOT ALLOW...07</p> <p>LACK OF KNOWLEDGE.....08</p> <p>NO HEALTH WORKER VISITED.....09</p> <p>OTHER _____ 96 (SPECIFY)</p>

	NAME	LAST BIRTH	NAME	NEXT-TO-LAST BIRTH
414	When you were pregnant with (NAME), did you experience any of the following problems at any time:			
		YES NO		YES NO
	Night blindness? (USE LOCAL TERM)	NIGHT BLINDNESS.... 1 2		NIGHT BLINDNESS.... 1 2
	Blurred vision?	BLURRED VISION..... 1 2		BLURRED VISION..... 1 2
	Convulsions not from fever?	CONVULSIONS..... 1 2		CONVULSIONS..... 1 2
	Swelling of the legs, body, or face?	SWELLING..... 1 2		SWELLING..... 1 2
	Excessive fatigue?	EXCESSIVE FATIGUE.. 1 2		EXCESSIVE FATIGUE.. 1 2
	Anaemia?	ANAEMIA..... 1 2		ANAEMIA..... 1 2
	Any vaginal bleeding?	VAGINAL BLEEDING... 1 2		VAGINAL BLEEDING... 1 2
415	When you were pregnant with (NAME), were you given any iron folic tablets or syrup?			
		YES.....1		YES.....1
		NO.....2 (SKIP TO 418) <----->		NO.....2 (SKIP TO 418) <----->
416	Did you receive enough iron folic tablets or syrup to last about three months or longer?			
		YES.....1		YES.....1
		NO.....2		NO.....2
		DK.....8		DK.....8
417	Did you consume all the iron folic tablets or syrup you were given ?			
		YES.....1		YES.....1
		NO.....2		NO.....2
418	When you were pregnant with (NAME), were you given an injection in the arm to prevent you and the baby from getting tetanus (USE LOCAL TERM FOR TETANUS)?			
		YES.....1		YES.....1
		NO.....2 (SKIP TO 420) <----->		NO.....2 (SKIP TO 420) <----->
		DK.....8		DK.....8
419	During this pregnancy, how many times did you get this injection?			
		TIMES..... <input type="checkbox"/>		TIMES..... <input type="checkbox"/>
		DK.....8		DK.....8

		LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____
420	Where did you give birth to (NAME)?	HOME YOUR HOME.....11 PARENTS' HOME.....12 OTHER HOME.....13 PUBLIC MEDICAL SECTOR GOVT./MUNICIPAL HOSP...21 GOVT. DISPENSARY.....22 UHC/UHP/UFWC.....23 CHC/RURAL HOSP./PHC...24 SUB-CENTRE.....25 OTHER PUBLIC SECTOR HEALTH FACILITY.....26 NGO/TRUST HOSP./CLINIC..31 PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC/ MATERNITY HOME.....41 OTHER PRIVATE SECTOR HEALTH FACILITY.....42 OTHER _____ 96 (SPECIFY) (SKIP TO 422)←	HOME YOUR HOME.....11 PARENTS' HOME.....12 OTHER HOME.....13 PUBLIC MEDICAL SECTOR GOVT./MUNICIPAL HOSP...21 GOVT. DISPENSARY.....22 UHC/UHP/UFWC.....23 CHC/RURAL HOSP./PHC...24 SUB-CENTRE.....25 OTHER PUBLIC SECTOR HEALTH FACILITY.....26 NGO/TRUST HOSP./CLINIC..31 PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC/ MATERNITY HOME.....41 OTHER PRIVATE SECTOR HEALTH FACILITY.....42 OTHER _____ 96 (SPECIFY) (SKIP TO 422)←
421	What is the main reason you did not go to a health facility for delivery?	NOT NECESSARY.....01 NOT CUSTOMARY.....02 COST TOO MUCH.....03 TOO FAR/NO TRANSPORT...04 POOR QUALITY SERVICE...05 NO TIME TO GO.....06 FAMILY DID NOT ALLOW...07 BETTER CARE AT HOME...08 LACK OF KNOWLEDGE.....09 OTHER _____ 96 (SPECIFY)	NOT NECESSARY.....01 NOT CUSTOMARY.....02 COST TOO MUCH.....03 TOO FAR/NO TRANSPORT...04 POOR QUALITY SERVICE...05 NO TIME TO GO.....06 FAMILY DID NOT ALLOW...07 BETTER CARE AT HOME...08 LACK OF KNOWLEDGE.....09 OTHER _____ 96 (SPECIFY)
422	Who assisted with the delivery of (NAME)? Anyone else? PROBE FOR THE TYPE OF PERSON AND RECORD ALL PERSONS WHO ASSISTED.	HEALTH PROFESSIONAL DOCTOR.....A ANM/NURSE/MIDWIFE/LHV...B OTHER HEALTH PROFESSNL..C OTHER PERSON DAI (TBA).....D FRIEND/RELATIVE.....E OTHER _____ X (SPECIFY) NO ONE.....Y	HEALTH PROFESSIONAL DOCTOR.....A ANM/NURSE/MIDWIFE/LHV...B OTHER HEALTH PROFESSNL..C OTHER PERSON DAI (TBA).....D FRIEND/RELATIVE.....E OTHER _____ X (SPECIFY) NO ONE.....Y
423	CHECK 422:	ANY <input type="checkbox"/> NO <input type="checkbox"/> CODE v CODE A, B, (SKIP TO A, B, OR C 425) OR C	ANY <input type="checkbox"/> NO <input type="checkbox"/> CODE v CODE A, B, (SKIP TO A, B, OR C 425) OR C
424	What is the main reason you did not take the help of a health professional?	NOT NECESSARY.....01 NOT CUSTOMARY.....02 COST TOO MUCH.....03 TOO FAR/NO TRANSPORT...04 PROFES. NOT AVAI'BLE...05 NO CONFIDENCE IN AVAILABLE PROFESSIONAL.06 NO TIME TO GET HELP...07 FAMILY DID NOT ALLOW...08 OTHER _____ 96 (SPECIFY) (SKIP TO 426)←	NOT NECESSARY.....01 NOT CUSTOMARY.....02 COST TOO MUCH.....03 TOO FAR/NO TRANSPORT...04 PROFES. NOT AVAI'BLE...05 NO CONFIDENCE IN AVAILABLE PROFESSIONAL.06 NO TIME TO GET HELP...07 FAMILY DID NOT ALLOW...08 OTHER _____ 96 (SPECIFY) (SKIP TO 426)←

	NAME	LAST BIRTH	NAME	NEXT-TO-LAST BIRTH
425	Was (NAME) delivered by caesarian section?	YES.....1 NO.....2	YES.....1 NO.....2	YES.....1 NO.....2
426	When (NAME) was born, was he/she: large, average, small, or very small?	LARGE.....1 AVERAGE.....2 SMALL.....3 VERY SMALL.....4	LARGE.....1 AVERAGE.....2 SMALL.....3 VERY SMALL.....4	LARGE.....1 AVERAGE.....2 SMALL.....3 VERY SMALL.....4
427	Was (NAME) weighed at birth?	YES.....1 NO.....2 (SKIP TO 429) <-----	YES.....1 NO.....2 (SKIP TO 429) <-----	YES.....1 NO.....2 (SKIP TO 429) <-----
428	How much did (NAME) weigh?	GRAMS..... <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> DK.....9998	GRAMS..... <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> DK.....9998	GRAMS..... <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> DK.....9998
429	Now I would like to ask you about the 2-month period after the delivery of (NAME). During that period, did a doctor or other health professional check your health or the health of your baby?	YES.....1 NO.....2 (SKIP TO 433) <-----	YES.....1 NO.....2 (SKIP TO 433) <-----	YES.....1 NO.....2 (SKIP TO 433) <-----
430	How soon after the birth of (NAME) did you first get a check-up?	DAYS.....1 <input type="text"/> <input type="text"/> WEEKS.....2 <input type="text"/> <input type="text"/>	DAYS.....1 <input type="text"/> <input type="text"/> WEEKS.....2 <input type="text"/> <input type="text"/>	DAYS.....1 <input type="text"/> <input type="text"/> WEEKS.....2 <input type="text"/> <input type="text"/>
431	Where did you get the check-up?	HOME VISIT.....11 PUBLIC MEDICAL SECTOR GOVT./MUNICIPAL HOSP.....21 GOVT. DISPENSARY.....22 UHC/UHF/UFWC.....23 CHC/RURAL HOSP./PHC.....24 SUB-CENTRE.....25 OTHER PUBLIC SECTOR HEALTH FACILITY.....26 NGO/TRUST HOSP./CLINIC...31 PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC/ MATERNITY HOME.....41 OTHER PRIVATE SECTOR HEALTH FACILITY.....42 OTHER _____ 96 (SPECIFY)	HOME VISIT.....11 PUBLIC MEDICAL SECTOR GOVT./MUNICIPAL HOSP.....21 GOVT. DISPENSARY.....22 UHC/UHF/UFWC.....23 CHC/RURAL HOSP./PHC.....24 SUB-CENTRE.....25 OTHER PUBLIC SECTOR HEALTH FACILITY.....26 NGO/TRUST HOSP./CLINIC...31 PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC/ MATERNITY HOME.....41 OTHER PRIVATE SECTOR HEALTH FACILITY.....42 OTHER _____ 96 (SPECIFY)	HOME VISIT.....11 PUBLIC MEDICAL SECTOR GOVT./MUNICIPAL HOSP.....21 GOVT. DISPENSARY.....22 UHC/UHF/UFWC.....23 CHC/RURAL HOSP./PHC.....24 SUB-CENTRE.....25 OTHER PUBLIC SECTOR HEALTH FACILITY.....26 NGO/TRUST HOSP./CLINIC...31 PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC/ MATERNITY HOME.....41 OTHER PRIVATE SECTOR HEALTH FACILITY.....42 OTHER _____ 96 (SPECIFY)

		LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____
432	<p>Did any of the following happen when you had the check-up:</p> <p>Was your abdomen examined?</p> <p>Did you receive advice on family planning?</p> <p>Did you receive advice on breastfeeding?</p> <p>Did you receive advice on baby care?</p>	<p>YES NO</p> <p>ABDOMEN EXAMINED... 1 2</p> <p>FAMILY PLANNING.... 1 2</p> <p>BREASTFEEDING..... 1 2</p> <p>BABY CARE..... 1 2</p>	<p>YES NO</p> <p>ABDOMEN EXAMINED... 1 2</p> <p>FAMILY PLANNING.... 1 2</p> <p>BREASTFEEDING..... 1 2</p> <p>BABY CARE..... 1 2</p>
433	<p>At any time during the two months after the delivery of (NAME), did you have any of the following:</p> <p>Massive vaginal bleeding?</p> <p>Very high fever?</p>	<p>YES NO</p> <p>VAGINAL BLEEDING... 1 2</p> <p>VERY HIGH FEVER.... 1 2</p>	<p>YES NO</p> <p>VAGINAL BLEEDING... 1 2</p> <p>VERY HIGH FEVER.... 1 2</p>
434	<p>Has your period returned since the birth of (NAME)?</p>	<p>YES1 (SKIP TO 436) <-----</p> <p>NO.....2 (SKIP TO 437) <-----</p>	
435	<p>Did your period return between the birth of (NAME) and your next pregnancy?</p>		<p>YES1</p> <p>NO.....2 (SKIP TO 439) <-----</p>
436	<p>For how many months after the birth of (NAME) did you not have a period?</p>	<p>MONTHS..... <input type="text"/> <input type="text"/></p> <p>DK.....98</p>	<p>MONTHS..... <input type="text"/> <input type="text"/></p> <p>DK.....98</p>
437	<p>CHECK 230: RESPONDENT PREGNANT?</p>	<p>NOT PREGNANT OR Q230 NOT ASKED <input type="checkbox"/></p> <p>PREGNANT OR UNSURE <input type="checkbox"/></p> <p>(SKIP TO 439)</p>	
438	<p>Have you resumed sexual relations since the birth of (NAME)?</p>	<p>YES.....1</p> <p>NO.....2 (SKIP TO 440) <-----</p>	

		LAST BIRTH		NEXT-TO-LAST BIRTH	
		NAME		NAME	
448	CHECK 216: CHILD ALIVE?	ALIVE <input type="checkbox"/>	DEAD <input type="checkbox"/>	ALIVE <input type="checkbox"/>	DEAD <input type="checkbox"/>
		(SKIP TO 452)		(SKIP TO 452)	
449	Did (NAME) drink anything from a bottle with a nipple yesterday or last night?	YES.....1	NO.....2	YES.....1	NO.....2
		DK.....8	DK.....8	DK.....8	DK.....8
450	At any time yesterday or last night, was (NAME) given any of the following:	YES NO DK		YES NO DK	
	Plain water?	PLAIN WATER..... 1 2 8		PLAIN WATER..... 1 2 8	
	Powdered milk?	POWDERED MILK.... 1 2 8		POWDERED MILK.... 1 2 8	
	Any other milk (other than breast milk)?	OTHER MILK..... 1 2 8		OTHER MILK..... 1 2 8	
	Any other liquid?	ANY OTHER LIQUID. 1 2 8		ANY OTHER LIQUID. 1 2 8	
	Green, leafy vegetables?	GREEN/LEAFY VEG.. 1 2 8		GREEN/LEAFY VEG.. 1 2 8	
	Fruits?	FRUITS..... 1 2 8		FRUITS..... 1 2 8	
	Any other solid or mushy food?	SOLID/MUSHY FOOD. 1 2 8		SOLID/MUSHY FOOD. 1 2 8	
451	How often during the last seven days was (NAME) given any of the following:	1 = EVERY DAY 2 = SOME DAYS 3 = NOT AT ALL 8 = DK		1 = EVERY DAY 2 = SOME DAYS 3 = NOT AT ALL 8 = DK	
	Plain water?	PLAIN WATER..... <input type="checkbox"/>		PLAIN WATER..... <input type="checkbox"/>	
	Powdered milk?	POWDERED MILK..... <input type="checkbox"/>		POWDERED MILK..... <input type="checkbox"/>	
	Any other milk (other than breast milk)?	OTHER MILK..... <input type="checkbox"/>		OTHER MILK..... <input type="checkbox"/>	
	Any other liquid?	OTHER LIQUID..... <input type="checkbox"/>		OTHER LIQUID..... <input type="checkbox"/>	
	Green, leafy vegetables?	GREEN/LEAFY VEG..... <input type="checkbox"/>		GREEN/LEAFY VEG..... <input type="checkbox"/>	
	Fruits?	FRUITS..... <input type="checkbox"/>		FRUITS..... <input type="checkbox"/>	
	Any other solid or mushy food?	SOLID/MUSHY FOOD..... <input type="checkbox"/>		SOLID/MUSHY FOOD..... <input type="checkbox"/>	
452	—————→	GO BACK TO 403 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 453		GO TO 453	

SECTION 4B. IMMUNIZATION AND HEALTH

453 ENTER THE LINE NUMBER AND NAME OF LAST TWO BIRTHS SINCE JANUARY 1995 IN THE TABLE. ASK THE QUESTIONS ABOUT THESE TWO BIRTHS. BEGIN WITH THE LAST BIRTH. (IF THERE ARE MORE THAN 2 BIRTHS, RECORD ONLY LAST TWO BIRTHS.)

LINE NUMBER FROM Q. 212	LAST BIRTH	NEXT-TO-LAST BIRTH
FROM Q. 212 AND Q. 216	NAME ALIVE <input type="checkbox"/> DEAD <input type="checkbox"/> ↓ (GO TO NEXT COLUMN, OR IF NO MORE BIRTHS, GO TO 481)	NAME ALIVE <input type="checkbox"/> DEAD <input type="checkbox"/> ↓ (GO TO 481)

454

Do you have a card where (NAME'S) vaccinations are written down?
IF YES: May I see it, please?

YES, SEEN.....1 (SKIP TO 456) < <input type="text"/>	YES, SEEN.....1 (SKIP TO 456) < <input type="text"/>
YES, NOT SEEN.....2 (SKIP TO 458) < <input type="text"/>	YES, NOT SEEN.....2 (SKIP TO 458) < <input type="text"/>
NO CARD.....3	NO CARD.....3

455

Did you ever have a vaccination card for (NAME)?

YES.....1 (SKIP TO 458) < <input type="text"/>	YES.....1 (SKIP TO 458) < <input type="text"/>
NO.....2	NO.....2

456

(1) COPY VACCINATION DATES FOR EACH VACCINE FROM THE CARD.
(2) WRITE '44' IN 'DAY' COLUMN IF CARD SHOWS THAT A VACCINATION WAS GIVEN, BUT NO DATE IS RECORDED.

	DAY	MO	YEAR		DAY	MO	YEAR
BCG	BCG				BCG		
POLIO 0	P0				P0		
DPT 1	D1				D1		
DPT 2	D2				D2		
DPT 3	D3				D3		
POLIO 1	P1				P1		
POLIO 2	P2				P2		
POLIO 3	P3				P3		
MEASLES	MEA				MEA		

457

Has (NAME) received any vaccinations that are not recorded on this card?
RECORD 'YES' ONLY IF RESPONDENT MENTIONS BCG, DPT 1-3, POLIO 0-3 AND/OR MEASLES VACCINE(S).

YES.....1 (PROBE FOR VACCINATIONS AND WRITE '66' IN THE CORRESPONDING DAY COLUMN IN 456) < <input type="text"/>	YES.....1 (PROBE FOR VACCINATIONS AND WRITE '66' IN THE CORRESPONDING DAY COLUMN IN 456) < <input type="text"/>
NO.....2	NO.....2
DK.....8 (SKIP TO 460) < <input type="text"/>	DK.....8 (SKIP TO 460) < <input type="text"/>

	NAME _____	LAST BIRTH	NAME _____	NEXT-TO-LAST BIRTH	
458	Did (NAME) ever receive any vaccinations to prevent him/her from getting diseases?	YES.....1	YES.....1		
		NO.....2 (SKIP TO 462) <-----	NO.....2 (SKIP TO 462) <-----		
		DK.....8	DK.....8		
459	Please tell me if (NAME) has received any of the following vaccinations:				
459A	A BCG vaccination against tuberculosis, that is, an injection in the left shoulder that caused a scar?	YES.....1	YES.....1		
		NO.....2	NO.....2		
		DK.....8	DK.....8		
459B	A DPT vaccination against diphtheria, whooping cough, and tetanus given as an injection?	YES.....1	YES.....1		
		NO.....2 (SKIP TO 459D) <-----	NO.....2 (SKIP TO 459D) <-----		
		DK.....8	DK.....8		
459C	How many times?	NUMBER OF TIMES..... <input type="checkbox"/>	NUMBER OF TIMES..... <input type="checkbox"/>		
459D	Polio vaccine, that is, drops in the mouth?	YES.....1	YES.....1		
		NO.....2 (SKIP TO 459G) <-----	NO.....2 (SKIP TO 459G) <-----		
		DK.....8	DK.....8		
459E	How many times?	NUMBER OF TIMES..... <input type="checkbox"/>	NUMBER OF TIMES..... <input type="checkbox"/>		
459F	When was the first polio vaccine given -- just after birth or later?	JUST AFTER BIRTH.....1	JUST AFTER BIRTH.....1		
		LATER.....2	LATER.....2		
459G	An injection against measles?	YES.....1	YES.....1		
		NO.....2	NO.....2		
		DK.....8 (SKIP TO 461) <-----	DK.....8 (SKIP TO 461) <-----		
460	CHECK 456: ANY VACCINATIONS RECEIVED?	YES <input type="checkbox"/>	NO <input type="checkbox"/>	YES <input type="checkbox"/>	NO <input type="checkbox"/>
		(SKIP TO 462)		(SKIP TO 462)	

	LAST BIRTH	NEXT-TO-LAST BIRTH
	NAME	NAME
461	PUBLIC MEDICAL SECTOR GOVT./MUNICIPAL HOSP.....11 GOVT. DISPENSARY.....12 UHC/UHP/UFWC.....13 CHC/RURAL HOSP./PHC.....14 SUB-CENTRE.....15 GOVT. MOBILE CLINIC.....16 CAMP.....17 PULSE POLIO LOCATION.....18 OTHER PUBLIC SECTOR HEALTH FACILITY.....19 NGO/TRUST HOSP./CLINIC...21 PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC....31 PVT. DOCTOR.....32 PVT. MOBILE CLINIC.....33 VAIDYA/HAKIM/HOMEOPATH..34 PHARMACY/DRUGSTORE.....35 OTHER PRIVATE SECTOR HEALTH FACILITY.....36 OTHER _____ 96 (SPECIFY)	PUBLIC MEDICAL SECTOR GOVT./MUNICIPAL HOSP.....11 GOVT. DISPENSARY.....12 UHC/UHP/UFWC.....13 CHC/RURAL HOSP./PHC.....14 SUB-CENTRE.....15 GOVT. MOBILE CLINIC.....16 CAMP.....17 PULSE POLIO LOCATION.....18 OTHER PUBLIC SECTOR HEALTH FACILITY.....19 NGO/TRUST HOSP./CLINIC...21 PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC....31 PVT. DOCTOR.....32 PVT. MOBILE CLINIC.....33 VAIDYA/HAKIM/HOMEOPATH..34 PHARMACY/DRUGSTORE.....35 OTHER PRIVATE SECTOR HEALTH FACILITY.....36 OTHER _____ 96 (SPECIFY)
462	Where did (NAME) receive most of his/her vaccinations?	Where did (NAME) receive most of his/her vaccinations?
462	Was a dose of vitamin A liquid or capsule ever given to (NAME) to protect him/her from night blindness (USE LOCAL TERM)? YES.....1 NO.....2 (SKIP TO 464) <-----> DK.....8	Was a dose of vitamin A liquid or capsule ever given to (NAME) to protect him/her from night blindness (USE LOCAL TERM)? YES.....1 NO.....2 (SKIP TO 464) <-----> DK.....8
463	How many months ago did (NAME) receive the last dose of Vitamin A? MONTHS AGO..... <input type="text"/> <input type="text"/>	How many months ago did (NAME) receive the last dose of Vitamin A? MONTHS AGO..... <input type="text"/> <input type="text"/>
464	Has (NAME) been ill with a fever at any time in the last 2 weeks? YES.....1 NO.....2 DK.....8	Has (NAME) been ill with a fever at any time in the last 2 weeks? YES.....1 NO.....2 DK.....8
465	Has (NAME) been ill with a cough at any time in the last 2 weeks? YES.....1 NO.....2 (SKIP TO 469) <-----> DK.....8	Has (NAME) been ill with a cough at any time in the last 2 weeks? YES.....1 NO.....2 (SKIP TO 469) <-----> DK.....8
466	When (NAME) was ill with a cough, did he/she breathe faster than usual with short, rapid breaths? YES.....1 NO.....2 DK.....8	When (NAME) was ill with a cough, did he/she breathe faster than usual with short, rapid breaths? YES.....1 NO.....2 DK.....8
467	Did you seek advice or treatment for the cough? YES.....1 NO.....2 (SKIP TO 469) <----->	Did you seek advice or treatment for the cough? YES.....1 NO.....2 (SKIP TO 469) <----->

	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	
468	<p>Where did you seek advice or treatment?</p> <p>Anywhere else?</p> <p>RECORD ALL MENTIONED.</p>	<p>PUBLIC MEDICAL SECTOR GOVT./MUNICIPAL HOSP.....A GOVT. DISPENSARY.....B UHC/UHP/UFWC.....C CHC/RURAL HOSP./PHC.....D SUB-CENTRE.....E GOVT. MOBILE CLINIC.....F GOVT. PARAMEDIC.....G CAMP.....H OTHER PUBLIC SECTOR HEALTH FACILITY.....I</p> <p>NGO/TRUST HOSP./CLINIC...J NGO WORKER.....K</p> <p>PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC....L PVT. DOCTOR.....M PVT. MOBILE CLINIC.....N PVT. PARAMEDIC.....O VAIDYA/HAKIM/HOMEOPATH...P TRADITIONAL HEALER.....Q PHARMACY/DRUGSTORE.....R OTHER PRIVATE SECTOR HEALTH FACILITY.....S</p> <p>OTHER SOURCE SHOP.....T FRIEND/RELATIVE.....U</p> <p>OTHER _____ X (SPECIFY)</p>	<p>PUBLIC MEDICAL SECTOR GOVT./MUNICIPAL HOSP.....A GOVT. DISPENSARY.....B UHC/UHP/UFWC.....C CHC/RURAL HOSP./PHC.....D SUB-CENTRE.....E GOVT. MOBILE CLINIC.....F GOVT. PARAMEDIC.....G CAMP.....H OTHER PUBLIC SECTOR HEALTH FACILITY.....I</p> <p>NGO/TRUST HOSP./CLINIC...J NGO WORKER.....K</p> <p>PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC....L PVT. DOCTOR.....M PVT. MOBILE CLINIC.....N PVT. PARAMEDIC.....O VAIDYA/HAKIM/HOMEOPATH...P TRADITIONAL HEALER.....Q PHARMACY/DRUGSTORE.....R OTHER PRIVATE SECTOR HEALTH FACILITY.....S</p> <p>OTHER SOURCE SHOP.....T FRIEND/RELATIVE.....U</p> <p>OTHER _____ X (SPECIFY)</p>
469	<p>Has (NAME) had diarrhoea in the last two weeks?</p>	<p>YES.....1 NO.....2 (SKIP TO 480) <-----> DK.....8</p>	<p>YES.....1 NO.....2 (SKIP TO 480) <-----> DK.....8</p>
470	<p>Was there any blood in the stools?</p>	<p>YES.....1 NO.....2</p>	<p>YES.....1 NO.....2</p>
471	<p>(Including breast milk) Was he/she given the same amount to drink as before the diarrhoea, or more, or less?</p>	<p>SAME.....1 MORE.....2 LESS.....3 DK.....8</p>	<p>SAME.....1 MORE.....2 LESS.....3 DK.....8</p>
472	<p>Was he/she given the same amount of food as before the diarrhoea, or more, or less?</p>	<p>SAME.....1 MORE.....2 LESS.....3 STOPPED COMPLETELY.....4 DK.....8</p>	<p>SAME.....1 MORE.....2 LESS.....3 STOPPED COMPLETELY.....4 DK.....8</p>
473	<p>Did you seek advice or treatment for the diarrhoea?</p>	<p>YES.....1 NO.....2 (SKIP TO 475) <-----></p>	<p>YES.....1 NO.....2 (SKIP TO 475) <-----></p>

	NAME	LAST BIRTH	NAME	NEXT-TO-LAST BIRTH
474	Where did you seek advice or treatment? Anywhere else? RECORD ALL MENTIONED.	PUBLIC MEDICAL SECTOR GOVT./MUNICIPAL HOSP.....A GOVT. DISPENSARY.....B UHC/UHP/UFWC.....C CHC/RURAL HOSP./PHC.....D SUB-CENTRE.....E GOVT. MOBILE CLINIC.....F GOVT. PARAMEDIC.....G CAMP.....H OTHER PUBLIC SECTOR HEALTH FACILITY.....I NGO/TRUST HOSP./CLINIC....J NGO WORKER.....K PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC....L PVT. DOCTOR.....M PVT. MOBILE CLINIC.....N PVT. PARAMEDIC.....O VAIDYA/HAKIM/HOMEOPATH...P TRADITIONAL HEALER.....Q PHARMACY/DRUGSTORE.....R OTHER PRIVATE SECTOR HEALTH FACILITY.....S OTHER SOURCE SHOP.....T FRIEND/RELATIVE.....U OTHER _____ X (SPECIFY)	PUBLIC MEDICAL SECTOR GOVT./MUNICIPAL HOSP.....A GOVT. DISPENSARY.....B UHC/UHP/UFWC.....C CHC/RURAL HOSP./PHC.....D SUB-CENTRE.....E GOVT. MOBILE CLINIC.....F GOVT. PARAMEDIC.....G CAMP.....H OTHER PUBLIC SECTOR HEALTH FACILITY.....I NGO/TRUST HOSP./CLINIC....J NGO WORKER.....K PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC....L PVT. DOCTOR.....M PVT. MOBILE CLINIC.....N PVT. PARAMEDIC.....O VAIDYA/HAKIM/HOMEOPATH...P TRADITIONAL HEALER.....Q PHARMACY/DRUGSTORE.....R OTHER PRIVATE SECTOR HEALTH FACILITY.....S OTHER SOURCE SHOP.....T FRIEND/RELATIVE.....U OTHER _____ X (SPECIFY)	
475	When (NAME) had diarrhoea, was he/she given any of the following to drink: A fluid made from a special packet called [LOCAL NAME]? Gruel made from rice [OR OTHER LOCAL GRAIN, TUBER, OR PLANTAIN]?	YES NO DK FLUID FROM ORS PACKET..... 1 2 8 GRUEL..... 1 2 8	YES NO DK FLUID FROM ORS PACKET..... 1 2 8 GROEL..... 1 2 8	
476	CHECK 475: FLUID FROM ORS PACKET GIVEN?	YES <input type="checkbox"/> NO OR DK <input type="checkbox"/> (SKIP TO 478)	YES <input type="checkbox"/> NO OR DK <input type="checkbox"/> (SKIP TO 478)	

	NAME	LAST BIRTH	NAME	NEXT-TO-LAST BIRTH
477	Where did you obtain the ORS packet?	PUBLIC MEDICAL SECTOR GOVT./MUNICIPAL HOSP....11 GOVT. DISPENSARY.....12 UHC/UHP/UFWC.....13 CHC/RURAL HOSP./PHC....14 SUB-CENTRE.....15 GOVT. MOBILE CLINIC....16 GOVT. PARAMEDIC.....17 OTHER PUBLIC SECTOR HEALTH FACILITY.....18 NGO/TRUST HOSP./CLINIC...21 NGO WORKER.....22 PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC....31 PVT. DOCTOR.....32 PVT. MOBILE CLINIC....33 PVT. PARAMEDIC.....35 VAIDYA/HAKIM/HOMEOPATH..34 PHARMACY/DRUGSTORE.....36 DAI (TBA).....37 OTHER PRIVATE SECTOR HEALTH FACILITY.....38 OTHER SOURCE SHOP.....41 HUSBAND.....42 FRIEND/OTHER RELATIVE...43 OTHER _____ 96 (SPECIFY)	PUBLIC MEDICAL SECTOR GOVT./MUNICIPAL HOSP....11 GOVT. DISPENSARY.....12 UHC/UHP/UFWC.....13 CHC/RURAL HOSP./PHC....14 SUB-CENTRE.....15 GOVT. MOBILE CLINIC....16 GOVT. PARAMEDIC.....17 OTHER PUBLIC SECTOR HEALTH FACILITY.....18 NGO/TRUST HOSP./CLINIC...21 NGO WORKER.....22 PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC....31 PVT. DOCTOR.....32 PVT. MOBILE CLINIC....33 PVT. PARAMEDIC.....35 VAIDYA/HAKIM/HOMEOPATH..34 PHARMACY/DRUGSTORE.....36 DAI (TBA).....37 OTHER PRIVATE SECTOR HEALTH FACILITY.....38 OTHER SOURCE SHOP.....41 HUSBAND.....42 FRIEND/OTHER RELATIVE...43 OTHER _____ 96 (SPECIFY)	
478	Was anything (else) given to treat the diarrhoea?	YES.....1 NO.....2 (SKIP TO 480) <----- DK.....8	YES.....1 NO.....2 (SKIP TO 480) <----- DK.....8	
479	What was given to treat the diarrhoea? Anything else? RECORD ALL MENTIONED.	PILL OR SYRUP.....A INJECTION.....B INTRAVENOUS (I.V./DRIP/ BOTTLE).....C HOMEMADE SUGAR-SALT- WATER SOLUTION.....D HOME REMEDY/ HERBAL MEDICINE.....E OTHER _____ X (SPECIFY)	PILL OR SYRUP.....A INJECTION.....B INTRAVENOUS (I.V./DRIP/ BOTTLE).....C HOMEMADE SUGAR-SALT- WATER SOLUTION.....D HOME REMEDY/ HERBAL MEDICINE.....E OTHER _____ X (SPECIFY)	
480	—————>	GO BACK TO 454 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 481	GO TO 481	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
481	CHECK 475 ALL COLUMNS: ORS FLUID FROM PACKET <input type="checkbox"/> _____ GIVEN TO ANY CHILD ORS FLUID FROM PACKET NOT GIVEN TO ANY CHILD OR 475 NOT ASKED <input type="checkbox"/> _____ v		483
482	Have you ever heard of a special product called [LOCAL TERM FOR ORS] you can get for the treatment of diarrhoea? IF SHE NEVER HEARD OF ORS, SHOW GOVERNMENT AND COMMERCIAL ORS PACKETS AND ASK: Have you ever seen a packet like one of these before?	YES, WITHOUT SHOWING PACKETS....1 YES, AFTER SHOWING PACKETS.....2 NO.....3	
483	When a child has diarrhoea, should he/she be given less to drink than usual, about the same amount, or more than usual?	LESS TO DRINK.....1 ABOUT SAME AMOUNT TO DRINK.....2 MORE TO DRINK.....3 DK.....8	
484	When a child is sick with diarrhoea, what signs of illness would tell you that he or she should be taken to a health facility or health worker? Any other signs? RECORD ALL MENTIONED.	REPEATED WATERY STOOLS.....A ANY WATERY STOOLS.....B REPEATED VOMITING.....C ANY VOMITING.....D BLOOD IN STOOLS.....E FEVER.....F MARKED THIRST.....G NOT EATING/NOT DRINKING WELL.....H GETTING SICKER/VERY SICK.....I NOT GETTING BETTER.....J OTHER _____ X (SPECIFY) DK.....Z	
485	When a child is sick with a cough, what signs of illness would tell you that he or she should be taken to a health facility or health worker? Any other signs? RECORD ALL MENTIONED.	RAPID BREATHING.....A DIFFICULT BREATHING.....B NOISY BREATHING.....C FEVER.....D UNABLE TO DRINK.....E NOT EATING/NOT DRINKING WELL.....F GETTING SICKER/VERY SICK.....G NOT GETTING BETTER.....H OTHER _____ X (SPECIFY) DK.....Z	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
486	<p>Now I would like to ask you about some health symptoms you yourself may have.</p> <p>During the past three months, have you had any of the following problems with your vaginal discharge:</p> <p>Any itching or irritation in vaginal area with the discharge?</p> <p>A bad odour along with the discharge?</p> <p>Severe lower abdominal pain with the discharge, not related with menstruation?</p> <p>A fever along with the discharge?</p> <p>Any other problem with the discharge?</p>	<p>YES NO</p> <p>ITCHING/IRRITATION... 1 2</p> <p>BAD ODOUR..... 1 2</p> <p>ABDOMINAL PAIN..... 1 2</p> <p>FEVER..... 1 2</p> <p>OTHER PROBLEM..... 1 2</p>	
487	<p>During the past three months have you had a problem with pain or burning while urinating, or have you had more frequent or difficult urination?</p>	<p>YES.....1</p> <p>NO.....2</p>	
488	<p>CHECK 107:</p> <p>CURRENTLY MARRIED <input type="checkbox"/> SEPARATED <input type="checkbox"/></p> <p>DESERTED <input type="checkbox"/> DIVORCED <input type="checkbox"/></p> <p>WIDOWED <input type="checkbox"/></p>	>491	
489	<p>Another problem some women have is feeling pain in their abdomen or vagina during intercourse. Do you often experience this kind of pain?</p>	<p>YES.....1</p> <p>NO.....2</p>	
490	<p>Do you ever see blood after having sex, at times when you are not menstruating?</p>	<p>YES.....1</p> <p>NO.....2</p>	
491	<p>CHECK 486, 487, 489 and 490: YES TO ANY <input type="checkbox"/> OTHER <input type="checkbox"/></p>	>501	
492	<p>Have you seen anyone for advice or treatment to help you with (this problem/these problems)?</p> <p>IF YES, ASK:</p> <p>Whom did you see?</p> <p>Anyone else?</p> <p>RECORD ALL PERSONS SEEN.</p>	<p>PUBLIC MEDICAL SECTOR</p> <p>GOVT. DOCTOR.....A</p> <p>PUBLIC HEALTH NURSE.....B</p> <p>ANM/LHV.....C</p> <p>MALE MPW/SUPERVISOR.....D</p> <p>ANGANWADI WORKER.....E</p> <p>VILLAGE HEALTH GUIDE.....F</p> <p>OTHER PUBLIC SECTOR HEALTH WORKER.....G</p> <p>NGO WORKER.....H</p> <p>PRIVATE MEDICAL SECTOR</p> <p>PRIVATE DOCTOR.....I</p> <p>PRIVATE NURSE.....J</p> <p>COMPOUNDER/PHARMACIST.....K</p> <p>VAID/HAKIM/HOMEOPATH.....L</p> <p>DAI (TBA).....M</p> <p>TRADITIONAL HEALER.....N</p> <p>OTHER PRIVATE SECTOR HEALTH WORKER.....O</p> <p>OTHER (SPECIFY).....X</p> <p>NO, NOBODY SEEN.....Y</p>	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
506	<p>CHECK 230:</p> <p>NOT PREGNANT OR UNSURE <input type="checkbox"/> PREGNANT <input type="checkbox"/></p> <p>v v</p> <p>Do you think your husband would like to have (a/another) child or do you think he would prefer not have any (more) children?</p> <p>After the child you are expecting, do you think your husband would like to have another child or do you think he would prefer not have any more children?</p>	<p>HAVE A (ANOTHER) CHILD.....1 NO MORE/NONE.....2 UP TO GOD.....3 UNDECIDED.....4 DK.....8</p>	
507	<p>CHECK 216:</p> <p>HAS LIVING CHILD(REN) <input type="checkbox"/> NO LIVING CHILDREN <input type="checkbox"/></p> <p>v v</p> <p>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?</p> <p>If you could choose exactly the number of children to have in your whole life, how many would that be?</p> <p>RECORD SINGLE NUMBER OR OTHER ANSWER.</p>	<p>NUMBER..... <input type="text"/> <input type="text"/></p> <p>OTHER ANSWER _____ 96 → 509 (SPECIFY)</p>	
508	<p>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?</p>	<p>BOYS GIRLS EITHER</p> <p>NUMBER... <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/></p> <p>OTHER _____ 999996 (SPECIFY)</p>	
509	<p>In your opinion, how much education should be given to <u>girls</u> these days?</p>	<p>NO EDUCATION.....01 LESS THAN PRIMARY.....02 PRIMARY.....03 MIDDLE.....04 HIGH SCHOOL.....05 HIGHER SECONDARY.....06 GRADUATE AND ABOVE.....07 PROFESSIONAL DEGREE.....08 AS MUCH AS SHE DESIRES.....09 DEPENDS.....10 DK.....98</p>	
510	<p>In your opinion, how much education should be given to <u>boys</u> these days?</p>	<p>NO EDUCATION.....01 LESS THAN PRIMARY.....02 PRIMARY.....03 MIDDLE.....04 HIGH SCHOOL.....05 HIGHER SECONDARY.....06 GRADUATE AND ABOVE.....07 PROFESSIONAL DEGREE.....08 AS MUCH AS HE DESIRES.....09 DEPENDS.....10 DK.....98</p>	

SECTION 5B. STATUS OF WOMAN

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
511	Who makes the following decisions in your household: What items to cook? Obtaining health care for yourself? Purchasing jewellery or other major household items? Your going and staying with parents or siblings?	1 = RESPONDENT 2 = HUSBAND 3 = JOINTLY WITH HUSBAND 4 = OTHERS IN HOUSEHOLD 5 = JOINTLY WITH OTHERS IN HOUSEHOLD 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5	
512	Do you need permission to: go to the market? visit relatives or friends?	YES NO NOT ALLOWED TO GO GO TO THE MARKET.....1 2 3 VISIT RELATIVES/ FRIENDS.....1 2 3	
513	Are you allowed to have some money set aside that you can use as you wish?	YES.....1 NO.....2	
514	Sometimes a wife can do things that bother her husband. Please tell me if you think that a husband is justified in beating his wife in each of the following situations: If he suspects her of being unfaithful? If her natal family does not give expected money, jewellery, or other items? If she shows disrespect for in-laws? If she goes out without telling him? If she neglects the house or children? If she doesn't cook food properly?	YES NO DK UNFAITHFUL.....1 2 8 MONEY/JEWELLERY/ OTHER ITEMS.....1 2 8 DISRESPECT.....1 2 8 GOING WITHOUT TELLING.1 2 8 NEGLECT.....1 2 8 NOT COOK PROPERLY.....1 2 8	
515	Since you completed 15 years of age, have you been beaten or mistreated physically by any person?	YES.....1 NO.....2	→601

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
516	<p>Who has beaten you or mistreated you physically?</p> <p>Anyone else?</p> <p>RECORD ALL PERSONS MENTIONED.</p>	<p>MOTHER.....A FATHER.....B STEP MOTHER.....C STEP FATHER.....D SON.....E DAUGHTER.....F BROTHER/SISTER.....G BOYFRIEND.....H HUSBAND.....I EX-HUSBAND.....J SON-IN-LAW.....K DAUGHTER-IN-LAW.....L MOTHER-IN-LAW.....M FATHER-IN-LAW.....N BROTHER-IN-LAW.....O SISTER-IN-LAW.....P OTHER RELATIVE.....Q FRIEND/ACQUAINTANCE.....R TEACHER.....S EMPLOYER.....T STRANGER.....U OTHER _____ X (SPECIFY)</p>	
517	<p>How often have you been beaten or mistreated physically in the last 12 months: once, a few times, many times, or not at all?</p>	<p>ONCE.....1 A FEW TIMES.....2 MANY TIMES.....3 NOT BEATEN.....4</p>	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP						
612	Have you done any work in the last 12 months?	YES.....1 NO.....2	>701						
613	What is your occupation, that is, what kind of work do/did you mainly do?	<table border="1" style="width: 100%; height: 50px;"> <tr> <td style="width: 80%;"></td> <td style="width: 20%;"></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> </table>							
614	Do you do this work for your family's farm or business, for someone else, or are you self-employed?	FAMILY FARM/BUSINESS.....1 SOMEONE ELSE.....2 SELF-EMPLOYED.....3							
615	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							
616	Are you paid in cash or kind for this work, or are you not paid at all?	CASH ONLY.....1 CASH AND KIND.....2 KIND ONLY.....3 NOT PAID.....4	>619						
617	Generally, how much do your earnings contribute to the total family earnings: almost none, less than half, about half, more than half, or all?	ALMOST NONE.....1 LESS THAN HALF.....2 ABOUT HALF.....3 MORE THAN HALF.....4 ALL.....5							
618	Who mainly decides how the money you earn will be used?	RESPONDENT DECIDES.....1 HUSBAND DECIDES.....2 JOINTLY WITH HUSBAND.....3 SOMEONE ELSE DECIDES.....4 JOINTLY WITH SOMEONE ELSE.....5							

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
619	Do you usually work at home or away from home?	HOME.....1 AWAY.....2	→701
620	CHECK 215/218: HAS CHILD BORN SINCE JAN. 1995 AND LIVING AT HOME? YES NO <input type="checkbox"/> <input type="checkbox"/> ↓		→701
621	While you are working, do you usually have (NAME OF YOUNGEST CHILD AT HOME) with you, sometimes have him/her with you, or never have him/her with you?	USUALLY.....1 SOMETIMES.....2 NEVER.....3	→701
622	Who usually takes care of (NAME OF YOUNGEST CHILD AT HOME) while you are working?	HUSBAND.....01 OLDER BOYS.....02 OLDER GIRLS.....03 OTHER RELATIVES.....04 NEIGHBOURS.....05 FRIENDS.....06 SERVANTS/HIRED HELP.....07 CHILD IS IN SCHOOL.....08 INSTITUTIONAL CHILDCARE.....09 OTHER _____ 96 (SPECIFY)	

SECTION 7 - AIDS

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	TO																		
701	Have you ever heard of an illness called AIDS?	YES.....1 NO.....2	705																		
702	From which sources of information have you learned about AIDS? Any other source? RECORD ALL MENTIONED.	RADIO.....A TELEVISION.....B CINEMA.....C NEWSPAPERS/MAGAZINES.....D POSTERS/BOARDS.....E EXHIBITION/MELA.....F HEALTH WORKERS.....G ADULT EDUCATION PROGRAMME.....H RELIGIOUS LEADERS.....I POLITICAL LEADERS.....J SCHOOLS/TEACHERS.....K COMMUNITY MEETINGS.....L FRIENDS/RELATIVES.....M WORK PLACE.....N OTHER.....X (SPECIFY)																			
703	Is there anything a person can do to avoid getting AIDS?	YES.....1 NO.....2 DK.....8	705																		
704	What can a person do? Any other ways? RECORD ALL MENTIONED.	ABSTAIN FROM SEX.....A USE CONDOMS.....B HAVE ONLY ONE SEX PARTNER.....C AVOID SEX WITH COMMERCIAL SEX WORKERS.....D AVOID SEX WITH HOMOSEXUALS.....E AVOID BLOOD TRANSFUSIONS.....F AVOID INJECTIONS/USE CLEAN NEEDLES.....G AVOID I.V. DRUG USE.....H AVOID KISSING.....I AVOID HUGGING.....J AVOID HAND SHAKING.....K AVOID SHARING CLOTHES.....L AVOID SHARING UTENSILS.....M AVOID SHARING SHAVING KITS/RAZORS.....N AVOID STEPPING ON URINE/STOOL...O AVOID MOSQUITO BITES.....P OTHER.....X (SPECIFY) DK.....Z																			
705	RECORD THE TIME	<table border="1" style="display: inline-table;"> <tr> <td>HOUR.....</td> <td><input type="text"/></td> <td><input type="text"/></td> </tr> <tr> <td>MINUTES.....</td> <td><input type="text"/></td> <td><input type="text"/></td> </tr> </table>	HOUR.....	<input type="text"/>	<input type="text"/>	MINUTES.....	<input type="text"/>	<input type="text"/>													
HOUR.....	<input type="text"/>	<input type="text"/>																			
MINUTES.....	<input type="text"/>	<input type="text"/>																			
706	PRESENCE OF OTHERS DURING MOST OF THE INTERVIEW TIME.	<table border="1" style="display: inline-table;"> <thead> <tr> <th></th> <th>YES</th> <th>NO</th> </tr> </thead> <tbody> <tr> <td>CHILDREN UNDER 10.....1</td> <td>1</td> <td>2</td> </tr> <tr> <td>HUSBAND.....1</td> <td>1</td> <td>2</td> </tr> <tr> <td>MOTHER-IN-LAW.....1</td> <td>1</td> <td>2</td> </tr> <tr> <td>OTHER MALES.....1</td> <td>1</td> <td>2</td> </tr> <tr> <td>OTHER FEMALES.....1</td> <td>1</td> <td>2</td> </tr> </tbody> </table>		YES	NO	CHILDREN UNDER 10.....1	1	2	HUSBAND.....1	1	2	MOTHER-IN-LAW.....1	1	2	OTHER MALES.....1	1	2	OTHER FEMALES.....1	1	2	
	YES	NO																			
CHILDREN UNDER 10.....1	1	2																			
HUSBAND.....1	1	2																			
MOTHER-IN-LAW.....1	1	2																			
OTHER MALES.....1	1	2																			
OTHER FEMALES.....1	1	2																			

SECTION 8: HEIGHT AND WEIGHT

INTERVIEWER: IN 801 (COLUMNS 2-3) RECORD THE LINE NUMBER FOR EACH CHILD BORN SINCE JANUARY 1995 AND STILL ALIVE.
 IN 802 AND 803 RECORD THE NAME OF THE RESPONDENT AND ALL HER LIVING CHILDREN BORN SINCE JANUARY 1995, AND THE DATE OF BIRTH OF THE CHILDREN.
 IN 804 AND 806 RECORD THE HEIGHT AND WEIGHT OF THE RESPONDENT AND LIVING CHILDREN.

(NOTE: IF THERE ARE MORE THAN 2 LIVING CHILDREN BORN SINCE JANUARY 1995, CHECK BOX AND USE ADDITIONAL QUESTIONNAIRE)

	<input type="checkbox"/> 1 RESPONDENT	<input type="checkbox"/> 2 YOUNGEST LIVING CHILD	<input type="checkbox"/> 3 NEXT-TO-YOUNGEST LIVING CHILD
801 LINE NO. FROM Q.212	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
802 NAME FROM Q.212 FOR CHILDREN	(NAME) _____	(NAME) _____	(NAME) _____
803 DATE OF BIRTH FROM Q.215 FOR CHILDREN, COPY MONTH AND YEAR OF BIRTH AND ASK FOR DAY OF BIRTH	<input type="checkbox"/>	DAY..... <input type="checkbox"/> <input type="checkbox"/> MONTH..... <input type="checkbox"/> <input type="checkbox"/> YEAR. <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	DAY..... <input type="checkbox"/> <input type="checkbox"/> MONTH..... <input type="checkbox"/> <input type="checkbox"/> YEAR. <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
804 HEIGHT (in centimetres)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> . <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> . <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> . <input type="checkbox"/>
805 WAS HEIGHT/LENGTH OF CHILD MEASURED LYING DOWN OR STANDING UP?	<input type="checkbox"/>	LYING.....1 STANDING.....2	LYING.....1 STANDING.....2
806 WEIGHT (in kilograms)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> . <input type="checkbox"/>	0 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> . <input type="checkbox"/>	0 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> . <input type="checkbox"/>
807 DATE WEIGHED AND MEASURED	DAY..... <input type="checkbox"/> <input type="checkbox"/> MONTH..... <input type="checkbox"/> <input type="checkbox"/> YEAR. <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	DAY..... <input type="checkbox"/> <input type="checkbox"/> MONTH..... <input type="checkbox"/> <input type="checkbox"/> YEAR. <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	DAY..... <input type="checkbox"/> <input type="checkbox"/> MONTH..... <input type="checkbox"/> <input type="checkbox"/> YEAR. <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
808 RESULT	COMPLETED.....1 NOT PRESENT....2 REFUSED.....3 OTHER.....6 (SPECIFY) _____	COMPLETED.....1 CHILD SICK....2 CHILD NOT PRESENT.....3 CHILD DID NOT ALLOW.....4 MOTHER REFUSED.5 OTHER.....6 (SPECIFY) _____	COMPLETED.....1 CHILD SICK....2 CHILD NOT PRESENT.....3 CHILD DID NOT ALLOW.....4 MOTHER REFUSED.5 OTHER.....6 (SPECIFY) _____
809 NAME OF MEASURER: _____	<input type="checkbox"/> <input type="checkbox"/>	NAME OF ASSISTANT: _____	<input type="checkbox"/> <input type="checkbox"/>

SECTION 9. ANAEMIA

901

As a part of this survey, we are studying anaemia among women and children. We request your co-operation in this regard. This will assist the Government of India to develop programmes to prevent and treat anaemia.

Anaemia is a serious health problem in India, which results from poor nutrition. However, if a person is found to have anaemia, the person can be given iron folic tablets to cure the disease.

If you decide to be tested for anaemia, we will request that you give a drop of blood from your finger for the test. (Also, if you have a child under 3 years old, please allow me to take a (few) drop(s) of blood from him/her for anaemia testing). We will use disposable sterile instruments that are clean and completely safe. Your child will feel a slight pinch when the blood is drawn. There is essentially no risk to your child from this procedure. The blood will be analyzed with new equipment provided by the United Nations. The result(s) of the test(s) will be given to you right after the blood is taken. The results of the tests will be kept confidential and will not be shown to other persons. Are there any questions about the blood testing that you would like to ask me now?

May I ask you now to give your consent to have the test(s) done. If you decide not to have the test(s), it is your right, and we will respect your decision. Now please tell me whether you agree to have the test(s) (and allow me to test your child).

AFTER EXPLAINING THE ABOVE, I HAVE FOUND THAT _____ AGREED TO GIVE
(NAME OF RESPONDENT)

A (FEW) DROP(S) OF BLOOD FOR HERSELF [AND FOR HER CHILD(REN) NAMED _____]
(NAME OF CHILD(REN))

Signature of Interviewer: _____ Date : _____

RESPONDENT AGREES TO TESTING OF HERSELF AND/OR HER CHILD(REN)...1

RESPONDENT DOES NOT AGREE TO TESTING.....2 →END

Signature of Witness: _____ Date : _____

902

RESPONDENT'S HAEMOGLOBIN LEVEL (G/DL)

--	--	--	--

903	RESULT	MEASURED.....1 REFUSED.....2 OTHER _____ 6 (SPECIFY)
904	CHECK 215/216:	<input type="checkbox"/> ONE OR MORE LIVING CHILDREN BORN SINCE JANUARY 1995 <input type="checkbox"/> NO LIVING CHILDREN BORN SINCE JANUARY 1995 →910

IN 905 RECORD THE LINE NUMBER FOR EACH CHILD BORN SINCE JANUARY 1995 AND STILL ALIVE.
 IN 906 RECORD THE NAMES OF THE LIVING CHILDREN.
 IN 907 RECORD THE HAEMOGLOBIN LEVEL IN THE BLOOD OF THE LIVING CHILDREN.

(NOTE: IF THERE ARE MORE THAN 2 LIVING CHILDREN BORN SINCE JANUARY 1995, CHECK BOX AND USE ADDITIONAL QUESTIONNAIRE)

		YOUNGEST LIVING CHILD	NEXT-TO-YOUNGEST LIVING CHILD
905	LINE NUMBER FROM Q. 212	<input type="text"/>	<input type="text"/>
906	NAME FROM Q.212	NAME _____	NAME _____
907	HAEMOGLOBIN LEVEL IN THE BLOOD (G/DL)	<input type="text"/> <input type="text"/> . <input type="text"/>	<input type="text"/> <input type="text"/> . <input type="text"/>
908	RESULT	MEASURED.....1 CHILD SICK.....2 CHILD NOT PRESENT.....3 CHILD DID NOT ALLOW.....4 MOTHER REFUSED.....5 OTHER _____ 6 (SPECIFY)	MEASURED.....1 CHILD SICK.....2 CHILD NOT PRESENT.....3 CHILD DID NOT ALLOW.....4 MOTHER REFUSED.....5 OTHER _____ 6 (SPECIFY)

909	NAME OF MEASURER	<input type="text"/>
910	CHECK 902 AND 907:	<input type="checkbox"/> NO VALUES BELOW 7 G/DL → GIVE MOTHER RESULT OF HAEMOGLOBIN MEASUREMENT AND END THE INTERVIEW <input type="checkbox"/> ANY VALUE BELOW 7 G/DL FOR MOTHER AND/OR CHILD(REN) → GIVE MOTHER RESULT OF HAEMOGLOBIN MEASUREMENT AND CONTINUE WITH 911.

911	<p>CHECK COLUMN (5) OF HOUSEHOLD SCHEDULE:</p> <p>RESPONDENT IS USUAL RESIDENT <input type="checkbox"/></p> <p>RESPONDENT IS VISITOR <input type="checkbox"/> → END</p> <p style="text-align: center;">↓ V</p>
912	<p>We detected a low level of haemoglobin in your (your child's) blood. This indicates you (your child) have developed severe anaemia, which is a serious health problem. We would like to inform the doctor at _____ about your (your child's) condition. This will assist you to obtain appropriate treatment of your (your child's) condition.</p> <p>Do you agree that the information about the level of haemoglobin in your (your child's) blood may be given to the doctor.</p> <p>AFTER EXPLAINING THE ABOVE, I HAVE FOUND THAT _____ AGREED FOR (NAME OF RESPONDENT)</p> <p>REFERRAL FOR HERSELF [AND FOR HER CHILD(REN) NAMED _____] (NAME OF CHILD(REN))</p> <p>Signature of Interviewer: _____ Date : _____</p> <p>RESPONDENT AGREES FOR REFERRAL FOR HERSELF AND/OR HER CHILD(REN)1</p> <p>RESPONDENT DOES NOT AGREE FOR REFERRAL.....2 → END</p> <p style="text-align: center;">↓ V</p>
913	<p>RECORD NAMES OF WOMAN AND CHILD(REN) WITH HAEMOGLOBIN LEVEL LESS THAN 7 G/DL ON REFERRAL FORM.</p>

INTERVIEWER'S OBSERVATIONS
(To be filled in after completing interview)

Comments About Respondent:

Comments on Specific Questions:

Any Other Comments:

SUPERVISOR'S OBSERVATIONS/COMMENTS

Name of Supervisor: _____ Date: _____

EDITOR'S OBSERVATIONS/COMMENTS

Name of Editor: _____ Date: _____

NATIONAL FAMILY HEALTH SURVEY, 1998-99 (NFHS-2)

INTERNATIONAL INSTITUTE FOR POPULATION SCIENCES, MUMBAI

RESULTS OF HAEMOGLOBIN MEASUREMENT IN THE BLOOD:

Date: _____

Haemoglobin level in the blood (G/DL)	Woman	Child	Child
	NAME _____ <div style="text-align: center;"> <input type="text"/> <input type="text"/> . <input type="text"/> </div> You have -- --	NAME _____ <div style="text-align: center;"> <input type="text"/> <input type="text"/> . <input type="text"/> </div> Your child has	NAME _____ <div style="text-align: center;"> <input type="text"/> <input type="text"/> . <input type="text"/> </div> Your child has
WHO CLASSIFICATION OF ANAEMIA			
NORMAL LEVEL HB LEVEL ABOVE 11 G/DL	NORMAL LEVEL	NORMAL LEVEL	NORMAL LEVEL
MILD ANAEMIA HB (10-10.9 G/DL)	MILD ANAEMIA	MILD ANAEMIA	MILD ANAEMIA
MODERATE ANAEMIA HB (7-9.9 G/DL)	MODERATE ANAEMIA	MODERATE ANAEMIA	MODERATE ANAEMIA
SEVERE ANAEMIA HB (LESS THAN 7 G/DL)	SEVERE ANAEMIA	SEVERE ANAEMIA	SEVERE ANAEMIA

In case of severe anaemia (Hb less than 7 G/DL), we recommend that you immediately contact your doctor.

NATIONAL FAMILY HEALTH SURVEY, 1998-99 (NFHS-2)
 VILLAGE QUESTIONNAIRE

CONFIDENTIAL
 For Research
 Purpose only

INDIA

IDENTIFICATION																					
STATE _____	<table border="1"> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> </table>																				
DISTRICT _____																					
TEHSIL/TALUK _____																					
VILLAGE _____																					
PSU NUMBER.....																					
TOTAL POPULATION OF THE VILLAGE ACCORDING TO THE 1991 CENSUS.....	<table border="1"> <tr><td></td><td></td><td></td><td></td></tr> </table>																				

INTERVIEWER'S NAME _____		
DATE OF INTERVIEW _____	DATE.....	
	MONTH.....	
	YEAR.....	

RESULT:	
BOTH VILLAGE SCHEDULE AND VILLAGE HEAD SCHEDULE COMPLETED.....	1
ONLY VILLAGE SCHEDULE COMPLETED.....	2
OTHER _____	6
(SPECIFY)	

	SUPERVISOR	FIELD EDITOR	OFFICE EDITOR	KEYED BY
DATE				
NAME				

VILLAGE SCHEDULE

NO.	QUESTIONS	CODING CATEGORIES						
1	Current population of the village:	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="width: 20px; height: 20px;"></td> </tr> </table>						
2	Area of the village (in Hectares):	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table>						
3	Total number of households in the village:	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="width: 20px; height: 20px;"></td> </tr> </table>						
4	Total arable land in the village (in Hectares):	IRRIGATED LAND..... <table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table> NON-IRRIGATED LAND..... <table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table>						
5	Main source of irrigation in the village:	RAIN WATER.....01 TANK/POND.....02 STREAM/RIVER.....03 CANAL.....04 WELL.....05 TUBE WELL.....06 OTHER _____ 96 (SPECIFY)						
6	Major crops grown in the village:	1 _____ <table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table> 2 _____ 3 _____						
7	Distance to the nearest town (in kilometres):	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table>						
8	Distance to the District Headquarters (in kilometres):	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table>						
9	Distance to the nearest railway station (in kilometres):	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table>						
10	Distance to available transport service to other place (in kilometres):	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table>						
11	Distance of the village from all-weather road in connection to other place (in kilometres):	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table>						
12	Village Electrification:	NOT ELECTRIFIED..... 1 ELECTRIFIED, BUT IRREGULAR SUPPLY..... 2 ELECTRIFIED AND REGULAR SUPPLY..... 3						

NO.	QUESTIONS	CODING CATEGORIES
13	<p>Educational Facilities:</p> <p>Primary School</p> <p>Middle School</p> <p>Secondary School</p> <p>Higher Secondary School</p> <p>College</p> <p>IF DISTANCE MORE THAN 90 KILOMETRES, RECORD 90; IF FACILITY IS AVAILABLE IN THE VILLAGE, RECORD 95</p>	<p>DISTANCE TO THE NEAREST FACILITY AVAILABLE (IN KILOMETRES):</p> <p>PRIMARY SCHOOL..... <input type="text"/> <input type="text"/></p> <p>MIDDLE SCHOOL..... <input type="text"/> <input type="text"/></p> <p>SECONDARY SCHOOL..... <input type="text"/> <input type="text"/></p> <p>HIGHER SECONDARY SCHOOL..... <input type="text"/> <input type="text"/></p> <p>COLLEGE..... <input type="text"/> <input type="text"/></p>
14	<p>Health Facilities:</p> <p>Sub-Centre</p> <p>Primary Health Centre</p> <p>Community Health Centre/Rural Hospital</p> <p>Government Dispensary</p> <p>Government Hospital</p> <p>Private Clinic</p> <p>Private Hospital</p> <p>IF DISTANCE MORE THAN 90 KILOMETRES, RECORD 90; IF FACILITY IS AVAILABLE IN THE VILLAGE, RECORD 95</p>	<p>DISTANCE TO THE NEAREST FACILITY AVAILABLE (IN KILOMETRES):</p> <p>SUB-CENTRE..... <input type="text"/> <input type="text"/></p> <p>PRIMARY HEALTH CENTRE..... <input type="text"/> <input type="text"/></p> <p>COMMUNITY HEALTH CENTRE/RURAL HOSPITAL..... <input type="text"/> <input type="text"/></p> <p>GOVERNMENT DISPENSARY..... <input type="text"/> <input type="text"/></p> <p>GOVERNMENT HOSPITAL..... <input type="text"/> <input type="text"/></p> <p>PRIVATE CLINIC..... <input type="text"/> <input type="text"/></p> <p>PRIVATE HOSPITAL..... <input type="text"/> <input type="text"/></p>
15	<p>Other facilities:</p> <p>Post Office</p> <p>Telegraph Office</p> <p>STD Booth</p> <p>Bank</p> <p>IF DISTANCE MORE THAN 90 KILOMETRES, RECORD 90; IF FACILITY IS AVAILABLE IN THE VILLAGE, RECORD 95</p>	<p>DISTANCE TO THE NEAREST FACILITY AVAILABLE (IN KILOMETRES):</p> <p>POST OFFICE..... <input type="text"/> <input type="text"/></p> <p>TELEGRAPH OFFICE..... <input type="text"/> <input type="text"/></p> <p>STD BOOTH..... <input type="text"/> <input type="text"/></p> <p>BANK..... <input type="text"/> <input type="text"/></p>

NO.	QUESTIONS	CODING CATEGORIES		
16	Availability of health provider in the village: Private doctor Visiting doctor Village health guide (VHG) Traditional birth attendant (dai) Mobile health unit/visit	YES NO	PRIVATE DOCTOR..... 1 2 VISITING DOCTOR..... 1 2 VHG..... 1 2 TBA (DAI)..... 1 2 MOBILE HEALTH UNIT..... 1 2	
17	Other facilities: Mills/small scale industries (M/SSI) Credit cooperative society (CCS) Agricultural cooperative society (ACS) Fishermen's cooperative society (FCS) Milk cooperative society (MCS) Kirana/General Market Shop (K/GMS) Weekly market Fair price shop Paan shop Pharmacy/Medical shop Mahila Mandal Youth club Anganwadi centre Community centre Adult education centre Community television set Cable connection	AVAILABLE IN THE VILLAGE	YES NO	M/SSI..... 1 2 CCS..... 1 2 ACS..... 1 2 FCS..... 1 2 MCS..... 1 2 K/GMS..... 1 2 WEEKLY MARKET..... 1 2 FAIR PRICE SHOP..... 1 2 PAAN SHOP..... 1 2 PHARMACY/MEDICAL SHOP.... 1 2 MAHILA MANDAL..... 1 2 YOUTH CLUB..... 1 2 ANGANWADI CENTRE..... 1 2 COMMUNITY CENTRE..... 1 2 ADULT EDUCATION CENTRE... 1 2 COMMUNITY TV SET..... 1 2 CABLE CONNECTION..... 1 2
18	Total number of television sets in the village:	<input type="text"/> <input type="text"/>		
19	Total number of households having telephone connection:	<input type="text"/> <input type="text"/>		
20	The type of drainage facility in the village:	UNDERGROUND DRAINAGE.....1 OPEN DRAINAGE.....2 NO.....3		

NO.	QUESTIONS	CODING CATEGORIES	
21	Any epidemic in the village during the last one year:	1. _____	<input type="checkbox"/> <input type="checkbox"/>
		2. _____	<input type="checkbox"/> <input type="checkbox"/>
22	Number of health or family welfare camps in the last one year?		<input type="checkbox"/> <input type="checkbox"/>
23	Any beneficiaries in the village from the following programmes:	BENEFICIARIES	
	Integrated Rural Development Programme (IRDP)	IRDP.....	<input type="checkbox"/> <input type="checkbox"/>
	National Rural Employment Programme (NREP)	NREP.....	<input type="checkbox"/> <input type="checkbox"/>
	Training Rural Youth for Self Employment (TRYSEM)	TRYSEM.....	<input type="checkbox"/> <input type="checkbox"/>
	Employment Guarantee Scheme (EGS)	EGS.....	<input type="checkbox"/> <input type="checkbox"/>
	Development of Women and Children of Rural Areas (DWARCA)	DWARCA.....	<input type="checkbox"/> <input type="checkbox"/>
	Indira Awas Yojana (IAY)	IAY.....	<input type="checkbox"/> <input type="checkbox"/>
	Sanjay Gandhi Niradhar Yojana (SGNY)	SGNY.....	<input type="checkbox"/> <input type="checkbox"/>
24	Community level IEC activities for health and family welfare during the last one year:		YES NO
	Film show	FILM SHOW.....	1 2
	Exhibition	EXHIBITION.....	1 2
	Drama/song/dance performance	DRAMA/SONG/DANCE PERFORM.....	1 2
	Puppet show	PUPPET SHOW.....	1 2
	Group meeting	GROUP MEETING.....	1 2
25	Persons providing information for the village schedule:	SARPANCH.....A PATWARI.....B GRAM SEVAK.....C SCHOOL TEACHER.....D HEALTH PERSONNEL.....E	
	RECORD ALL THE SOURCES.	OTHERS _____ X (SPECIFY)	

