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Introductory Report

**National Family
Health Survey**
1992-93

International Institute for Population Sciences
Bombay

National Family Health Survey

(MCH and Family Planning)

India
1992-93

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FOREWORD

The National Family Health Survey (NFHS) is an important component of the Project to Strengthen the Survey Research Capabilities of the Population Research Centres in India, launched by the Ministry of Health and Family Welfare (MOHFW), New Delhi, in 1991. It was undertaken with the principal objective of providing state-level and national-level estimates of fertility, infant and child mortality, the practice of family planning, maternal and child health care and the utilization of services provided for mothers and children. Another important objective of the NFHS was to provide high quality data to academicians and researchers for undertaking analytical research on various population and health topics.

The MOHFW designated the International Institute for Population Sciences (IIPS), Bombay, as the nodal agency for providing coordination and technical guidance to the NFHS. The data collection for the NFHS was undertaken by various Consulting Organizations (COs) in collaboration with the concerned Population Research Centres (PRCs) in each state. The East-West Center/Macro International provided technical assistance for all of the survey operations. Funding for the NFHS was provided by the United States Agency for International Development (USAID), New Delhi.

The NFHS covered 24 states and the National Capital Territory of Delhi (the erstwhile Union Territory of Delhi), comprising 99 percent of the total population of India. In all, 89,777 ever-married women age 13-49 and 88,562 households were covered, using uniform questionnaires, sample designs and field procedures. The data collection was carried out on a state-by-state basis during April 1992 to September 1993. Preliminary reports with selected results were prepared for each state by the end of 1993 and presented to policymakers and programme administrators responsible for improving family welfare programmes.

This is an introductory report containing basic information on fertility, knowledge and practice of family planning, utilization of antenatal services, immunization, feeding practices and health of children, infant and child mortality, maternal mortality, and knowledge of AIDS. Interstate comparisons on key indicators are also provided in this report. This report will be followed by the final national report, which is under preparation at IIPS. The final state-level reports are being written by representatives from the concerned PRC for each state, with the assistance of faculty members from IIPS and demographers from the East-West Center/Macro International.

Never before in India has such a large population and health survey been undertaken and completed in the stipulated time period. I am, therefore, very happy to present this introductory NFHS report for India. I do hope that it will contribute to the knowledge of researchers and analysts in India and that programme administrators and policymakers will find it useful for policy development and implementation of the family welfare programme in the country.

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The NFHS has received immense help for carrying out the entire sampling design for all the states from the Office of the Registrar General, India, New Delhi. Grateful thanks are due to Mr. A.R. Nanda, Registrar General of India, Mr. K.S. Natarajan, Deputy Registrar General of India and Mr. K.N. Unni, Research Officer, Office of the Registrar General, India. Thanks are due to the National Sample Survey Organization for making available the urban sampling frames for the first phase of the NFHS. Special mention and thanks are due to Ms. Thanh Le and Dr. Vijay Verma for their participation and help in preparing a very thorough sampling design for all the states.

The Family Welfare Departments of each state covered in the NFHS helped the Consulting Organizations in data collection by providing accommodations, vehicles and drivers to the interviewing teams. Thanks are also due to the village officials in all of the villages covered for facilitating the data collection.

Dr. K. Srinivasan was the Director of IIPS during the development of the project and through the first phase of data collection. His immense interest and great assistance to the NFHS are gratefully acknowledged.

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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 to the conducting of the NFHS.

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We would like to take this opportunity to acknowledge the administrative support given to the NFHS by Major R. Bashyam, Administrative Officer and Mrs. Vasanthi Ramakrishnan, Accounts Officer at IIPS. The help rendered by the IIPS Library, especially by Mr. R.T. Randeria, Librarian and Mr. K.V.R. Rao, Deputy Librarian is gratefully acknowledged.

This acknowledgment cannot be concluded without expressing appreciation for the great amount of pains taken by the interviewers, supervisors and editors in collecting data in every state. The interviewing teams, who have been the architects of this important survey, deserve our special thanks.

Last but not least, the credit goes to the 89,777 ever-married women and the household respondents who spent their time and responded to the rather lengthy questionnaires with tremendous patience and without any expectation from the NFHS.

I. BACKGROUND

A. INTRODUCTION

The National Family Health Survey (NFHS) is one important component of the Project to Strengthen the Survey Research Capabilities of the Population Research Centres (PRC Project), launched by the Ministry of Health and Family Welfare (MOHFW), Government of India, in 1991. Various organizations and institutions have collaborated with the MOHFW in the design and implementation of the NFHS.

Financial assistance for the NFHS was provided by the United States Agency for International Development (USAID), New Delhi. The International Institute for Population Sciences (IIPS), Bombay, was designated by the MOHFW as the nodal organization for the NFHS, responsible for coordination and technical guidance. The 18 Population Research Centres (PRCs), which are located in universities and institutes of national repute throughout India participated in all stages of survey implementation for the states in which they are located. A number of private Consulting Organizations (COs) in India were identified to facilitate data collection, and IIPS and the PRCs collaborated with these organizations in implementing the surveys. Each CO was responsible for data collection in one or more states covered by the NFHS. Technical assistance for the NFHS was provided by the East-West Center/Macro International.

The NFHS is a nationwide survey covering 99 percent of the population of India in 24 states and the National Capital Territory of Delhi. In all, 89,777 ever-married women in the age group 13-49 and 88,562 households were covered using uniform questionnaires, sample designs and field procedures. Data collection for the NFHS was carried out in three phases from April 1992 to September 1993. The first phase included the data collection in the states of Andhra Pradesh, Himachal Pradesh, Madhya Pradesh, Tamil Nadu and West Bengal. The second phase included the data collection in the states of Assam, Goa, Haryana, Karnataka, Kerala, Maharashtra, Rajasthan and Uttar Pradesh. The third phase included the data collection in the states of Arunachal Pradesh, Bihar, Gujarat, the Jammu Region of Jammu and Kashmir, Manipur, Meghalaya, Mizoram, Nagaland, Orissa, Punjab, Tripura and the National Capital Territory of Delhi.

B. DEMOGRAPHIC BACKGROUND OF INDIA

The population of India as per the 1991 Census is 846.3 million, including the projected population of 7.72 million of Jammu and Kashmir, where the 1991 Census was not held. India is the second most populous country in the world. About 16 percent of the world's population live in India, but the country accounts for only 2.4 percent of the total world land area. During the decade 1981-91, India's population grew by 23.9 percent. In absolute terms, the population of India increased by 160.6 million during the same period, which is more than the total population of Japan. The percent increase in population during 1981-91 was lower than the percent increase during 1971-81, which was 24.7 percent. The average annual exponential growth rate also decreased from 2.22 percent during 1971-81 to 2.11 percent during 1981-91.

The sex ratio (number of females per 1,000 males) declined from 934 in 1981 to 927 in 1991. The density of the population (persons per km²) increased from 230 in 1981 to 273 in 1991 (excluding Assam and Jammu and Kashmir). In 1991, 26 percent of the population lived in urban areas. According to the Sample Registration System (SRS) for 1991, 36 percent of the population were children (age 0-14 years) and 8 percent were elderly (age 65 and above). Persons from scheduled castes and scheduled tribes were 17 and 8 percent of the population, respectively.

According to the 1991 census, the literacy rate in India for persons age 7 years and above was 52 percent (64 percent for males and 36 percent for females). SRS estimates for 1992 indicate that the crude birth rate was 29.0 per 1,000 population, the crude death rate was 10.0 per 1,000 population and the infant mortality rate was 79 per 1,000 live births. The SRS estimate of the total fertility rate (TFR) for 1991 was 3.6 children per woman. According to the government, India's couple protection rate (defined as the percentage of eligible couples effectively protected against pregnancy) was 44 percent in 1992.

The family welfare programme in India, which is an integral part of the national maternal and child health programme, promotes responsible parenthood, with a two-child family norm (regardless of the sex of the children) through the voluntary use of contraceptive methods best suited to each couple. Health and family planning services in the country are provided through a vast network of sub-centres, Primary Health Centres, community health centres, postpartum centres, voluntary organizations, and other facilities.

The National Health Policy, which was approved by the Parliament in 1983, places a strong emphasis on ensuring primary health care to all by the year 2000. The government's long-term national goal is to reach a net reproduction rate of 1.0 by 2011-2016.

C. OBJECTIVES OF THE NFHS

The primary objective of the NFHS is to provide national-level and state-level data on fertility, nuptiality, family size preferences, knowledge and practice of family planning, the potential demand for contraception, the level of unwanted fertility, utilization of antenatal care services, breastfeeding and food supplementation practices, child nutrition and health, immunizations, and infant and child mortality. A further objective is to explore the demographic and socioeconomic determinants of fertility, family planning, and maternal and child health. The NFHS is specifically designed to provide a source of demographic data for interstate comparisons, and to this end the survey used uniform questionnaires and uniform methods of sampling, data collection and analysis for all the states. Information from the survey is intended to assist policymakers, administrators and researchers to assess and evaluate population and family welfare programmes and strategies in individual states and the country as a whole.

II. SURVEY DESIGN

A. QUESTIONNAIRES

The NFHS used three types of questionnaires: the Household Questionnaire, the Woman's Questionnaire and the Village Questionnaire. The overall content and format of the questionnaires was determined in a Questionnaire Design Workshop in Pune in September 1991. The workshop was attended by representatives from all the PRCs, the Consulting Organizations, MOHFW, IIPS, other Indian organizations, the East-West Center/Macro International and USAID. The questionnaires are largely precoded, with fixed response categories. A pretest of the questionnaires was carried out by IIPS with the help of the PRC, Bhopal, in October 1991. A ten-day training session for interviewers and supervisors was conducted at the PRC. In total, 150 pretest interviews were completed in two villages near Bhopal and a few urban blocks within Bhopal city. Appropriate changes were made in the questionnaires, based on the experience of the pretest. Each state in the NFHS used the pretested standard Household Questionnaire, Woman's Questionnaire and Village Questionnaire. Questionnaires used in each state were bilingual, consisting of questions in both the state language and English. The PRCs in these states undertook the responsibility of translating the questionnaires into the state language and pretesting the translated version of the questionnaires.

The Household Questionnaire was used to list all usual residents of each sample household, plus all visitors who slept in the household the night before the interview. Basic information was collected on the characteristics of each person listed, including age, sex, marital status, education, occupation and relationship to the head of the household. The main purpose of this section of the Household Questionnaire was to identify women who were eligible for the Woman's Questionnaire. In addition, the Household Questionnaire collected information on various socioeconomic characteristics of the household as well as on all the births and deaths that occurred during the last two years in the household.

The Woman's Questionnaire was used to collect information from eligible women -- that is, all ever-married women age 13-49 years, including visitors and usual residents. The Woman's Questionnaire dealt with background characteristics of the respondent, her reproductive history, knowledge and use of family planning methods, pregnancy and breastfeeding, immunization and health of young children, fertility preferences, and nutritional status of young children. The Woman's

Questionnaire had the following seven sections:

- ▶ Respondent's background
- ▶ Reproduction
- ▶ Contraception
- ▶ Health of children
- ▶ Fertility preferences
- ▶ Husband's background and woman's work
- ▶ Height and weight of children

The nutritional status of children was measured using both weight and height/length of children under age 4 in most of the states. However, due to the nonavailability of measuring instruments during the first phase of data collection, the measurement of height/length of children was not undertaken in the first phase states. In these states, only the weight of children was taken as a measure of their nutritional status.

The Village Questionnaire was used to collect information on the villages selected in the NFHS sample. The Village Questionnaire collected information on various amenities available in the village including electricity, water, transportation and educational and health facilities.

In addition to the above standard set of questions used in all the states of the NFHS, a set of state-specific questions was added in most of the states on issues of importance in those states. Accordingly, a set of questions on knowledge of AIDS was added to the NFHS in Arunachal Pradesh, Assam, Goa, Gujarat, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Tamil Nadu, Tripura, West Bengal, and the National Capital Territory of Delhi. The topics covered by state-specific questions in the other states are: dowry in Bihar, age at marriage in Rajasthan, sex preference in Uttar Pradesh, international migration in Kerala, Green Cards in Madhya Pradesh, benefits received from antipoverty programmes in Karnataka, and sex preselection and international migration in Punjab.

B. TRAINING AND FIELDWORK

Representatives of each of the COs and each of the PRCs were trained in a series of Training of the Trainers Workshops organized by IIPS at the beginning of each of the three phases of data collection. The purpose of these workshops was to ensure uniformity in data collection procedures in different states. Persons

trained in each of these workshops subsequently trained the field staff in each state according to the standard procedures discussed in the Training of the Trainers Workshops.

The fieldwork in each state was carried out by a number of interviewing teams, each team consisting of one field supervisor, one field editor and four interviewers. The number of interviewing teams in each state varied according to the sample size. In each state, interviewers were hired specially for the NFHS, taking into consideration their educational background, experience and other relevant qualifications. All interviewers were females, a stipulation that was necessary to ensure that women who were survey respondents would feel comfortable talking about topics which they may find somewhat sensitive. Interviewers were instructed not to conduct more than three individual interviews per day. Interviewers were also required to make a minimum of three call-backs, if necessary, to complete the Household and Woman's Questionnaires.

Training of the entire field staff lasted for a minimum of 20 days in each state. The training course consisted of instruction in interviewing techniques and field procedures for the survey, a detailed review of each item in the questionnaire, instruction and practice in weighing and measuring children, mock interviews between participants in the classroom and practice interviews in the field. In addition two special lectures were arranged in each state: one on the topic of family planning at the beginning of training on the section on Contraception in the Woman's Questionnaire, and one on maternal and child health practices, including immunizations, at the beginning of training on the section on Health of Children. In addition to the main training, two days' training was specially arranged for field editors and supervisors, which focused on the organization of fieldwork as well as methods of detecting errors in field procedures and in the filled-in questionnaires.

The monitoring and supervision of the data collection operations were carried out by the coordinators and senior staff of the concerned PRC and the CO. During the period of data collection, IIPS assigned one Research Officer to each state to ensure correct survey procedures and maintain data quality. In addition, data from the field were entered into microcomputers during the course of fieldwork, and field check tables were produced. Based on these tables, feedback on the quality of data collection was given to the supervisors and interviewers so that they could improve their performance.

C. DATA PROCESSING

The initial processing of the data, including office editing, coding, data entry and machine editing was done at the respective COs. The data were processed using the data entry and editing software known as the Integrated System for Survey Analysis (ISSA). A preliminary report highlighting important findings of the survey was prepared for each state soon after the data collection. Following this, detailed state reports are being prepared at IIPS, in collaboration with the concerned PRCs and the East-West Center/Macro International. For the national introductory report, the tables were generated at IIPS by pooling the data from all the states.

D. SAMPLE DESIGN AND IMPLEMENTATION

Sample Design

The sample design for the NFHS was discussed during a Sample Design Workshop held in Madurai in October 1991. The workshop was attended by representatives from the PRCs; the COs; the Office of the Registrar General, India; IIPS and the East-West Center/Macro International. A uniform sample design was adopted in all the NFHS states. The sample design adopted in each state is a systematic, stratified sample of households, with two stages in rural areas and three stages in urban areas. The sample size for each state was specified in terms of a target number of completed interviews with eligible women. The target sample size was set considering the size of the state, the time and resources available for the survey and the need for separate estimates for urban and rural areas of the state. The initial target sample size was 3,000 completed interviews with eligible women for states having a population of 25 million or less in 1991; 4,000 completed interviews for large states with more than 25 million population; 8,000 for Uttar Pradesh, the largest state; and 1,000 each for the six small northeastern states (Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland and Tripura). In states with a substantial number of backward districts¹ (Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh), the samples were increased so as to allow separate estimates to be made for backward districts.

¹ The Ministry of Health and Family Welfare, Government of India, has defined backward districts as those having a crude birth rate of 39 per 1,000 population or higher, estimated on the basis of data from the 1981 Population Census.

The urban and rural samples within states were drawn separately and, to the extent possible, sample allocation was proportional to the size of the urban-rural populations (i.e., a self-weighting sample for each state). In states where the urban population was not sufficiently large to provide a sample of at least 1,000 completed interviews with eligible women, the urban areas were appropriately oversampled.

A two-stage stratified sampling design was adopted for the rural areas: selection of villages followed by selection of households. The 1981 Census list of villages served as the sampling frame in all the states with the exception of Assam, Delhi and Punjab. In these three states the 1991 Census data were used as the sampling frame.

Villages were stratified prior to selection on the basis of a number of variables. The first level of stratification in all the states was geographic, with districts subdivided into regions according to their geophysical characteristics. Within each of these regions, villages were further stratified using some of the following variables: village size, distance from the nearest town, proportion of nonagricultural workers, proportion of the population belonging to scheduled castes/scheduled tribes, and female literacy. However, not all variables were used in every state. Each state was examined individually and two or three variables were selected for stratification, with the aim of creating not more than 12 strata for small states and not more than 15 strata for large states. Female literacy was often used for implicit stratification (i.e., the villages were ordered prior to selection according to the proportion of females who were literate). The villages or the Primary Sampling Units (PSUs) were selected systematically, with probability proportional to size (PPS). On average, 30 households were selected for interviewing in each selected village.

In every state, all the households in the selected PSUs were listed about two weeks prior to the survey. At the second sampling stage, the households to be interviewed were selected from the household lists using systematic sampling with equal probability. All the selected households were approached during the data collection, and no substitution of a household was allowed under any circumstances.

A three-stage sample design was adopted for the urban areas in each state: selection of cities/towns, followed by urban blocks, and finally households. Cities and towns were selected using the 1991 population figures while urban blocks were selected using the 1991 list of census enumeration blocks in all the states with

the exception of the first phase states. For the first phase states, the list of urban blocks provided by the National Sample Survey Organization (NSSO) served as the sampling frame.

All cities and towns were subdivided into three strata: (1) self-representing cities (i.e., cities with a population large enough to be selected with certainty), (2) district headquarter towns, and (3) other towns. Within each stratum, the cities/towns were arranged according to the same kind of geographic stratification used in the rural areas. In self-selecting cities, the sample was selected according to a two-stage sample design: selection of the required number of urban blocks, followed by selection of households in each of the selected blocks. For district headquarters and other nonself selecting cities and towns, a three-stage sample design was used: selection of towns with PPS, followed by selection of two census blocks per selected town, followed by selection of households from each selected block. As in rural areas, a household listing was carried out in the selected blocks, and an average of 20 households per block was selected systematically.

Sample Weights

At the national level, the overall sample weight for each household or woman is the product of the design weight for each state (after adjustment for nonresponse) and the state weight. The calculation of the design weights at the state level is described in each state report. The state weights are defined below.

Let P_i be the projected population of the i^{th} state². Let P be the projected population for all India. Then the state weight is calculated as follows:

$$w_i = \frac{\frac{P_i}{P}}{\sum_i \left(\frac{P_i}{P}\right)}, i = 1, 2, \dots, 25$$

Let N_{Hi} be the number of households with completed interviews in the i^{th} state. Then $\sum N_{Hi}$ is the total number of households with completed interviews in the NFHS. The normalized state weight for the households is calculated as follows:

² The population was projected to November 1992, the midpoint of the fieldwork dates for all the states except Punjab.

$$W_{Hi} = \frac{N'_{Hi}}{N_{Hi}} = \frac{w_i \times \sum_i N_{Hi}}{N_{Hi}}$$

Similarly, the normalized state weight for women is calculated as follows:

$$W_{wi} = \frac{N'_{wi}}{N_{wi}} = \frac{w_i \times \sum_i N_{wi}}{N_{wi}}$$

where N_{wi} is the number of women with completed interviews in the i^{th} state.

Areas for Reporting Survey Results

In this report, survey results are reported separately for urban areas, rural areas and total India. A comparison across the different states covered in the survey is also presented. For a better understanding of the state differentials, the states are grouped into six regions of the country (north, central, east, northeast, west, and south), without providing separate estimates for these regions.

Sample Implementation

Tables 1 and 2 show the month and year of fieldwork, number of households and eligible women interviewed and the household and individual response rates. As noted earlier, the data collection for the NFHS was carried out in three phases. The first phase data collection started in Andhra Pradesh in April 1992, and the third phase data collection was completed in all states except Punjab by June 1993. The fieldwork in Punjab was completed in September 1993. Because most of the data collection for the NFHS was done within a span of about one year, adjustment for different timing of data collection in different states is unnecessary to get an all-India estimate of demographic and health parameters.

A total of 88,562 households were interviewed, of which 67 percent were rural. The overall household response rate -- the number of households interviewed per 100 occupied households -- is 96 percent. The household response rate is slightly lower in urban areas (94 percent) than in rural areas (96 percent). The household response rate ranged between 92 and 98 percent in every state except Arunachal Pradesh, where the household response rate was 88 percent. In all, interviews were completed with 89,777 eligible women who slept in the household the night before the household interview. Sixty-nine percent of the

Table 1 Number of households and women interviewed

Month and year of fieldwork, and number of households and women interviewed, by residence and state, India, 1992-93

State	Month and year of fieldwork		Number of households interviewed			Number of women interviewed		
	From	To	Urban	Rural	Total	Urban	Rural	Total
India	4/92	9/93	28,822	59,740	88,562	27,534	62,243	89,777
North								
Delhi	2/93	5/93	3,377	300	3,677	3,189	268	3,457
Haryana	1/93	4/93	1,033	1,702	2,735	1,002	1,844	2,846
Himachal Pradesh	6/92	10/92	1,036	2,083	3,119	930	2,032	2,962
Jammu Region of J & K	5/93	7/93	988	1,851	2,839	945	1,821	2,766
Punjab	7/93	9/93	937	2,276	3,213	836	2,159	2,995
Rajasthan	12/92	5/93	1,103	3,911	5,014	1,019	4,192	5,211
Central								
Madhya Pradesh	4/92	8/92	1,459	4,398	5,857	1,476	4,778	6,254
Uttar Pradesh	10/92	2/93	2,315	7,795	10,110	2,337	9,101	11,438
East								
Bihar	3/93	6/93	1,088	3,660	4,748	1,267	4,682	5,949
Orissa	3/93	6/93	1,296	3,306	4,602	1,143	3,114	4,257
West Bengal	4/92	7/92	1,086	3,152	4,238	898	3,424	4,322
North-East								
Arunachal Pradesh	5/93	6/93	144	817	961	130	752	882
Assam	12/92	3/93	1,230	2,025	3,255	1,107	1,899	3,006
Manipur	3/93	5/93	346	740	1,086	307	646	953
Meghalaya	4/93	6/93	202	790	992	221	916	1,137
Mizoram	5/93	6/93	561	526	1,087	517	528	1,045
Nagaland	5/93	6/93	228	832	1,060	240	909	1,149
Tripura	2/93	4/93	231	908	1,139	221	879	1,100
West								
Goa	12/92	2/93	1,834	1,907	3,741	1,559	1,582	3,141
Gujarat	2/93	6/93	1,360	2,515	3,875	1,344	2,488	3,832
Maharashtra	11/92	3/93	1,754	2,309	4,063	1,699	2,407	4,106
South								
Andhra Pradesh	4/92	7/92	1,096	3,112	4,208	1,116	3,160	4,276
Karnataka	11/92	2/93	1,449	2,820	4,269	1,442	2,971	4,413
Kerala	10/92	2/93	1,220	3,167	4,387	1,218	3,114	4,332
Tamil Nadu	4/92	7/92	1,449	2,838	4,287	1,371	2,577	3,948

Note: Based on number of households with completed interviews and number of *de facto* women with completed interviews.

interviewed women were residing in rural areas. The individual response rate -- the number of completed interviews per 100 identified eligible women in the household -- was 96 percent in both urban and rural areas. The individual response rate ranged from 91 percent in Arunachal Pradesh to nearly 100 percent in Nagaland. Most of the larger states had an individual response rate of more than 94 percent.

Table 2 Household and individual response rates

Household and individual response rates, by residence and state, India, 1992-93

State	Household response rate			Individual response rate		
	Urban	Rural	Total	Urban	Rural	Total
India	94.4	96.1	95.6	96.2	96.0	96.1
North						
Delhi	96.7	98.0	96.8	98.1	98.2	98.1
Haryana	94.2	95.4	94.9	94.2	92.5	93.1
Himachal Pradesh	91.7	96.8	95.0	96.6	94.8	95.3
Jammu Region of J & K	96.2	97.0	96.7	93.1	93.2	93.2
Punjab	93.9	96.1	95.4	91.1	93.0	92.5
Rajasthan	94.8	95.1	95.0	97.2	94.3	94.8
Central						
Madhya Pradesh	91.5	94.7	93.9	95.4	95.8	95.7
Uttar Pradesh	95.7	97.8	97.3	97.1	97.5	97.4
East						
Bihar	93.9	96.0	95.5	96.6	98.3	97.9
Orissa	93.6	96.9	95.9	94.6	96.1	95.7
West Bengal	92.6	97.3	96.0	93.2	97.0	96.2
North-East						
Arunachal Pradesh	88.3	88.2	88.2	97.7	89.7	90.8
Assam	94.1	96.4	95.5	98.0	97.3	97.5
Manipur	97.7	95.4	96.1	95.0	94.9	94.9
Meghalaya	96.7	93.6	94.2	98.7	99.2	99.1
Mizoram	92.6	93.6	93.1	94.5	98.5	96.5
Nagaland	100.0	96.9	97.5	100.0	99.9	99.9
Tripura	96.3	91.0	92.0	97.8	94.5	95.2
West						
Goa	97.5	96.6	97.0	97.9	95.6	96.7
Gujarat	92.5	95.8	94.7	97.5	96.7	97.0
Maharashtra	89.9	96.4	93.5	94.5	94.5	94.5
South						
Andhra Pradesh	93.4	95.6	95.0	97.5	96.0	96.3
Karnataka	94.0	96.5	95.6	94.6	95.5	95.2
Kerala	97.1	97.5	97.4	96.7	96.1	96.3
Tamil Nadu	95.6	96.4	96.1	97.2	97.9	97.7

III. RESULTS

A. HOUSEHOLD CHARACTERISTICS

In this section, a sociodemographic profile of the household population covered in the NFHS is presented for all India as well as for the different states covered in the survey. Tables 3-7, which provide information on the characteristics of the household population (age, sex, marital status, literacy and educational attainment) are based on the *de jure* population (i.e., usual residents of the household). Subsequent tables, which provide information on female respondents and their children, are based on the *de facto* population (i.e., interviewed women who slept in a sample household the night before the interview).

Table 3 presents the distribution of the usual resident population in the sample by age. In all, there were 500,492 residents in the weighted sample. In the country as a whole, 38 percent of the population is below 15 years of age and 8 percent is age 60 or more. The child population (0-14 years) is larger in rural areas (39 percent) than in urban areas (34 percent), which could be a consequence of higher fertility in rural areas. Children below age 15 constitute 40 percent or more of the population in Arunachal Pradesh (43 percent), Bihar and Meghalaya (42 percent each), Assam, Nagaland and Uttar Pradesh (41 percent each), and Rajasthan (40 percent). The percentage of the child population is the lowest in Goa (27 percent), Kerala (30 percent) and Tamil Nadu (31 percent). The percentage of population age 60 and over is the highest in Punjab (10 percent) and the lowest in Nagaland (2 percent). In fact, all of the northeastern states except Tripura have a smaller percentage of older persons than the country as a whole.

The overall sex ratio for India is 944 females per 1,000 males (Table 4), which is slightly higher than that found for the country in the 1991 Census (927). The NFHS sex ratio is lower in urban areas (925) than in rural areas (951). The states vary considerably with regard to the sex ratio. Tamil Nadu has a balanced sex ratio of 1,000, and the sex ratio is more favourable to females in Himachal Pradesh (1,070), Kerala (1,068) and Goa (1,019). The sex ratio is considerably lower in the National Capital Territory of Delhi (824), Rajasthan (880) and Haryana (888).

The data on marital status show that among all females age 6 and above, 54 percent are currently married, 9 percent are widowed, 36 percent are never

Table 3 Age distribution of household population

Percent distribution of *de jure* population by age, according to state, India, 1992-93

State	Age														Total percent
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65+	
India - Urban	10.6	11.8	11.8	10.3	9.9	8.7	7.3	6.7	5.2	4.4	3.4	3.1	2.6	4.2	100.0
India - Rural	12.8	13.9	12.2	9.8	8.8	8.0	6.3	5.8	4.4	3.9	3.0	3.1	3.1	5.0	100.0
India - Total	12.2	13.4	12.1	10.0	9.1	8.2	6.6	6.0	4.6	4.0	3.1	3.1	3.0	4.8	100.0
North															
Delhi	12.0	12.4	10.7	9.9	10.5	10.7	8.1	7.1	4.6	4.3	2.5	2.5	1.8	3.0	100.0
Haryana	13.8	13.3	12.3	10.6	9.2	8.1	6.4	5.8	4.0	3.2	2.4	2.2	2.6	6.0	100.0
Himachal Pradesh	12.3	11.9	11.8	11.7	9.1	7.8	5.5	5.7	4.2	3.8	3.7	3.2	3.3	6.1	100.0
Jammu Region of J & K	11.6	12.7	12.7	11.9	9.4	8.5	5.9	5.8	3.7	3.5	3.0	2.8	3.3	5.3	100.0
Punjab	10.6	12.5	12.1	10.5	9.1	7.8	6.4	6.5	5.1	4.4	2.9	2.8	3.4	6.2	100.0
Rajasthan	11.8	14.6	13.2	10.2	8.6	7.7	6.2	5.4	4.3	3.8	3.3	3.3	3.4	4.3	100.0
Central															
Madhya Pradesh	12.5	13.9	12.2	9.7	9.1	8.0	6.6	5.6	4.4	3.9	3.1	3.0	3.1	4.8	100.0
Uttar Pradesh	14.6	14.1	12.7	9.9	8.2	7.5	5.7	5.6	4.2	4.0	2.7	3.1	2.8	4.8	100.0
East															
Bihar	13.5	15.3	12.9	9.1	8.4	7.8	6.7	5.7	4.3	4.0	2.5	2.7	2.7	4.4	100.0
Orissa	10.7	13.0	11.3	10.0	9.4	8.9	7.1	6.2	4.3	3.6	3.5	3.2	3.6	5.1	100.0
West Bengal	11.2	12.8	11.7	10.3	9.5	9.1	7.0	6.3	4.6	3.9	3.6	3.0	2.7	4.4	100.0
North-East															
Arunachal Pradesh	15.3	15.4	12.5	10.5	8.1	8.4	6.1	6.1	4.0	3.7	3.0	2.2	2.2	2.6	100.0
Assam	13.1	15.4	12.6	10.4	9.0	8.3	6.9	6.0	4.3	3.3	2.4	2.4	2.3	3.6	100.0
Manipur	10.4	13.3	12.5	11.0	10.5	8.5	7.1	5.9	4.5	3.6	3.1	2.8	2.7	4.1	100.0
Meghalaya	14.0	15.4	12.8	10.3	10.6	9.0	6.2	5.4	4.4	4.5	2.3	1.5	1.6	2.0	100.0
Mizoram	10.0	12.6	13.6	12.5	10.3	8.9	6.5	5.8	4.6	5.1	2.8	2.1	1.7	3.3	100.0
Nagaland	13.0	14.9	13.5	11.3	10.0	9.4	5.5	6.0	4.6	5.5	2.5	1.4	1.1	1.2	100.0
Tripura	11.1	13.5	12.4	10.4	9.4	8.2	6.3	6.5	4.1	4.0	3.0	2.7	2.9	5.5	100.0
West															
Goa	7.8	9.0	10.5	11.3	10.9	9.1	7.3	7.0	5.8	5.7	4.1	3.4	3.2	4.9	100.0
Gujarat	11.1	11.9	11.3	10.2	10.3	8.3	7.4	5.8	5.3	4.3	3.1	3.3	2.9	4.8	100.0
Maharashtra	11.9	12.4	11.5	9.5	9.7	8.3	6.7	6.4	4.9	4.0	3.5	3.3	2.9	5.0	100.0
South															
Andhra Pradesh	10.7	12.9	11.3	10.0	9.0	8.7	6.7	6.4	5.0	4.1	3.7	3.3	3.6	4.6	100.0
Karnataka	11.7	12.9	11.9	10.3	9.4	8.4	6.8	6.0	4.6	4.1	3.2	3.2	2.8	4.8	100.0
Kerala	8.9	10.0	11.4	10.3	10.4	8.5	7.1	7.0	5.4	4.7	3.6	3.7	3.1	6.0	100.0
Tamil Nadu	9.7	10.9	10.8	10.2	9.4	8.6	7.0	6.7	5.6	4.6	3.9	3.9	3.4	5.3	100.0

Table 4 Sex ratioSex ratio of the *de jure* household population, by residence and state, India, 1992-93

State	Urban	Rural	Total
India	925	951	944
North			
Delhi	829	763	824
Haryana	895	886	888
Himachal Pradesh	950	1,083	1,070
Jammu Region of J & K	964	983	980
Punjab	929	905	912
Rajasthan	885	879	880
Central			
Madhya Pradesh	923	901	906
Uttar Pradesh	903	921	917
East			
Bihar	893	968	956
Orissa	907	974	963
West Bengal	877	969	940
North-East			
Arunachal Pradesh	920	980	973
Assam	896	954	947
Manipur	997	982	987
Meghalaya	986	947	955
Mizoram	986	986	986
Nagaland	1,008	986	991
Tripura	990	989	990
West			
Goa	1,001	1,036	1,019
Gujarat	912	961	944
Maharashtra	936	988	966
South			
Andhra Pradesh	967	984	979
Karnataka	972	969	970
Kerala	1,071	1,067	1,068
Tamil Nadu	996	1,001	1,000

Note: The sex ratio is the number of females per 1,000 males.

married and the remaining 1 percent are either divorced or separated (Table 5)³. The percentage widowed, divorced and separated is the same in urban and rural areas, but the percentage never married is slightly higher in urban areas (39 percent) than in rural areas (35 percent), because rural women marry at a younger age than urban women. There are interesting variations in marriage patterns across the states in India. All of the northeastern states are characterized by a high proportion of women who have never married, and widowhood is considerably

³ More detailed distributions of marital status and educational attainment by five-year age groups are contained in the final report for each state.

Table 5 Marital status of women						
Percent distribution of <i>de jure</i> females age 6 and above by marital status, according to state, India, 1992-93						
State	Marital status					Total percent
	Never married	Currently married	Widowed	Divorced	Separated	
India - Urban	39.2	51.0	8.8	0.2	0.8	100.0
India - Rural	35.4	54.7	8.8	0.2	0.8	100.0
India - Total	36.4	53.7	8.8	0.2	0.8	100.0
North						
Delhi	39.3	54.0	6.2	0.1	0.3	100.0
Haryana	35.6	57.4	6.6	0.1	0.3	100.0
Himachal Pradesh	37.9	52.3	9.1	0.3	0.5	100.0
Jammu Region of J & K	41.7	50.3	7.5	0.2	0.3	100.0
Punjab	39.4	53.2	7.1	0.2	0.2	100.0
Rajasthan	36.3	56.3	7.1	0.1	0.2	100.0
Central						
Madhya Pradesh	31.4	59.4	7.9	0.3	1.0	100.0
Uttar Pradesh	37.3	55.1	7.3	0.1	0.3	100.0
East						
Bihar	36.8	55.5	7.2	0.1	0.4	100.0
Orissa	38.3	51.8	9.1	0.2	0.6	100.0
West Bengal	36.9	50.8	10.8	0.2	1.3	100.0
North-East						
Arunachal Pradesh	44.4	49.3	5.8	0.3	0.2	100.0
Assam	45.4	44.5	9.0	0.1	1.1	100.0
Manipur	49.9	41.9	7.1	0.3	0.8	100.0
Meghalaya	44.3	46.1	5.7	0.6	3.3	100.0
Mizoram	49.3	40.8	4.9	3.3	1.6	100.0
Nagaland	50.8	44.0	2.8	2.0	0.4	100.0
Tripura	40.4	46.6	11.2	0.3	1.5	100.0
West						
Goa	45.1	42.7	11.6	0.1	0.5	100.0
Gujarat	36.8	53.7	8.7	0.3	0.5	100.0
Maharashtra	34.7	53.7	9.9	0.3	1.3	100.0
South						
Andhra Pradesh	32.0	55.7	10.8	0.2	1.3	100.0
Karnataka	37.5	49.8	11.2	0.1	1.4	100.0
Kerala	39.2	48.4	10.0	0.8	1.5	100.0
Tamil Nadu	35.1	51.2	11.9	0.3	1.4	100.0

lower than the national average in most of these same states. In all the southern states as well as Tripura, West Bengal and Goa, at least 10 percent of women are widowed. Mizoram and Nagaland are the only two states in which more than 1 percent of women are divorced.

Tables 6 and 7 present the percent distribution of females and males age 6 and above by education according to state³. In the country as a whole, 57 percent

Table 6 Female education

Percent distribution of *de jure* females age 6 and above by education, according to state, India, 1992-93

State	Education						Total percent
	Illit- erate	Literate, <primary complete	Primary school complete	Middle school complete	High school complete	Missing	
India-Urban	32.7	17.2	16.6	11.3	22.0	0.1	100.0
India-Rural	65.7	14.2	10.4	5.1	4.4	0.1	100.0
India-Total	56.9	15.0	12.0	6.8	9.1	0.1	100.0
North							
Delhi	29.4	15.9	15.1	10.9	28.5	0.1	100.0
Haryana	54.1	15.0	14.5	6.4	10.0	0.0	100.0
Himachal Pradesh	43.3	17.5	20.4	8.8	10.0	0.0	100.0
Jammu Region of J & K	49.0	13.3	14.2	10.9	12.6	0.0	100.0
Punjab	47.9	11.1	16.7	8.8	15.5	0.0	100.0
Rajasthan	74.7	9.7	7.2	3.5	4.5	0.4	100.0
Central							
Madhya Pradesh	66.0	13.0	10.4	4.3	6.1	0.2	100.0
Uttar Pradesh	68.4	10.2	8.9	5.2	7.2	0.1	100.0
East							
Bihar	71.6	11.0	7.2	3.6	6.5	0.1	100.0
Orissa	58.6	18.4	12.2	4.7	6.0	0.0	100.0
West Bengal	44.8	26.0	12.5	8.8	7.8	0.0	100.0
North-East							
Arunachal Pradesh	57.7	19.5	10.8	6.7	5.4	0.0	100.0
Assam	49.2	22.3	11.4	10.0	7.0	0.0	100.0
Manipur	36.9	21.9	11.9	11.1	18.3	0.0	100.0
Meghalaya	39.9	27.8	14.9	8.9	8.5	0.0	100.0
Mizoram	11.1	35.5	23.1	17.0	13.3	0.0	100.0
Nagaland	28.0	24.5	19.2	13.2	15.0	0.0	100.0
Tripura	36.4	28.0	16.2	12.3	7.0	0.0	100.0
West							
Goa	27.1	21.8	16.1	12.3	22.6	0.1	100.0
Gujarat	49.6	16.9	15.0	6.5	12.0	0.0	100.0
Maharashtra	44.6	19.5	16.0	7.7	12.0	0.1	100.0
South							
Andhra Pradesh	62.0	11.6	9.2	7.8	9.0	0.3	100.0
Karnataka	53.7	15.9	13.9	5.6	10.8	0.1	100.0
Kerala	17.6	21.9	22.9	18.9	18.5	0.1	100.0
Tamil Nadu	45.1	14.8	18.7	9.8	11.6	0.1	100.0

of females and 31 percent of males are illiterate. According to the 1991 Census, 61 percent and 36 percent of the females and males (age 7 and over), respectively, are illiterate. A higher proportion of males than females have completed each level of schooling. While only 9 percent of females have at least a high school education, 20 percent of males have completed high school. Urban areas maintain a lead over rural areas in both literacy and the level of education. The percentage of females who are illiterate is twice as high in rural areas (66 percent) as in urban

Table 7 Male education

Percent distribution of *de jure* males age 6 and above by education, according to state, India, 1992-93

State	Education						Total percent
	Illit- erate	Literate, <primary complete	Primary school complete	Middle school complete	High school complete	Missing	
India-Urban	16.0	18.2	17.0	14.2	34.5	0.1	100.0
India-Rural	37.1	20.8	16.8	11.1	14.0	0.1	100.0
India-Total	31.3	20.1	16.9	12.0	19.6	0.1	100.0
North							
Delhi	14.3	16.1	15.9	14.5	38.9	0.2	100.0
Haryana	27.9	18.6	18.6	11.9	22.9	0.0	100.0
Himachal Pradesh	21.1	22.1	21.9	13.9	20.9	0.1	100.0
Jammu Region of J & K	26.4	17.3	16.7	18.7	20.9	0.0	100.0
Punjab	34.2	14.2	17.5	12.0	22.1	0.0	100.0
Rajasthan	39.5	18.7	15.6	11.5	14.4	0.3	100.0
Central							
Madhya Pradesh	36.4	19.0	18.3	10.1	16.0	0.2	100.0
Uttar Pradesh	36.2	16.5	15.2	12.6	19.4	0.1	100.0
East							
Bihar	39.9	17.2	13.7	8.9	20.3	0.1	100.0
Orissa	31.1	26.1	18.3	9.0	15.4	0.1	100.0
West Bengal	24.6	28.0	16.0	13.0	18.2	0.2	100.0
North-East							
Arunachal Pradesh	38.0	25.1	14.6	9.4	12.9	0.0	100.0
Assam	30.3	28.5	14.2	13.3	13.7	0.0	100.0
Manipur	14.8	25.4	14.8	16.7	28.3	0.0	100.0
Meghalaya	33.1	29.2	14.5	11.3	12.0	0.0	100.0
Mizoram	6.4	32.6	25.1	16.8	19.1	0.0	100.0
Nagaland	19.9	26.8	18.8	14.3	20.2	0.0	100.0
Tripura	19.0	32.1	18.3	17.0	13.7	0.0	100.0
West							
Goa	11.7	23.7	17.7	14.9	31.8	0.1	100.0
Gujarat	24.7	21.7	20.4	10.9	22.2	0.0	100.0
Maharashtra	20.6	24.3	18.8	13.3	22.7	0.2	100.0
South							
Andhra Pradesh	39.6	15.1	12.3	12.1	20.6	0.4	100.0
Karnataka	32.1	21.1	17.5	7.9	21.2	0.1	100.0
Kerala	10.1	24.1	24.1	21.0	20.4	0.2	100.0
Tamil Nadu	23.2	18.1	23.3	14.6	20.7	0.1	100.0

areas (33 percent). The corresponding percentages for males are 37 and 16. The proportion of women with at least a high school education is 22 percent in urban areas but only 4 percent in rural areas. Sex differentials in educational attainment exist within both urban and rural areas. In urban areas, for example, about 1 in 3 men have completed high school compared to about 1 in 5 women.

There are large interstate variations in the level of female and male literacy and education. More than 80 percent of females age 6 and above are literate in Mizoram (89 percent) and in Kerala (82 percent). Between 70 and 80 percent of women in Goa (73 percent), Nagaland (72 percent) and the National Capital Territory of Delhi (71 percent) are literate. At the other extreme, more than 50 percent of females age 6 and over are illiterate in Rajasthan (75 percent), Bihar (72 percent), Uttar Pradesh (68 percent), Madhya Pradesh (66 percent), Andhra Pradesh (62 percent), Orissa (59 percent), Arunachal Pradesh (58 percent), and Haryana and Karnataka (54 percent each).

B. CHARACTERISTICS OF THE RESPONDENTS

The age distribution of eligible women (i.e., ever-married women age 13-49) who were interviewed is shown in Table 8. One-half of the women interviewed are under age 30, and this percentage is substantially lower in urban areas (44 percent) than in rural areas (52 percent). Less than 1 percent of the women are age 13-14 and 11 percent are below age 20. The percentage of interviewed women under age 20 is relatively high in Andhra Pradesh (15 percent), Bihar (13 percent), Madhya Pradesh (13 percent), West Bengal (12 percent), Haryana (12 percent), Assam (12 percent), Karnataka (11 percent), Uttar Pradesh (11 percent) and Rajasthan (11 percent), indicating a relatively lower age at marriage for females in these states.

The literacy level of ever-married women age 13-49 in India is not very high (Table 9). Sixty-three percent of women are illiterate, and the percentage illiterate is even higher in rural areas (72 percent). Ever-married women in urban areas are substantially better educated than their counterparts in rural areas. For example, 40 percent of urban respondents compared with 11 percent of rural respondents had completed at least middle school. The states vary substantially with respect to literacy and the educational level of ever-married women. The literacy rate among ever-married women is the highest in Mizoram (92 percent), closely followed by Kerala (84 percent). The percentage of ever-married women age 13-49 who are illiterate is higher than the national level in Rajasthan (82 percent), Bihar (78 percent), Uttar Pradesh (76 percent), Madhya Pradesh (74 percent), Arunachal Pradesh (70 percent), Andhra Pradesh (69 percent), Orissa (67 percent) and Haryana (64 percent). Overall, only 11 percent of interviewed women have completed high school. This percentage ranges from only 5 percent in Rajasthan to 37 percent in the National Capital Territory of Delhi. In every state, the level of literacy and educational attainment is lower in rural areas than in urban areas.

Table 8 Age distribution of interviewed women									
Percent distribution of interviewed women by age, according to state, India, 1992-93									
State	Age								Total per- cent
	13-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
India - Urban	0.2	5.9	18.0	20.1	18.3	15.8	12.4	9.4	100.0
India - Rural	0.5	11.6	20.7	19.2	15.6	13.2	10.3	8.8	100.0
India - Total	0.4	10.1	20.0	19.4	16.3	13.9	10.9	9.0	100.0
North									
Delhi	0.0	4.4	18.3	22.9	18.8	14.4	10.2	11.0	100.0
Haryana	0.1	11.5	21.3	19.2	18.0	13.2	9.6	7.1	100.0
Himachal Pradesh	0.0	5.1	20.9	21.1	16.2	14.5	14.1	8.0	100.0
Jammu Region of J & K	0.0	5.9	18.7	21.9	18.2	15.4	11.0	8.9	100.0
Punjab	0.0	4.4	17.5	20.3	18.5	17.6	12.5	9.2	100.0
Rajasthan	0.2	10.3	18.9	19.4	17.4	13.3	11.1	9.3	100.0
Central									
Madhya Pradesh	0.5	12.7	21.8	19.4	15.6	12.9	9.6	7.5	100.0
Uttar Pradesh	0.1	10.7	21.2	18.7	15.6	13.6	10.4	9.5	100.0
East									
Bihar	0.5	12.7	20.6	19.1	15.9	12.0	9.7	9.6	100.0
Orissa	0.2	8.7	20.2	21.0	19.0	13.0	10.8	7.2	100.0
West Bengal	0.8	11.5	19.2	20.0	15.4	14.2	10.6	8.1	100.0
North-East									
Arunachal Pradesh	0.1	9.1	21.8	22.6	18.4	13.5	9.3	5.3	100.0
Assam	0.6	10.9	18.7	19.9	18.8	14.8	10.1	6.2	100.0
Manipur	0.0	2.2	15.2	20.8	20.5	15.3	14.3	11.8	100.0
Meghalaya	0.3	5.6	23.7	20.8	14.3	12.2	10.8	12.1	100.0
Mizoram	0.0	3.8	14.6	21.3	16.5	15.4	11.9	16.5	100.0
Nagaland	0.0	3.6	17.1	22.4	13.1	15.6	11.9	16.4	100.0
Tripura	0.6	8.5	17.2	21.1	15.0	16.4	11.3	9.9	100.0
West									
Goa	0.0	1.1	9.3	18.0	18.6	19.1	17.3	16.7	100.0
Gujarat	0.0	5.9	21.0	18.5	18.2	13.6	12.7	10.0	100.0
Maharashtra	0.7	9.7	21.3	18.6	15.6	14.9	10.8	8.5	100.0
South									
Andhra Pradesh	0.8	13.7	20.0	19.3	14.2	13.9	9.6	8.3	100.0
Karnataka	0.6	10.8	19.4	20.1	16.2	13.1	10.8	9.1	100.0
Kerala	0.0	3.9	14.8	20.2	18.4	16.9	14.2	11.5	100.0
Tamil Nadu	0.1	6.6	18.3	19.5	16.8	15.0	13.5	10.2	100.0

Table 10 shows that more than two-thirds of ever-married women in India reported that they are not working except for performing their own household work. It should be noted that in the NFHS, work is defined as any kind of job for which the woman is paid in cash or in kind as well as unpaid work on a family farm or in a family business. The proportion of women who are doing any kind of nonhousehold work is considerably higher in rural areas (35 percent) than in urban areas (21 percent). Overall, 12 percent of respondents work on a family farm or in a family business, 16 percent are employed by someone else, and only 3 percent are self-employed. Approximately half of women work outside the home in Manipur (54 percent), Andhra Pradesh (53 percent), Maharashtra (49

Table 9 Education of interviewed women						
Percent distribution of interviewed women by education, according to residence and state, India, 1992-93						
State	Education					Total percent
	Illit- erate	Literate, <primary complete	Primary school complete	Middle school complete	High school complete	
URBAN						
India	36.8	7.4	15.4	12.0	28.4	100.0
North						
Delhi	36.7	3.4	11.3	10.5	38.0	100.0
Haryana	35.1	3.7	16.2	11.3	33.7	100.0
Himachal Pradesh	17.7	6.0	15.4	11.2	49.7	100.0
Jammu Region of J & K	21.1	2.0	11.1	15.2	50.6	100.0
Punjab	32.5	1.8	15.8	12.4	37.4	100.0
Rajasthan	54.1	3.8	12.3	8.9	20.9	100.0
Central						
Madhya Pradesh	41.6	6.5	15.6	11.0	25.3	100.0
Uttar Pradesh	48.1	3.1	9.5	10.1	29.2	100.0
East						
Bihar	45.1	4.8	13.1	7.4	29.6	100.0
Orissa	45.1	8.7	19.1	7.7	19.5	100.0
West Bengal	29.9	15.8	14.1	15.0	25.2	100.0
North-East						
Arunachal Pradesh	47.7	6.2	9.2	13.1	23.8	100.0
Assam	30.7	12.4	13.8	19.6	23.5	100.0
Manipur	34.2	10.4	8.1	13.0	34.2	100.0
Meghalaya	24.4	11.3	21.3	13.6	29.4	100.0
Mizoram	3.1	23.6	25.7	25.3	22.2	100.0
Nagaland	21.3	5.4	13.3	18.3	41.7	100.0
Tripura	16.3	11.3	22.6	25.8	24.0	100.0
West						
Goa	23.6	15.7	13.4	10.3	37.0	100.0
Gujarat	38.0	8.1	16.6	10.0	27.2	100.0
Maharashtra	31.8	10.5	19.5	10.5	27.7	100.0
South						
Andhra Pradesh	39.2	5.0	11.5	15.5	28.9	100.0
Karnataka	38.3	5.7	17.1	8.0	30.9	100.0
Kerala	13.0	14.1	21.1	26.1	25.7	100.0
Tamil Nadu	27.9	7.1	21.2	14.4	29.2	100.0

percent), Himachal Pradesh (48 percent), and Karnataka and Tamil Nadu (47 percent each). Women are least likely to work outside the home in Punjab (8 percent) and Uttar Pradesh (13 percent). Delhi follows the national pattern of low levels of urban employment for married women. In most states, the majority of working women work for someone outside of the family. However, in Haryana, Himachal Pradesh, Jammu, Rajasthan, Madhya Pradesh, and Uttar Pradesh, the majority of working women work on the family farm or in the family business.

Table 9 Education of interviewed women (Contd.)

Percent distribution of interviewed women by education, according to residence and state, India, 1992-93

State	Education					Total percent
	Illit- erate	Literate, <primary complete	Primary school complete	Middle school complete	High school complete	
RURAL						
India	72.4	6.4	10.3	5.6	5.2	100.0
North						
Delhi	45.5	3.7	14.9	11.6	24.3	100.0
Haryana	74.0	2.9	11.6	4.1	7.4	100.0
Himachal Pradesh	53.1	7.3	21.6	8.5	9.5	100.0
Jammu Region of J & K	64.4	1.4	12.0	10.3	11.9	100.0
Punjab	60.4	2.5	18.6	7.7	10.8	100.0
Rajasthan	89.0	1.9	5.4	2.1	1.6	100.0
Central						
Madhya Pradesh	83.9	3.7	7.4	2.9	2.2	100.0
Uttar Pradesh	82.6	1.7	7.5	4.5	3.7	100.0
East						
Bihar	83.9	2.6	6.7	2.4	4.4	100.0
Orissa	71.5	9.2	13.1	2.7	3.6	100.0
West Bengal	58.3	17.7	11.8	8.5	3.8	100.0
North-East						
Arunachal Pradesh	73.3	5.6	9.6	7.0	4.5	100.0
Assam	63.2	14.0	9.6	8.4	4.8	100.0
Manipur	54.0	10.2	9.3	9.4	17.0	100.0
Meghalaya	57.9	16.8	11.9	7.6	5.8	100.0
Mizoram	13.6	40.3	25.6	13.3	7.2	100.0
Nagaland	48.7	13.3	17.1	12.0	8.9	100.0
Tripura	47.6	16.4	18.5	12.9	4.7	100.0
West						
Goa	43.6	16.9	11.8	10.1	17.6	100.0
Gujarat	64.6	9.1	11.0	5.2	10.1	100.0
Maharashtra	63.1	10.6	14.5	6.2	5.6	100.0
South						
Andhra Pradesh	79.1	4.6	7.7	4.8	3.8	100.0
Karnataka	72.9	7.0	10.7	4.2	5.2	100.0
Kerala	17.1	14.7	24.0	24.5	19.6	100.0
Tamil Nadu	61.7	6.7	15.6	8.1	7.6	100.0

The percentage of working women who are self-employed is highest in Nagaland and Manipur.

C. FERTILITY

A major objective of the NFHS is to estimate fertility levels, differentials and trends. The fertility estimates in this section are based on information

Table 9 Education of interviewed women (Contd.)

Percent distribution of interviewed women by education, according to residence and state, India, 1992-93

State	Education					Total percent
	Illit- erate	Literate, <primary complete	Primary school complete	Middle school complete	High school complete	
TOTAL						
India	63.1	6.7	11.7	7.2	11.3	100.0
North						
Delhi	37.4	3.5	11.6	10.6	37.0	100.0
Haryana	63.8	3.1	12.8	6.0	14.3	100.0
Himachal Pradesh	49.7	7.2	21.0	8.7	13.5	100.0
Jammu Region of J & K	56.7	1.5	11.8	11.2	18.8	100.0
Punjab	52.6	2.3	17.8	9.0	18.3	100.0
Rajasthan	82.2	2.2	6.7	3.5	5.4	100.0
Central						
Madhya Pradesh	74.4	4.3	9.2	4.7	7.4	100.0
Uttar Pradesh	75.7	2.0	7.9	5.6	8.8	100.0
East						
Bihar	78.3	2.9	7.6	3.1	8.1	100.0
Orissa	67.4	9.1	14.0	3.4	6.0	100.0
West Bengal	50.6	17.2	12.4	10.3	9.6	100.0
North-East						
Arunachal Pradesh	69.5	5.7	9.5	7.9	7.4	100.0
Assam	59.3	13.8	10.1	9.8	7.1	100.0
Manipur	47.6	10.3	8.9	10.6	22.6	100.0
Meghalaya	51.4	15.7	13.7	8.8	10.4	100.0
Mizoram	8.4	32.1	25.6	19.2	14.6	100.0
Nagaland	43.0	11.7	16.3	13.3	15.8	100.0
Tripura	41.3	15.4	19.4	15.5	8.5	100.0
West						
Goa	33.7	16.3	12.6	10.2	27.2	100.0
Gujarat	55.3	8.7	13.0	6.9	16.1	100.0
Maharashtra	50.2	10.5	16.6	8.0	14.8	100.0
South						
Andhra Pradesh	68.7	4.7	8.7	7.6	10.4	100.0
Karnataka	61.6	6.5	12.8	5.5	13.6	100.0
Kerala	16.0	14.5	23.2	25.0	21.3	100.0
Tamil Nadu	50.1	6.9	17.6	10.3	15.1	100.0

collected in the complete birth histories of ever-married women age 13-49. For each live birth, information was collected on sex, age, and survival status of the child. In this section, fertility levels are discussed using both summary and age-specific measures of fertility for the 3-year period preceding the survey. Summary measures include the crude birth rate (CBR) and the total fertility rate (TFR). The CBR is calculated as a sum of products, where each product is an age-specific fertility rate multiplied by the ratio of females in the age group to the total

Table 10. Employment status of interviewed women

Percent distribution of interviewed women by employment status, according to residence and state, India, 1992-93

State	Urban					Rural					Total				
	Not working	Working in family farm/business	Working for someone else	Self employed	Total percent	Not working	Working in family farm/business	Working for someone else	Self employed	Total percent	Not working	Working in family farm/business	Working for someone else	Self employed	Total percent
India	79.5	3.6	12.8	4.1	100.0	64.6	15.3	17.4	2.7	100.0	68.5	12.2	16.2	3.1	100.0
North															
Delhi	80.2	1.6	11.3	6.9	100.0	86.9	3.4	6.0	3.7	100.0	80.7	1.8	10.9	6.7	100.0
Haryana	81.2	2.5	13.1	3.2	100.0	67.5	24.3	6.9	1.2	100.0	71.1	18.6	8.6	1.8	100.0
Himachal Pradesh	70.5	7.2	20.4	1.8	100.0	50.3	44.5	4.4	0.8	100.0	52.3	40.9	5.9	0.9	100.0
Jammu Region of J & K	85.0	1.2	11.5	2.3	100.0	69.8	25.0	4.0	1.3	100.0	72.5	20.8	5.3	1.5	100.0
Punjab	91.9	1.1	5.1	1.9	100.0	92.5	2.0	4.5	1.0	100.0	92.3	1.8	4.7	1.3	100.0
Rajasthan	85.5	2.7	7.4	4.4	100.0	64.5	28.0	5.8	1.8	100.0	68.6	23.0	6.1	2.3	100.0
Central															
Madhya Pradesh	78.8	7.1	9.6	4.5	100.0	64.4	24.7	9.1	1.7	100.0	67.6	20.8	9.2	2.3	100.0
Uttar Pradesh	89.7	4.9	3.5	1.9	100.0	85.9	8.7	3.1	2.4	100.0	86.6	7.9	3.2	2.3	100.0
East															
Bihar	87.5	2.5	7.7	2.3	100.0	73.0	7.6	16.9	2.6	100.0	75.1	6.8	15.5	2.5	100.0
Orissa	84.1	0.8	11.7	3.4	100.0	73.5	2.9	19.5	4.2	100.0	75.1	2.5	18.3	4.1	100.0
West Bengal	82.5	2.9	9.9	4.6	100.0	74.9	7.6	14.4	3.2	100.0	77.0	6.3	13.1	3.6	100.0
North-East															
Arunachal Pradesh	91.5	1.5	5.4	1.5	100.0	48.8	21.5	8.1	21.5	100.0	55.1	18.6	7.7	18.6	100.0
Assam	82.7	1.4	13.1	2.9	100.0	81.4	0.9	15.7	2.0	100.0	81.6	1.0	15.4	2.1	100.0
Manipur	45.0	15.6	14.3	25.1	100.0	47.2	18.7	10.4	23.7	100.0	46.5	17.7	11.6	24.1	100.0
Meghalaya	69.7	3.2	17.6	9.5	100.0	55.5	19.9	18.3	6.3	100.0	58.2	16.6	18.2	6.9	100.0
Mizoram	68.9	9.7	13.0	8.5	100.0	64.8	20.8	10.4	4.0	100.0	66.8	15.3	11.7	6.2	100.0
Nagaland	72.9	2.1	9.6	15.4	100.0	51.9	18.5	4.0	25.6	100.0	56.3	15.1	5.1	23.5	100.0
Tripura	83.3	0.5	15.8	0.5	100.0	72.0	12.7	12.2	3.1	100.0	74.3	10.3	12.9	2.5	100.0
West															
Goa	73.4	2.9	18.3	5.4	100.0	67.2	6.9	17.6	8.3	100.0	70.3	4.9	18.0	6.8	100.0
Gujarat	78.5	1.9	15.6	4.1	100.0	45.1	27.4	25.6	2.0	100.0	56.8	18.4	22.1	2.7	100.0
Maharashtra	73.4	4.0	17.1	5.5	100.0	35.2	31.2	31.6	2.0	100.0	51.0	20.0	25.6	3.4	100.0
South															
Andhra Pradesh	76.4	3.2	14.2	6.1	100.0	36.1	23.7	34.7	5.5	100.0	46.6	18.4	29.4	5.6	100.0
Karnataka	71.5	5.3	18.7	4.6	100.0	44.1	22.7	31.5	1.8	100.0	53.0	17.0	27.3	2.7	100.0
Kerala	75.5	1.3	20.0	3.2	100.0	75.2	1.2	19.4	4.2	100.0	75.3	1.2	19.6	3.9	100.0
Tamil Nadu	71.3	3.9	22.2	2.7	100.0	43.7	12.0	42.3	1.9	100.0	53.3	9.2	35.3	2.2	100.0

de facto population. In the computation of age-specific fertility rates, the numerator is live births in a five-year age interval during the three-year time period, and the denominator is calculated as woman-years of exposure in the same age interval during the same time period. The TFR is calculated as five times the sum (over five-year age groups) of the age-specific fertility rates. Various measures of the current level of fertility are shown in Table 11 and Figure 1 for the 3-year period preceding the survey. Since the fieldwork was conducted at different times in each state, the 3-year national TFR does not correspond exactly to any particular calendar years, but it is centred roughly on 1990-92. The NFHS

Table 11 Current fertility

Age-specific and total fertility rates (TFR) and crude birth rates for the three-year period prior to the survey, by residence and state, India, 1992-93

State	Age-specific fertility rates								TFR		Crude birth rate
	13-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	15-49	15-44	
URBAN											
India	0.006	0.076	0.203	0.154	0.071	0.027	0.006	0.004	2.70	2.68	24.3
North											
Delhi	0.002	0.061	0.223	0.186	0.085	0.041	0.005	0.000	3.00	3.00	26.3
Haryana	0.000	0.072	0.274	0.181	0.063	0.019	0.015	(0.000)	3.13	3.13	26.6
Himachal Pradesh	0.000	0.019	(0.184)	(0.124)	(0.059)	(0.015)	0.000	(0.000)	2.01	2.01	20.0
Jammu Region of J & K	*	0.026	0.144	0.165	0.081	(0.010)	0.000	*	2.13	2.13	21.7
Punjab	0.000	0.037	0.224	0.147	0.059	0.021	0.003	*	2.46	2.46	20.8
Rajasthan	0.002	0.063	0.184	0.181	0.087	0.031	0.000	(0.007)	2.77	2.73	22.4
Central											
Madhya Pradesh	(0.004)	0.092	0.239	0.188	0.077	0.037	0.012	(0.009)	3.27	3.22	27.2
Uttar Pradesh	0.001	0.062	0.239	0.204	0.125	0.057	0.014	0.013	3.58	3.51	28.6
East											
Bihar	0.006	0.090	0.224	0.182	0.090	0.053	0.012	0.000	3.26	3.26	27.6
Orissa	0.002	0.070	0.182	0.147	0.084	0.012	0.011	(0.000)	2.53	2.53	23.9
West Bengal	0.012	0.083	0.158	0.107	0.058	0.016	0.000	(0.007)	2.14	2.11	18.8
North-East											
Arunachal Pradesh	*	(0.083)	*	*	*	*	*	*	3.23	3.23	34.4
Assam	0.015	0.070	0.167	0.159	0.054	0.046	0.011	(0.000)	2.53	2.53	23.5
Manipur	NC	0.024	0.122	0.121	(0.133)	(0.035)	(0.000)	*	2.17	2.17	21.1
Meghalaya	NC	0.034	(0.207)	(0.194)	*	*	*	*	3.42	3.42	31.9
Mizoram	0.000	0.044	0.125	0.154	0.089	(0.029)	(0.006)	(0.000)	2.24	2.24	21.3
Nagaland	NC	0.020	(0.145)	(0.126)	*	(0.035)	*	*	2.03	2.03	19.9
Tripura	*	(0.054)	(0.089)	(0.121)	(0.062)	*	*	*	1.78	1.78	17.6
West											
Goa	0.003	0.019	0.092	0.124	0.083	0.032	0.008	0.002	1.80	1.79	16.5
Gujarat	(0.000)	0.070	0.227	0.154	0.065	0.011	0.006	(0.004)	2.69	2.67	25.0
Maharashtra	0.008	0.088	0.196	0.151	0.054	0.014	0.003	0.000	2.54	2.54	24.4
South											
Andhra Pradesh	0.005	0.085	0.210	0.104	0.049	0.019	0.003	(0.000)	2.35	2.35	22.4
Karnataka	0.022	0.094	0.169	0.127	0.057	0.020	0.002	0.009	2.39	2.34	23.1
Kerala	0.000	0.032	0.149	0.121	0.036	0.013	0.003	0.000	1.77	1.77	17.9
Tamil Nadu	0.000	0.068	0.188	0.149	0.051	0.017	0.004	0.000	2.38	2.38	23.6

Table 11 Current fertility (Contd.)

Age-specific and total fertility rates (TFR) and crude birth rates for the three-year period prior to the survey, by residence and state, India, 1992-93

State	Age-specific fertility rates								TFR		Crude birth rate
	13-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	15-49	15-44	
RURAL											
India	0.013	0.131	0.243	0.177	0.108	0.051	0.019	0.006	3.67	3.64	30.7
North											
Delhi	*	(0.108)	(0.231)	(0.160)	*	*	*	*	3.19	3.19	30.4
Haryana	0.013	0.167	0.331	0.202	0.100	0.043	0.015	(0.004)	4.32	4.30	35.4
Himachal Pradesh	0.000	0.080	0.267	0.179	0.044	0.036	0.008	0.000	3.07	3.07	29.0
Jammu Region of J & K	0.004	0.058	0.243	0.216	0.093	0.045	0.011	0.007	3.36	3.33	29.4
Punjab	0.003	0.073	0.242	0.194	0.078	0.021	0.005	0.003	3.09	3.08	26.5
Rajasthan	0.006	0.125	0.264	0.181	0.113	0.063	0.017	0.011	3.87	3.82	28.3
Central											
Madhya Pradesh	0.021	0.173	0.260	0.192	0.115	0.051	0.020	0.011	4.11	4.06	33.3
Uttar Pradesh	0.005	0.128	0.288	0.264	0.195	0.105	0.044	0.014	5.19	5.12	38.0
East											
Bihar	0.009	0.127	0.244	0.191	0.150	0.083	0.029	0.005	4.15	4.12	33.1
Orissa	0.005	0.089	0.209	0.166	0.089	0.036	0.010	0.000	3.00	3.00	27.1
West Bengal	0.017	0.140	0.219	0.152	0.084	0.039	0.012	0.005	3.26	3.23	28.9
North-East											
Arunachal Pradesh	0.003	0.118	0.246	0.194	0.150	0.086	(0.045)	*	4.38	4.19	34.7
Assam	0.022	0.123	0.205	0.200	0.128	0.057	0.023	0.000	3.68	3.68	32.0
Manipur	0.000	0.020	0.170	0.195	0.124	0.067	(0.016)	(0.000)	3.00	3.00	25.2
Meghalaya	0.000	0.080	0.176	0.176	0.125	0.116	0.053	(0.029)	3.81	3.66	31.9
Mizoram	0.000	0.033	0.157	0.129	(0.082)	(0.033)	(0.020)	(0.000)	2.28	2.28	19.2
Nagaland	0.003	0.055	0.199	0.212	0.150	0.067	0.019	0.008	3.55	3.52	33.7
Tripura	0.013	0.091	0.185	0.126	0.090	0.058	0.031	(0.000)	2.91	2.91	24.7
West											
Goa	(0.000)	0.016	0.099	0.172	0.084	0.030	0.001	0.000	2.01	2.01	18.0
Gujarat	0.001	0.096	0.264	0.158	0.080	0.027	0.005	0.004	3.17	3.15	28.5
Maharashtra	0.026	0.183	0.252	0.118	0.052	0.010	0.009	0.000	3.12	3.12	28.4
South											
Andhra Pradesh	0.020	0.165	0.198	0.101	0.046	0.020	0.005	0.000	2.67	2.67	25.1
Karnataka	0.026	0.148	0.226	0.138	0.069	0.026	0.009	0.002	3.09	3.07	28.0
Kerala	0.000	0.040	0.164	0.123	0.063	0.019	0.008	0.001	2.09	2.08	20.3
Tamil Nadu	0.007	0.099	0.212	0.121	0.051	0.020	0.004	0.000	2.54	2.54	23.6

crude birth rate (CBR) of 28.9 is very close to the 1991 CBR of 29.5 estimated by the Sample Registration System (SRS) and virtually identical to the 1992 provisional SRS estimate (29.0).

The total fertility rate (TFR) represents the average number of children that a woman would bear if she experienced current fertility rates throughout her reproductive years. The NFHS total fertility rate for India is 3.4 children per

Table 11 Current fertility (Contd.)

Age-specific and total fertility rates (TFR) and crude birth rates for the three-year period prior to the survey, by residence and state, India, 1992-93

State	Age-specific fertility rates								TFR		Crude birth rate
	13-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	15-49	15-44	
TOTAL											
India	0.011	0.116	0.231	0.170	0.097	0.044	0.015	0.005	3.39	3.37	28.9
North											
Delhi	0.002	0.066	0.224	0.184	0.086	0.040	0.005	0.000	3.02	3.02	26.7
Haryana	0.010	0.144	0.316	0.196	0.088	0.036	0.015	0.003	3.99	3.98	33.1
Himachal Pradesh	0.000	0.075	0.259	0.172	0.046	0.034	0.007	0.000	2.97	2.97	28.2
Jammu Region of J & K	0.005	0.054	0.223	0.206	0.090	0.038	0.009	0.005	3.13	3.10	28.0
Punjab	0.002	0.064	0.238	0.180	0.072	0.021	0.005	0.002	2.91	2.90	25.0
Rajasthan	0.005	0.113	0.247	0.181	0.107	0.055	0.014	0.010	3.63	3.58	27.2
Central											
Madhya Pradesh	0.017	0.153	0.255	0.191	0.106	0.047	0.018	0.010	3.90	3.85	31.9
Uttar Pradesh	0.004	0.113	0.278	0.251	0.177	0.094	0.037	0.014	4.82	4.75	36.0
East											
Bihar	0.009	0.121	0.241	0.190	0.141	0.078	0.026	0.004	4.00	3.98	32.3
Orissa	0.005	0.086	0.204	0.163	0.089	0.031	0.010	0.000	2.92	2.92	26.6
West Bengal	0.015	0.124	0.202	0.138	0.075	0.031	0.008	0.005	2.92	2.89	25.9
North-East											
Arunachal Pradesh	0.002	0.115	0.246	0.194	0.139	0.081	(0.039)	*	4.25	4.07	34.6
Assam	0.022	0.117	0.200	0.195	0.117	0.055	0.021	0.000	3.53	3.53	31.0
Manipur	0.000	0.030	0.152	0.170	0.128	0.057	0.010	(0.000)	2.73	2.73	24.0
Meghalaya	0.000	0.079	0.182	0.180	0.117	0.115	0.051	0.022	3.74	3.62	32.0
Mizoram	0.000	0.039	0.140	0.143	0.085	0.031	0.014	0.000	2.26	2.26	20.5
Nagaland	0.002	0.049	0.188	0.196	0.131	0.059	0.015	0.006	3.22	3.19	30.9
Tripura	0.011	0.085	0.166	0.125	0.081	0.052	0.026	(0.000)	2.68	2.68	23.3
West											
Goa	0.001	0.016	0.096	0.148	0.083	0.031	0.005	0.001	1.90	1.89	17.2
Gujarat	0.001	0.086	0.251	0.157	0.074	0.021	0.005	0.004	2.79	2.97	27.2
Maharashtra	0.019	0.141	0.227	0.132	0.053	0.012	0.006	0.000	2.86	2.86	26.7
South											
Andhra Pradesh	0.016	0.144	0.202	0.101	0.047	0.019	0.005	0.000	2.59	2.59	24.5
Karnataka	0.025	0.130	0.206	0.134	0.064	0.024	0.006	0.005	2.85	2.82	26.4
Kerala	0.000	0.038	0.160	0.123	0.054	0.017	0.006	0.001	2.00	1.99	19.6
Tamil Nadu	0.004	0.087	0.203	0.132	0.051	0.019	0.004	0.000	2.48	2.48	23.6

() Based on 125-249 woman-years of exposure

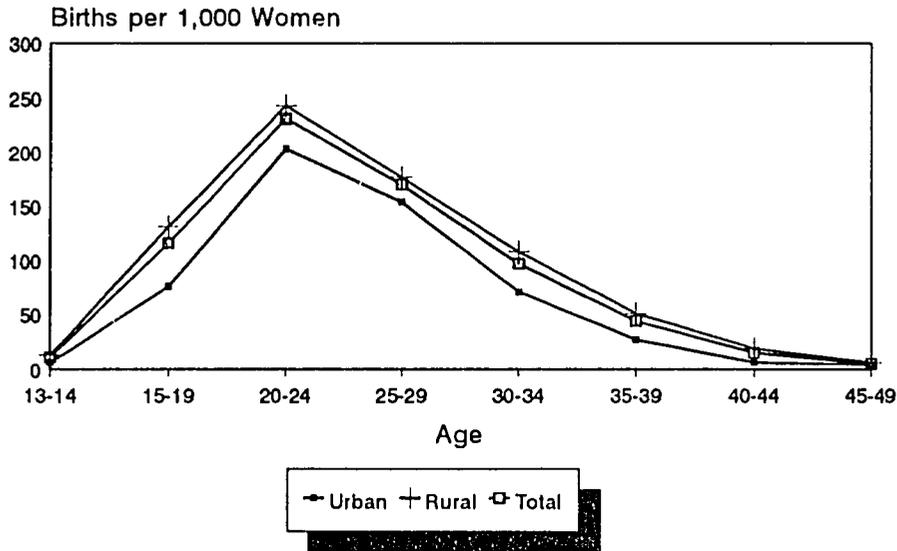
* Rates not shown; based on fewer than 125 woman-years of exposure

NC : Not calculated; because there were no births to women age 13-14

woman, slightly lower than the SRS estimate of 3.6 for 1991⁴. According to this measure, fertility in India is lower than in any other South Asian country except Sri Lanka and it is nearly one child lower than the TFR for all less developed countries combined (excluding China).

⁴ Office of the Registrar General. 1993. *Sample Registration System - 1991*, Ministry of Home Affairs, New Delhi.

Figure 1
Age-Specific Fertility Rates
by Residence



Note: Rates are for the three years before the survey (1990-92)

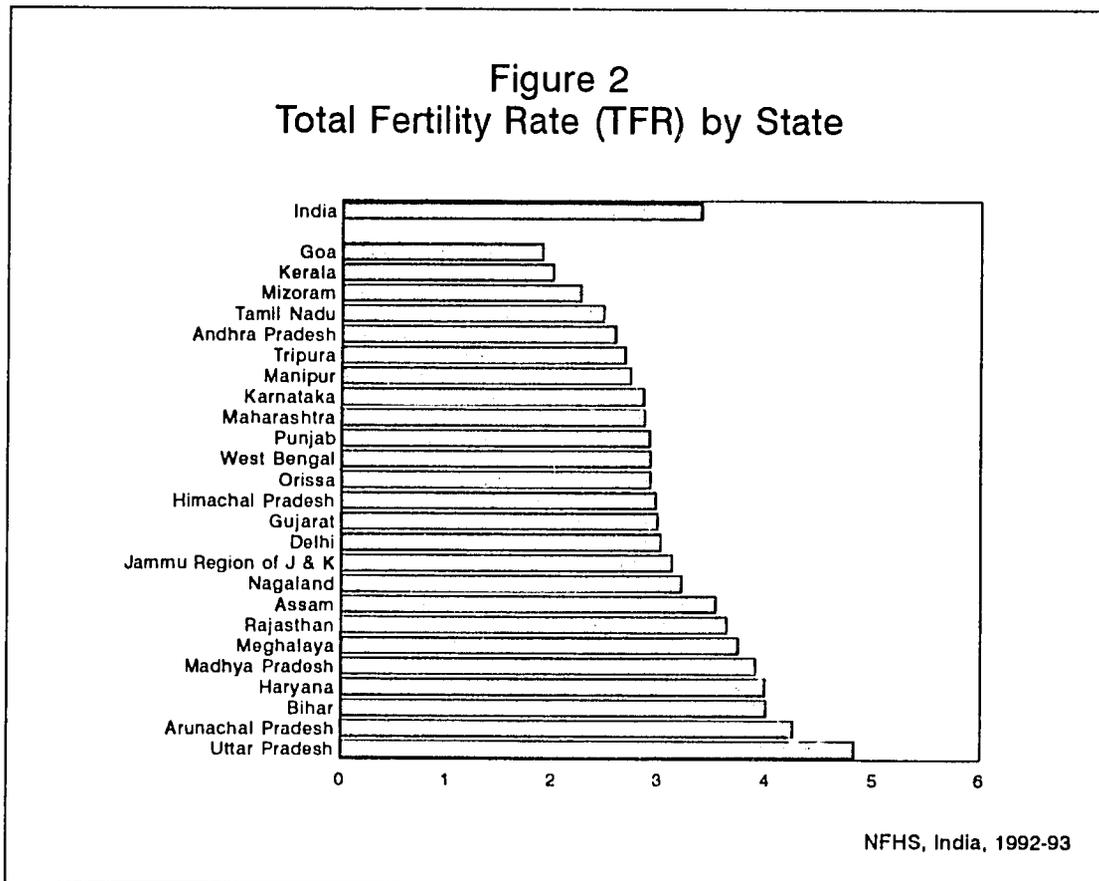
NFHS, India, 1992-93

The NFHS total fertility rate in rural areas (3.7) is 36 percent higher than the TFR in urban areas (2.7). In other words, according to the present schedule of fertility, rural women will have, on average, one child more in the childbearing years than urban women. The urban TFR estimate of 2.7 from the NFHS is identical to the 1991 SRS estimate, but the rural TFR calculated from the NFHS (3.7) is slightly lower than the 1991 SRS estimate of 3.9.

The age pattern of fertility reveals a peak in the 20-24 age group in both urban and rural areas (Figure 1). The fertility level declines sharply beyond age 30 and childbearing is negligible for women in their forties. In both rural and urban areas, women age 35 and above contribute only 10 percent or less to total fertility.

There are wide variations in fertility levels among the states (Figure 2). Fertility is considerably below the national average in South India and West India, where two states (Kerala and Goa) have achieved below-replacement fertility. Goa has a unique pattern of childbearing, with very low fertility before age 25 as a result of the high average age at marriage and the late initiation of childbearing.

Figure 2
Total Fertility Rate (TFR) by State



At the other end of the spectrum, fertility is four children per woman or higher in Uttar Pradesh, Bihar, Haryana and Arunachal Pradesh, and the TFR also exceeds the national average in Madhya Pradesh, Meghalaya, Rajasthan and Assam. With a TFR of 4.8, Uttar Pradesh stands out as having especially high fertility (more than 40 percent higher than the national average).

In every state, the total fertility rate is lower in urban areas than in rural areas. There is, however, evidence of a convergence of urban and rural fertility rates for states with low fertility. In the five states with the lowest overall fertility (Goa, Kerala, Mizoram, Tamil Nadu and Andhra Pradesh), rural fertility is only 10 percent higher than urban fertility, on average. In the remaining states, rural fertility exceeds urban fertility by an average of 34 percent.

Estimates of cohort fertility, as measured by the number of children ever born to women of different ages, are shown in Table 12. Ever-married women who are currently in their childbearing years have an average of 3.1 children. The mean number of children ever born increases steadily with age, reaching a high of just over five children per woman for the 45-49 age group. By the end of their

Table 12 Children ever born

Mean number of children ever born to ever-married women by age of woman, by residence and state, India, 1992-93

State	Age									
	13-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	15-49	15-44
URBAN										
India	(0.28)	0.60	1.45	2.42	3.09	3.52	4.06	4.46	2.84	2.67
North										
Delhi	*	0.56	1.46	2.44	3.12	3.55	4.15	4.20	2.86	2.69
Haryana	NC	0.53	1.59	2.59	3.36	3.77	4.68	4.04	2.93	2.84
Himachal Pradesh	NC	*	1.25	2.10	2.60	3.20	3.26	3.79	2.53	2.39
Jammu Region of J & K	NC	*	0.97	1.96	2.58	3.33	3.52	4.31	2.62	2.39
Punjab	NC	(0.31)	1.20	2.42	2.88	3.26	3.88	4.03	2.75	2.63
Rajasthan	*	0.38	1.31	2.53	3.48	3.87	4.14	4.20	2.95	2.82
Central										
Madhya Pradesh	*	0.48	1.38	2.90	3.53	4.21	4.21	5.16	3.05	2.88
Uttar Pradesh	*	0.41	1.39	2.57	3.73	4.40	5.01	5.48	3.32	3.10
East										
Bihar	*	0.54	1.59	2.73	3.55	4.16	4.45	4.82	3.12	2.92
Orissa	*	0.81	1.65	2.61	3.38	3.76	4.52	4.97	3.06	2.93
West Bengal	*	0.80	1.61	2.14	2.77	3.37	3.58	4.00	2.66	2.51
North-East										
Arunachal Pradesh	NC	*	(1.42)	(2.81)	*	*	*	*	2.67	2.66
Assam	*	0.70	1.74	2.45	3.13	3.78	(4.26)	4.32	2.95	2.83
Manipur	NC	*	(1.44)	2.09	2.69	(4.00)	4.63	(4.44)	3.11	2.91
Meghalaya	NC	*	1.33	(2.45)	(3.18)	(4.69)	*	(4.70)	3.19	2.93
Mizoram	NC	*	1.16	1.95	3.00	3.69	3.81	4.36	2.83	2.52
Nagaland	NC	*	(1.20)	(2.12)	(3.61)	(3.94)	(4.27)	(3.39)	3.06	2.99
Tripura	NC	*	(1.10)	(2.07)	(3.23)	(2.90)	(4.07)	*	2.67	2.50
West										
Goa	NC	*	1.33	1.63	2.23	2.79	3.58	3.75	2.64	2.41
Gujarat	NC	0.56	1.06	2.20	2.99	3.29	4.05	4.22	2.65	2.49
Maharashtra	*	0.73	1.54	2.48	3.02	3.47	3.90	4.14	2.76	2.63
South										
Andhra Pradesh	*	0.62	1.71	2.46	2.86	3.48	3.72	4.30	2.71	2.56
Karnataka	*	0.76	1.65	2.46	2.92	3.40	3.99	4.30	2.75	2.58
Kerala	NC	(0.46)	1.19	1.93	2.28	2.70	3.17	3.80	2.44	2.24
Tamil Nadu	*	0.56	1.23	2.06	2.47	3.06	3.81	4.63	2.52	2.30

childbearing years, rural women have almost one child more, on average, than urban women. A comparison of completed cohort fertility (5.1 children per woman at ages 45-49) with current fertility (total fertility rate of 3.4 children per woman) demonstrates that fertility levels in India have fallen substantially in the recent past.

State differentials in the number of children ever born generally parallel the differentials in current fertility rates discussed earlier. Women in their forties have had an average of about two more children in the two states with the highest

Table 12 Children ever born (Contd.)

Mean number of children ever born to ever-married women by age of woman, by residence and state, India, 1992-93

State	Age									
	13-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	15-49	15-44
RURAL										
India	0.07	0.62	1.70	2.93	3.92	4.47	4.97	5.35	3.17	2.96
North										
Delhi	NC	*	1.33	2.56	(3.56)	*	*	(5.52)	2.78	2.49
Haryana	*	0.61	1.85	3.14	4.00	4.49	5.04	6.14	3.22	2.99
Himachal Pradesh	*	0.46	1.44	2.73	3.43	4.08	4.40	4.86	3.03	2.88
Jammu Region of J & K	*	0.45	1.41	2.69	3.75	4.50	5.18	5.63	3.26	3.04
Punjab	*	0.57	1.32	2.67	3.42	3.98	4.11	4.54	3.03	2.87
Rajasthan	*	0.48	1.47	2.91	3.89	4.57	4.97	5.52	3.19	2.95
Central										
Madhya Pradesh	(0.02)	0.56	1.73	3.04	4.15	4.82	5.25	5.62	3.15	2.95
Uttar Pradesh	*	0.54	1.63	3.27	4.70	5.50	6.13	6.27	3.65	3.37
East										
Bihar	(0.00)	0.49	1.63	3.08	4.41	4.88	5.30	5.49	3.26	3.03
Orissa	*	0.62	1.50	2.70	3.61	4.31	4.84	5.15	3.03	2.86
West Bengal	(0.09)	0.62	1.82	2.90	3.70	4.38	5.21	5.55	3.07	2.88
North-East										
Arunachal Pradesh	*	0.66	1.72	2.93	3.76	4.52	4.88	(5.19)	3.17	3.04
Assam	*	0.95	2.08	3.38	4.56	5.29	6.03	6.26	3.76	3.60
Manipur	NC	*	1.43	2.57	3.53	4.64	5.04	5.29	3.49	3.26
Meghalaya	*	0.58	1.42	2.61	4.02	4.28	4.92	5.13	3.12	2.86
Mizoram	NC	*	1.09	2.14	3.38	3.88	4.53	4.46	3.07	2.81
Nagaland	NC	(0.86)	1.25	2.35	3.80	4.49	4.60	4.08	3.13	2.94
Tripura	*	0.84	1.70	2.85	3.32	4.66	5.58	6.07	3.43	3.12
West										
Goa	*	*	0.97	1.74	2.51	3.42	3.86	4.16	2.87	2.62
Gujarat	*	0.61	1.57	2.73	3.53	4.05	4.42	4.95	3.08	2.87
Maharashtra	*	0.92	2.08	2.93	3.78	3.96	4.22	4.87	3.01	2.85
South										
Andhra Pradesh	(0.03)	0.70	1.83	2.89	3.38	3.72	4.04	4.26	2.69	2.55
Karnataka	*	0.82	2.03	3.08	3.87	4.25	4.77	5.37	3.21	3.01
Kerala	*	0.40	1.22	1.85	2.48	3.09	3.51	4.36	2.51	2.28
Tamil Nadu	*	0.55	1.53	2.31	3.04	3.45	4.16	4.45	2.81	2.61

fertility (Uttar Pradesh and Assam) than in the two states with the lowest fertility (Goa and Kerala).

D. FERTILITY PREFERENCES

In the NFHS, currently married women were asked "Would you like to have another child or would you prefer not to have any more children?" Women who did not yet have any children were asked whether they wanted to have any

Table 12 Children ever born (Contd.)

Mean number of children ever born to ever-married women by age of woman, by residence and state, India, 1992-93

State	Age									
	13-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	15-49	15-44
	TOTAL									
India	0.10	0.62	1.64	2.79	3.68	4.22	4.70	5.11	3.09	2.89
North										
Delhi	*	0.56	1.45	2.46	3.15	3.59	4.15	4.29	2.85	2.68
Haryana	*	0.60	1.79	2.97	3.80	4.27	4.95	5.59	3.14	2.95
Himachal Pradesh	*	0.45	1.43	2.67	3.31	3.99	4.30	4.73	2.98	2.83
Jammu Region of J & K	*	0.47	1.35	2.57	3.51	4.28	4.84	5.32	3.15	2.93
Punjab	*	0.52	1.29	2.59	3.25	3.78	4.04	4.41	2.95	2.81
Rajasthan	*	0.47	1.45	2.83	3.80	4.41	4.78	5.26	3.14	2.92
Central										
Madhya Pradesh	(0.02)	0.55	1.66	3.01	3.99	4.64	4.98	5.52	3.13	2.94
Uttar Pradesh	*	0.52	1.59	3.12	4.46	5.24	5.88	6.12	3.58	3.32
East										
Bihar	(0.00)	0.49	1.62	3.03	4.28	4.75	5.15	5.38	3.24	3.01
Orissa	*	0.63	1.52	2.68	3.58	4.21	4.78	5.13	3.03	2.87
West Bengal	(0.12)	0.65	1.78	2.67	3.40	4.05	4.68	5.00	2.96	2.78
North-East										
Arunachal Pradesh	*	0.64	1.67	2.91	3.75	4.45	4.93	(5.00)	3.09	2.99
Assam	*	0.93	2.04	3.28	4.38	5.07	5.78	5.95	3.66	3.51
Manipur	NC	*	1.43	2.43	3.25	4.45	4.88	4.99	3.37	3.15
Meghalaya	*	0.59	1.40	2.58	3.85	4.37	4.92	5.03	3.13	2.87
Mizoram	NC	(0.45)	1.12	2.05	3.19	3.78	4.23	4.41	2.95	2.67
Nagaland	NC	(0.88)	1.24	2.31	3.75	4.34	4.53	3.93	3.11	2.95
Tripura	*	0.76	1.61	2.70	3.29	4.19	5.22	5.72	3.24	2.97
West										
Goa	*	(0.85)	1.15	1.69	2.37	3.12	3.71	3.95	2.76	2.52
Gujarat	*	0.59	1.40	2.55	3.32	3.78	4.28	4.70	2.93	2.74
Maharashtra	(0.15)	0.88	1.85	2.75	3.44	3.74	4.06	4.56	2.91	2.76
South										
Andhra Pradesh	(0.08)	0.69	1.80	2.77	3.23	3.64	3.94	4.27	2.69	2.55
Karnataka	(0.32)	0.81	1.92	2.86	3.53	3.97	4.50	4.97	3.06	2.87
Kerala	*	0.41	1.21	1.87	2.42	2.98	3.40	4.18	2.49	2.27
Tamil Nadu	*	0.55	1.43	2.22	2.81	3.32	4.05	4.51	2.71	2.50

() Based on 25-49 unweighted cases

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

NC: Not calculated; there were no ever-married women age 13-14 in the sample

children. If a woman was pregnant at the time of the interview, she was asked whether or not she wanted another child after the one she was expecting.

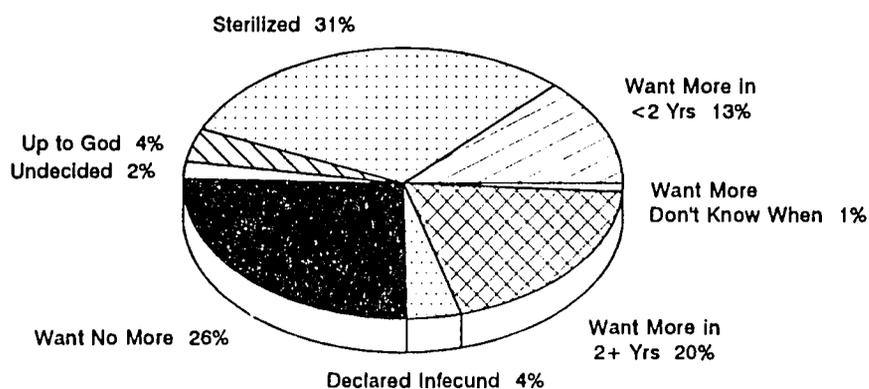
Tables 13 and 14 provide information about the fertility preferences of currently married women. Overall, only one-third of Indian women say they want another child at any time in the future, and 58 percent of these women say they

Table 13 Reproductive preferences

Percent distribution of currently married women by desire for children, according to state, India, 1992-93

State	Want within 2 years	Want after 2 years	Want, undecided when	Undecided	Want no more	Sterilized	Up to God	Declared infecund	Missing	Total percent
India	13.0	19.6	1.4	1.6	25.9	30.8	3.7	3.8	0.2	100.0
North										
Delhi	9.8	16.6	0.5	1.4	45.4	23.3	1.6	1.3	0.1	100.0
Haryana	14.8	17.3	0.5	1.9	29.3	34.8	0.5	0.9	0.0	100.0
Himachal Pradesh	9.3	15.9	0.2	1.4	25.7	45.8	0.3	1.4	0.0	100.0
Jammu Region of J & K	14.8	17.5	0.1	1.3	35.6	29.7	0.1	0.9	0.0	100.0
Punjab	11.4	13.3	0.3	1.3	37.8	34.0	0.4	1.6	0.0	100.0
Rajasthan	12.7	20.3	1.2	3.1	24.2	27.7	7.1	3.5	0.2	100.0
Central										
Madhya Pradesh	12.2	25.3	2.8	2.2	19.6	31.5	4.2	1.8	0.2	100.0
Uttar Pradesh	12.4	25.6	1.0	1.6	31.5	13.1	9.7	4.9	0.3	100.0
East										
Bihar	16.7	24.0	1.1	1.8	24.0	18.6	6.3	7.2	0.2	100.0
Orissa	13.7	18.1	1.9	3.1	25.9	31.6	2.2	3.5	0.0	100.0
West Bengal	10.0	20.5	0.8	0.7	34.5	30.6	0.8	2.1	0.0	100.0
North-East										
Arunachal Pradesh	20.5	30.3	2.4	3.5	24.0	10.7	5.4	3.4	0.0	100.0
Assam	11.2	22.7	0.9	1.0	47.8	14.4	1.1	0.8	0.0	100.0
Manipur	8.5	29.1	0.6	1.5	41.4	13.8	2.4	2.8	0.0	100.0
Meghalaya	14.7	35.0	3.5	4.6	17.0	10.0	8.7	6.6	0.0	100.0
Mizoram	12.9	24.3	0.7	2.2	10.2	44.6	2.4	2.8	0.0	100.0
Nagaland	5.6	18.7	1.8	6.4	35.1	6.4	19.0	7.0	0.0	100.0
Tripura	12.6	15.2	0.7	1.1	50.2	19.1	0.3	0.8	0.0	100.0
West										
Goa	12.9	13.8	0.8	2.7	33.3	30.5	0.6	5.3	0.1	100.0
Gujarat	13.7	17.2	0.7	1.4	20.6	41.0	1.8	3.5	0.1	100.0
Maharashtra	11.7	13.5	2.3	1.2	20.4	46.1	0.7	4.0	0.0	100.0
South										
Andhra Pradesh	17.6	12.8	2.6	1.6	13.6	44.8	1.4	5.3	0.4	100.0
Karnataka	12.3	16.7	0.9	1.5	20.6	42.5	1.7	3.4	0.3	100.0
Kerala	10.8	16.1	1.1	1.3	19.3	48.3	1.1	1.8	0.2	100.0
Tamil Nadu	12.0	14.6	1.0	0.7	27.1	39.5	0.6	4.2	0.2	100.0

Figure 3
Fertility Preferences Among
Currently Married Women Age 13-49



NFHS, India, 1992-93

would like to wait at least two years before having their next birth (Table 13 and Figure 3). Only 13 percent of women say they would like another child soon (that is, within two years). More than one-quarter of women say they do not want any more children, and 31 percent of women (or their husbands) are sterilized, so that they cannot have any more children. These two groups together constitute 57 percent of all currently married women. The proportion of women who want another child within two years is uniformly low in all states, ranging from 6 percent in Nagaland to 21 percent in Arunachal Pradesh. Even in rural areas of India, only 14 percent of currently married women say that they want another child within two years (see Table 14). Very few women say they are undecided about whether to have more children (2 percent) or take the fatalistic view that the number of children is up to God (4 percent).

As expected, the desire for more children declines rapidly as the number of living children increases. Eighty-five percent of women with no children say they want a child, and only 2 percent say they do not want any children. The proportion who want another child drops to only 30 percent for women who have two living children and 15 percent for those with three living children. The desire

Table 14 Reproductive preferences by living children

Percent distribution of currently married women by desire for children, according to number of living children and residence, India, 1992-93

Desire for children	Number of living children					Total
	None	One	Two	Three	Four or more	
URBAN						
Want another						
Within 2 years	47.5	18.8	5.3	3.0	1.2	11.0
After 2 years	33.0	42.4	12.4	5.6	2.2	16.0
Undecided when	4.1	1.3	0.4	0.2	0.2	0.9
Undecided	1.9	2.9	1.5	0.9	0.6	1.4
Want no more	2.9	23.9	45.3	30.7	34.1	30.8
Sterilized	0.8	4.0	30.7	55.5	54.0	33.6
Up to God	3.6	2.9	1.8	1.7	2.2	2.3
Declared infecund	5.8	3.5	2.5	2.4	5.2	3.7
Missing	0.4	0.2	0.1	0.1	0.2	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0
RURAL						
Want another						
Within 2 years	46.8	23.1	10.3	4.9	1.6	13.7
After 2 years	33.8	49.5	24.2	11.0	4.5	20.9
Undecided when	4.6	2.7	1.2	0.6	0.3	1.5
Undecided	2.4	2.0	1.9	1.2	1.4	1.7
Want no more	2.1	11.3	24.9	26.3	39.2	24.2
Sterilized	0.7	4.4	30.7	48.9	43.0	29.8
Up to God	5.4	4.3	4.2	3.7	3.9	4.2
Declared infecund	4.1	2.5	2.5	3.1	5.8	3.9
Missing	0.1	0.1	0.1	0.1	0.2	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0
TOTAL						
Want another						
Within 2 years	46.9	21.9	8.8	4.4	1.6	13.0
After 2 years	33.6	47.5	20.6	9.6	3.9	19.6
Undecided when	4.5	2.3	1.0	0.5	0.3	1.4
Undecided	2.3	2.3	1.8	1.1	1.2	1.6
Want no more	2.3	14.8	31.1	27.4	38.0	25.9
Sterilized	0.7	4.3	30.7	50.6	45.6	30.8
Up to God	5.0	3.9	3.5	3.2	3.5	3.7
Declared infecund	4.5	2.8	2.5	2.9	5.7	3.8
Missing	0.2	0.2	0.1	0.1	0.2	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0

to have a child within two years also drops rapidly from 47 percent for women without any living children to less than 10 percent for women with two or more children. Interestingly, the desire for spacing children is very strong for women who have fewer than two children. More than one-third of women with no children say they would like to wait at least two years before having their first child and nearly half of women with one child say they would like to wait at least two years before having their second child. Since half of all women have fewer than three living children, the strong expressed desire among these women for spacing children cannot be ignored. The focus of the family planning programme on permanent methods of contraception is evidently not satisfying the needs of a large group of women in India who wish to space their births. The encouragement of spacing methods for women who want more children would be likely to lower overall fertility and population growth, as well as to provide health benefits to both mothers and their children.

E. FAMILY PLANNING

Women in the NFHS were asked about their knowledge of specific contraceptive methods and where they could be obtained. In addition, they were asked if they had ever used each method they knew, whether they were currently using a method and, if so, which method.

Knowledge of Family Planning

In the contraception section of the NFHS questionnaire, women were first asked to mention any contraceptive method about which they had heard. For methods not spontaneously mentioned, they were read a description of each method and asked if they had ever heard of it. For each method known to the respondent, either spontaneously or after probing, she was asked if she knew where a person could go to get the method.

Table 15 provides information on respondents' awareness of specific methods of family planning. It also presents the percentage of women who know about any modern method or any method of family planning (either modern or traditional).

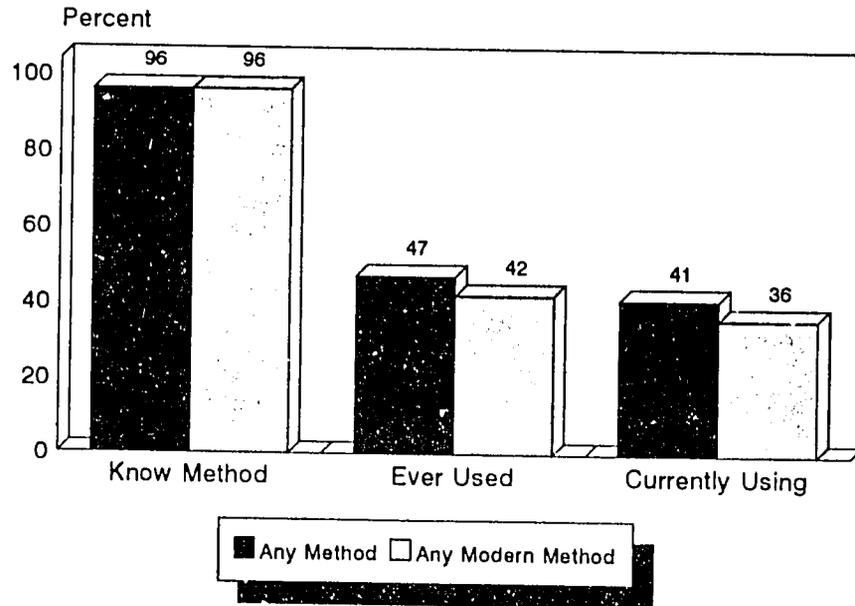
Knowledge of family planning is nearly universal in India, with 96 percent of women reporting knowledge of at least one contraceptive method (Figure 4). Contraceptive knowledge is slightly higher among urban women (99 percent), but

Table 15 Knowledge of contraceptive methods

Percentage of currently married women age 13-49 knowing specific contraceptive methods by state, India, 1992-93

State	Any method	Any modern method	Any modern temporary method	Pill	IUD	Injection	Condom	Female sterilization	Male sterilization	Any trad. method	Periodic abstinence	Withdrawal	Other methods
India - Urban	98.7	98.6	91.2	85.5	83.1	25.2	80.2	97.7	91.1	48.8	44.0	26.4	3.8
India - Rural	94.7	94.5	70.7	59.4	52.9	17.2	50.2	93.5	82.1	36.0	31.7	17.8	3.5
India - Total	95.8	95.5	76.1	66.2	60.8	19.3	58.1	94.6	84.5	39.3	34.9	20.1	3.6
North													
Delhi	99.0	98.9	96.8	94.3	93.4	34.9	93.7	97.5	95.3	59.3	54.6	31.1	5.6
Haryana	99.4	99.4	90.6	76.2	80.0	45.8	75.9	99.2	98.2	58.7	46.5	41.9	4.2
Himachal Pradesh	99.1	98.9	88.4	70.1	73.7	45.6	74.1	98.1	95.7	61.0	49.1	37.3	9.9
Jammu Region of J & K	99.7	99.6	88.5	76.6	74.3	51.1	74.9	99.4	98.0	72.0	59.5	53.5	2.4
Punjab	99.8	99.8	94.0	83.9	87.5	47.2	82.1	99.7	99.1	64.1	56.0	41.5	1.5
Rajasthan	87.5	87.2	58.8	53.1	46.4	23.4	37.7	85.3	70.9	27.5	23.8	14.5	1.4
Central													
Madhya Pradesh	88.1	87.8	57.4	51.3	42.3	12.7	42.3	85.4	76.5	19.7	17.7	5.3	2.6
Uttar Pradesh	95.7	95.2	80.1	64.7	56.2	25.0	67.2	93.7	88.2	36.7	34.3	12.9	2.6
East													
Bihar	94.9	94.9	68.4	57.2	44.1	4.2	54.6	94.5	88.0	29.4	26.0	9.4	1.8
Orissa	92.9	92.5	60.7	52.1	48.0	7.4	34.6	91.7	72.2	33.9	27.4	9.5	7.4
West Bengal	99.1	98.8	90.9	85.6	68.2	42.5	67.6	98.0	84.8	72.5	62.0	55.4	5.0
North-East													
Arunachal Pradesh	77.7	77.7	62.9	55.2	52.6	28.7	39.6	75.1	47.8	27.2	25.4	17.6	0.6
Assam	97.5	96.9	82.2	72.9	60.8	39.0	59.2	96.2	83.9	79.2	71.0	61.0	9.6
Manipur	93.6	93.0	87.9	77.9	81.0	5.6	60.3	87.7	87.4	72.4	71.2	44.4	3.9
Meghalaya	78.0	76.9	64.7	58.5	49.3	9.7	47.7	71.9	46.5	43.5	35.5	17.7	15.7
Mizoram	98.1	98.1	86.2	70.1	76.2	1.8	61.0	98.0	71.3	43.7	36.2	30.7	0.3
Nagaland	44.4	44.3	36.7	24.9	24.2	15.9	29.0	30.4	20.9	10.7	9.7	9.3	0.8
Tripura	99.7	99.7	95.4	93.9	65.0	42.1	68.1	99.4	89.2	85.7	75.8	68.8	7.8
West													
Goa	98.9	98.8	89.9	80.6	76.3	20.7	73.1	97.7	72.8	45.6	41.6	24.1	2.9
Gujarat	96.6	96.4	77.0	65.9	71.4	22.8	62.7	95.6	78.6	45.9	43.3	24.4	1.7
Maharashtra	97.8	97.8	76.8	67.1	70.7	8.1	57.3	97.3	83.6	23.3	21.3	8.4	2.0
South													
Andhra Pradesh	96.7	96.6	61.2	53.7	43.7	12.8	41.9	95.7	89.7	14.6	11.3	2.9	3.5
Karnataka	98.9	98.8	83.8	75.1	78.0	5.4	50.0	98.6	81.1	41.1	38.8	15.0	6.4
Kerala	99.7	99.7	96.6	87.1	90.3	13.0	91.0	99.3	90.0	72.6	66.1	50.7	2.7
Tamil Nadu	99.1	99.1	85.6	74.5	77.8	12.6	61.0	98.8	86.0	46.2	39.0	23.7	6.6

Figure 4
 Knowledge and Use of Family Planning
 (Currently Married Women Age 13-49)



NFHS, India, 1992-93

even in rural areas 95 percent of women know at least one method. At the state level, variations in the level of knowledge are generally small, with all the major states⁵ except Rajasthan and Madhya Pradesh showing awareness of a method of family planning by more than 90 percent of women. In both Rajasthan and Madhya Pradesh, 88 percent of women report knowledge of a contraceptive method. In the small northeastern states of Nagaland, Meghalaya and Arunachal Pradesh, the extent of knowledge is much lower. In Nagaland, only 44 percent of women are aware of any method.

As expected, women are most familiar with female sterilization, closely followed by male sterilization. This pattern is observed in almost all states and in both urban and rural areas. Injections, which are not an official method of family

⁵ The major states are all of the states in the east, south and central regions, plus Haryana, Punjab, Rajasthan, Assam, Gujarat and Maharashtra.

planning, are the least known method⁶. Women are almost equally familiar with the other three modern spacing methods (pills, IUDs and condoms), which are known by about 60 percent of respondents. These spacing methods, unlike sterilization, are considerably less familiar to rural women than to their urban counterparts.

In states such as Madhya Pradesh, Andhra Pradesh, Bihar, Rajasthan and Orissa, more than half of women report that they have not heard of the IUD. Knowledge of condoms is particularly low in Orissa, Rajasthan, Arunachal Pradesh and Nagaland. Traditional methods of contraception are not very well known in most states. Only 39 percent of women report knowledge of a traditional method (36 percent in rural areas and 49 percent in urban areas). At the state level, considerable variation exists in the extent of knowledge about traditional methods. Whereas 79 percent of women in Assam indicate knowledge of a traditional method, only 11 percent of women in Nagaland and 15 percent of women in Andhra Pradesh have such knowledge.

The extent of knowledge about sources from which modern contraceptives can be obtained is shown in Table 16. Knowledge about the source of any modern method is very high in urban areas (95 percent) and only slightly lower in rural areas (86 percent). This is true largely because knowledge about the source of sterilization, particularly female sterilization, is widespread among women in both urban and rural areas. Knowledge about the source of modern temporary methods is substantially more limited, and there are large urban-rural differentials for these methods. While 83 percent of urban women know of a source for a modern temporary method, only 57 percent of rural women possess such knowledge. Less than half of women in Madhya Pradesh, Rajasthan, Orissa and Nagaland know where to obtain any modern temporary contraceptive method.

Ever Use of Family Planning

All respondents were asked whether they had ever used each of the methods they knew. The use of contraception was further probed by asking women who reported never using any method whether they "ever used anything or tried in any way to delay or avoid getting pregnant".

⁶ For a method with negligible use in India, it is perhaps surprising that 19 percent of women say they have heard of the method. One possible explanation for the unexpectedly high reported knowledge of contraceptive injections in North India is that the Hindi word for injections (*sui*) is also often used in reference to IUD insertions.

Table 16 Knowledge of source of modern contraceptive methods

Percentage of currently married women age 13-49 who know any source of specific modern contraceptive methods by state, India, 1992-93

State	Any modern method	Any modern temporary method	Pill	IUD	Injection	Condom	Female sterilization	Male sterilization
India - Urban	95.4	83.3	75.1	73.8	20.3	70.2	93.0	85.0
India - Rural	86.4	56.8	46.2	42.7	12.8	38.0	84.1	72.0
India - Total	88.8	63.7	53.7	50.8	14.7	46.4	86.4	75.4
North								
Delhi	93.9	89.0	79.3	82.4	26.5	82.8	90.0	86.5
Haryana	98.2	85.1	70.6	74.8	38.0	69.8	97.4	96.2
Himachal Pradesh	97.4	81.1	63.1	67.8	38.8	66.5	95.3	91.4
Jammu Region of J & K	97.5	85.0	73.2	71.4	46.2	71.1	97.0	95.7
Punjab	99.4	92.8	82.8	86.5	45.6	80.6	99.0	98.0
Rajasthan	76.1	46.4	39.7	35.5	17.1	28.3	72.4	56.9
Central								
Madhya Pradesh	80.0	45.7	39.4	34.3	8.5	33.9	75.7	67.1
Uttar Pradesh	76.9	56.2	44.7	40.8	17.8	43.8	73.0	67.6
East								
Bihar	88.4	55.1	45.6	36.1	2.5	41.9	87.1	80.6
Orissa	81.9	47.3	39.2	37.8	4.7	26.0	79.7	58.4
West Bengal	95.8	76.1	67.1	51.9	31.7	52.7	93.8	79.2
North-East								
Arunachal Pradesh	69.7	53.3	47.9	45.1	26.2	35.0	66.5	43.6
Assam	89.6	69.9	61.6	50.3	29.4	47.9	87.6	76.9
Manipur	81.8	72.5	59.6	67.3	4.2	48.1	76.8	75.2
Meghalaya	70.8	57.1	51.4	42.6	7.2	36.1	65.1	39.8
Mizoram	97.9	82.3	65.9	72.2	1.3	55.6	97.2	69.3
Nagaland	40.0	34.4	23.7	22.4	14.0	26.7	26.9	19.4
Tripura	96.9	81.8	77.4	53.7	32.7	56.9	96.0	84.9
West								
Goa	95.3	76.8	65.5	62.0	16.5	62.4	92.5	64.0
Gujarat	94.0	71.8	61.2	66.3	20.6	58.0	92.2	73.3
Maharashtra	95.6	67.9	58.0	61.8	5.9	50.1	93.9	78.8
South								
Andhra Pradesh	94.3	54.7	47.1	39.7	10.3	36.2	92.5	84.9
Karnataka	96.1	74.5	64.5	68.6	3.2	41.8	95.0	75.6
Kerala	98.7	88.6	72.6	77.6	10.0	77.0	97.4	86.0
Tamil Nadu	97.6	76.7	62.9	68.3	10.9	50.4	96.6	80.6

According to the NFHS, nearly half of currently married women in India (47 percent) have ever used a contraceptive method, with modern methods having been used by 42 percent and traditional methods by 12 percent (Table 17). The extent of ever use of contraceptive methods varies considerably by region. Among the major states, the highest ever use of any contraceptive method was recorded in Kerala (75 percent) and the lowest in Uttar Pradesh (26 percent). In addition to Kerala, more than 70 percent of women have ever used contraception in Delhi, Tripura and West Bengal, and more than 60 percent have ever used contraception in Himachal Pradesh, Punjab and Assam. Outside of the northeast, female

Table 17 Ever use of contraception

Percentage of currently married women age 13-49 who have ever used any contraceptive method by specific method, according to residence and state, India, 1992-93

State	Any method	Any modern method	Any modern temporary method	Pill	IUD	Injection	Condom	Female sterilization	Male sterilization	Any trad. method	Periodic abstinence	Withdrawal	Other methods
URBAN													
India	59.4	53.9	26.5	8.7	10.5	0.3	14.3	30.4	3.3	14.6	10.6	7.0	1.0
North													
Delhi	72.9	67.5	54.7	13.1	21.6	0.4	39.3	20.2	3.1	23.1	15.6	11.1	2.6
Haryana	69.8	61.5	42.1	8.9	16.3	0.1	32.9	23.5	5.0	26.3	12.8	18.0	3.4
Himachal Pradesh	81.2	75.4	51.3	6.7	25.5	0.3	36.1	29.2	9.8	26.2	16.2	14.8	2.5
Jammu Region of J & K	73.7	63.2	44.9	9.2	17.1	0.2	31.5	22.5	5.1	31.0	17.3	21.0	1.7
Punjab	70.3	61.9	37.1	4.4	15.6	0.3	24.5	27.6	2.8	18.6	10.8	7.5	1.9
Rajasthan	50.5	50.1	15.3	4.3	5.7	0.3	8.1	34.9	3.5	4.0	2.3	2.2	0.2
Central													
Madhya Pradesh	57.3	55.2	27.6	8.6	9.6	0.2	16.3	29.9	4.7	6.5	5.3	1.5	0.6
Uttar Pradesh	41.8	38.2	24.7	6.9	8.3	0.2	15.8	13.6	2.2	6.9	5.0	1.9	0.9
East													
Bihar	48.5	44.8	17.2	6.6	3.6	0.5	9.6	27.5	3.3	8.9	6.2	3.7	0.8
Orissa	52.1	48.7	17.3	7.6	8.3	0.1	5.5	33.1	4.1	8.4	5.6	2.2	1.5
West Bengal	75.3	55.5	36.4	25.1	4.1	0.9	19.2	23.3	2.2	49.9	35.4	32.8	1.2
North-East													
Arunachal Pradesh	49.2	35.5	22.6	11.3	12.1	0.0	4.8	14.5	0.8	22.6	21.8	6.5	0.8
Assam	78.6	48.4	33.2	17.6	5.9	0.0	18.2	21.4	1.3	59.2	50.2	36.1	1.5
Manipur	52.2	37.5	25.4	4.8	19.6	0.0	3.8	11.0	3.4	24.7	22.3	4.8	1.7
Meghalaya	39.8	33.0	15.7	8.9	5.2	0.0	3.1	19.4	0.5	11.5	8.9	7.3	1.6
Mizoram	62.1	60.3	22.0	10.4	12.0	0.0	2.9	46.0	0.2	5.9	4.1	2.9	0.0
Nagaland	33.0	32.1	21.6	14.2	6.9	3.2	11.9	11.9	0.5	2.3	1.4	2.3	0.0
Tripura	88.6	60.7	46.3	37.3	6.0	0.0	15.4	23.4	2.0	67.7	55.2	42.3	3.0
West													
Goa	62.2	46.0	22.4	5.5	8.4	0.1	13.8	26.0	1.4	27.7	21.5	10.8	1.4
Gujarat	59.5	55.5	22.6	4.9	12.5	0.2	8.6	34.8	3.3	9.6	7.4	3.4	0.5
Maharashtra	59.5	57.5	25.3	5.1	11.9	0.3	12.6	36.7	2.8	6.8	5.8	1.8	0.1
South													
Andhra Pradesh	60.7	59.8	14.7	5.8	5.7	0.2	5.6	44.1	7.2	3.5	2.3	0.2	1.0
Karnataka	58.8	55.8	23.1	5.9	15.3	0.1	7.4	39.5	1.0	9.7	7.3	2.1	1.9
Kerala	77.9	66.0	28.1	6.5	8.9	0.1	19.4	42.6	7.8	31.7	25.2	18.2	0.7
Tamil Nadu	60.9	54.9	27.2	4.8	16.8	0.1	11.1	33.3	1.4	15.0	10.7	6.7	1.1

Table 17 Ever use of contraception (Contd.)

Percentage of currently married women age 13-49 who have ever used any contraceptive method by specific method, according to residence and state, India, 1992-93

State	Any meth- od	Any modern method	Any modern temporary method	Pill	IUD	In- jec- tion	Con- dom	Fe- male ster- il- ization	Male ster- il- ization	Any trad. meth- od	Peri- odic absti- nence	With- drawal	Other meth- ods
RURAL													
India	42.5	37.1	9.9	4.1	3.2	0.2	4.6	26.3	3.5	10.5	8.0	4.8	0.7
North													
Delhi	64.6	59.9	44.0	10.9	8.9	0.8	35.8	17.9	4.3	17.5	14.0	6.2	1.2
Haryana	53.7	48.8	15.7	5.6	5.8	0.3	8.7	32.0	5.0	12.7	8.5	6.3	0.7
Himachal Pradesh	66.2	59.6	21.8	4.9	8.0	0.7	14.8	33.1	13.6	19.3	13.1	10.3	1.3
Jammu Region of J & K	53.8	43.6	19.8	7.0	4.8	0.1	12.8	25.9	4.2	21.7	12.6	13.7	0.3
Punjab	65.7	58.2	29.4	6.8	13.5	0.3	15.4	33.0	2.4	17.7	12.6	8.6	0.5
Rajasthan	31.2	29.4	5.5	2.2	1.9	0.2	2.3	23.0	2.1	3.4	2.2	1.4	0.3
Central													
Madhya Pradesh	37.5	35.6	7.3	3.2	1.7	0.2	3.8	25.4	5.3	3.5	2.6	0.5	0.8
Uttar Pradesh	22.2	19.8	8.1	3.6	1.7	0.2	4.1	11.2	1.2	3.9	3.1	1.1	0.4
East													
Bihar	22.4	20.1	4.1	2.0	0.6	0.0	2.1	15.6	1.0	3.3	2.6	0.9	0.2
Orissa	38.2	35.3	6.6	2.9	3.6	0.0	1.5	27.3	3.3	5.1	3.6	0.8	1.3
West Bengal	68.6	46.2	18.1	11.5	3.1	0.5	7.7	27.4	5.1	42.6	32.6	23.9	1.9
North-East													
Arunachal Pradesh	26.0	22.8	16.3	10.0	8.4	0.3	2.0	9.6	0.3	6.5	5.8	2.8	0.4
Assam	60.3	27.2	15.4	10.2	2.5	0.1	6.8	10.8	2.5	49.4	41.7	25.4	3.9
Manipur	41.2	25.8	13.5	4.3	9.7	0.0	2.0	10.8	2.7	19.7	17.7	2.2	1.3
Meghalaya	23.4	13.8	7.5	4.7	2.6	0.0	0.9	7.0	0.6	11.6	4.2	4.3	8.6
Mizoram	52.9	52.3	11.8	3.9	8.0	0.2	0.4	43.0	0.0	2.4	1.5	1.1	0.2
Nagaland	15.5	15.5	11.1	5.7	2.6	1.1	5.6	4.8	0.0	1.4	0.9	1.2	0.1
Tripura	66.1	34.2	21.2	17.1	2.7	0.0	5.9	15.1	2.5	53.6	43.9	27.8	2.0
West													
Goa	50.7	43.9	13.1	3.3	5.8	0.1	6.3	33.0	0.6	11.3	8.7	4.3	0.2
Gujarat	52.4	48.9	9.1	3.0	4.3	0.1	3.6	38.9	3.7	7.6	6.1	2.3	0.1
Maharashtra	57.2	56.5	9.4	3.5	4.0	0.0	5.0	42.3	8.5	2.4	1.9	0.4	0.2
South													
Andhra Pradesh	45.3	44.6	3.5	1.5	1.2	0.2	1.3	36.0	6.4	1.4	0.8	0.1	0.6
Karnataka	52.4	49.5	9.2	2.4	5.7	0.1	2.5	41.8	1.8	7.0	5.9	0.9	0.6
Kerala	73.8	63.5	26.8	6.8	10.0	0.1	17.1	41.5	6.0	31.1	22.0	19.1	0.3
Tamil Nadu	53.4	48.6	9.9	2.9	5.1	0.1	3.7	39.9	2.3	10.7	7.4	5.0	1.1

Table 17 Ever use of contraception (Contd.)

Percentage of currently married women age 13-49 who have ever used any contraceptive method by specific method, according to residence and state, India, 1992-93

State	Any method	Any modern method	Any modern temporary method	Pill	IUD	Injection	Condom	Female sterilization	Male sterilization	Any trad. method	Periodic abstinence	Withdrawal	Other methods
TOTAL													
India	46.9	41.5	14.2	5.3	5.1	0.2	7.1	27.3	3.4	11.5	8.6	5.4	0.8
North													
Delhi	72.2	66.9	53.9	12.9	20.6	0.5	39.1	20.0	3.2	22.6	15.5	10.8	2.5
Haryana	58.0	52.1	22.6	6.5	8.6	0.2	15.0	29.7	5.0	16.3	9.6	9.4	1.4
Himachal Pradesh	67.6	61.1	24.7	5.0	9.7	0.6	16.9	32.7	13.2	20.0	13.4	10.8	1.5
Jammu Region of J & K	57.3	47.1	24.2	7.4	7.0	0.1	16.0	25.3	4.4	23.3	13.4	15.0	0.6
Punjab	67.0	59.2	31.5	6.2	14.1	0.3	17.9	31.5	2.5	17.9	12.1	8.3	0.9
Rajasthan	34.9	33.4	7.4	2.6	2.7	0.2	3.4	25.3	2.4	3.5	2.2	1.6	0.3
Central													
Madhya Pradesh	41.8	39.9	11.8	4.4	3.4	0.2	6.5	26.4	5.1	4.2	3.2	0.7	0.8
Uttar Pradesh	26.1	23.4	11.4	4.3	3.1	0.2	6.4	11.7	1.4	4.5	3.5	1.2	0.5
East													
Bihar	26.2	23.7	6.1	2.7	1.1	0.1	3.2	17.3	1.3	4.1	3.1	1.3	0.3
Orissa	40.3	37.4	8.2	3.6	4.3	0.0	2.1	28.2	3.4	5.6	3.9	1.0	1.3
West Bengal	70.4	48.7	23.1	15.2	3.4	0.6	10.8	26.3	4.3	44.6	33.4	26.3	1.7
North-East													
Arunachal Pradesh	29.5	24.7	17.2	10.2	9.0	0.2	2.4	10.3	0.4	8.9	8.1	3.4	0.5
Assam	62.5	29.8	18.4	11.1	2.9	0.1	8.2	12.1	2.3	50.6	42.7	26.7	3.6
Manipur	44.8	29.6	17.4	4.5	12.9	0.0	2.6	10.9	2.9	21.3	19.2	3.0	1.5
Meghalaya	26.5	17.5	9.1	5.5	3.1	0.0	1.3	9.4	0.6	11.6	5.1	4.9	7.3
Mizoram	57.4	56.2	16.8	7.1	9.9	0.1	1.7	44.5	0.1	4.1	2.8	2.0	0.1
Nagaland	19.2	19.0	13.4	7.5	3.5	1.6	6.9	6.3	0.1	1.6	1.0	1.5	0.1
Tripura	70.6	39.5	26.2	21.1	3.4	0.0	7.8	16.7	2.4	56.4	46.2	30.7	2.2
West													
Goa	56.4	44.9	17.7	4.4	7.1	0.1	10.0	29.5	1.0	19.5	15.1	7.6	0.8
Gujarat	54.8	51.2	13.8	3.7	7.2	0.1	5.3	37.5	3.5	8.3	6.5	2.7	0.2
Maharashtra	58.1	56.9	16.0	5.8	7.2	0.1	8.1	40.0	6.2	4.2	3.5	1.0	0.2
South													
Andhra Pradesh	49.3	48.6	6.4	2.6	2.4	0.2	2.4	38.1	6.6	1.9	1.2	0.1	0.7
Karnataka	54.5	51.6	13.8	3.5	8.9	0.1	4.2	41.0	1.5	7.9	6.4	1.3	1.0
Kerala	75.0	64.2	27.1	6.7	9.7	0.1	17.7	41.8	6.5	21.2	22.9	18.9	0.5
Tamil Nadu	56.1	50.9	16.0	3.6	9.2	0.1	6.3	37.5	2.0	12.2	8.6	5.6	1.1

sterilization is the most popular method in all the states except Delhi and West Bengal. In Delhi, which is predominantly urban, a larger proportion of women have ever used condoms and IUDs than female sterilization and in West Bengal traditional methods are especially popular.

The ever use of contraceptive methods is much higher in urban areas (59 percent) than rural areas (43 percent), primarily because a larger proportion of urban women have ever used a modern temporary method. Punjab and Kerala are the only major states where more than 25 percent of rural women have ever used a modern spacing method.

Ever use of condoms is relatively high in the northern states (except Rajasthan), as well as in Kerala. IUDs have been used more in Delhi and Punjab than in any other part of India. The pill is popular among women in Tripura and West Bengal, two states which also have a large proportion of women who have ever used traditional methods (56 and 45 percent, respectively). The ever use of traditional methods of family planning is also high in Assam, where 43 percent of women have ever used periodic abstinence and 27 percent have ever used withdrawal.

Current use

Slightly more than 40 percent of currently married women in India are using family planning -- 36 percent using modern methods and 4 percent using traditional methods (Table 18). This level of contraceptive use is comparable to the combined level of 42 percent for all less developed countries excluding China⁷. The level of contraceptive prevalence is slightly lower than the level of 45 percent reported for women age 15-44 in the Third All India Family Planning Survey⁸, conducted in 1988-89. The percentage of women reporting the use of sterilization (female and male sterilizations combined) in the NFHS is 31. It is interesting to note that the percentage of couples sterilized is virtually identical (between 30 and 31 percent) in the three independent sources, namely the NFHS, the Third All India Survey and the official service statistics published by the Ministry of Health and Family Welfare. Therefore, the difference between the overall contraceptive prevalence rates estimated in the NFHS and the Third All India Survey is largely in the reporting of temporary methods of family planning.

⁷ Population Reference Bureau. 1994. *World Population Data Sheet 1994*, Population Reference Bureau, Washington D.C.

⁸ Operations Research Group. 1990. *Family Planning Practices in India: Third All India Survey*, Operations Research Group, Baroda.

Table 18 Current use of contraception

Percentage of currently married women age 13-49 who are currently using any contraceptive method, by specific method, according to residence and state, India, 1992-93

State	Any method	Any modern method	Any modern temporary method	Pill	IUD	Injection	Condom	Female sterilization	Male sterilization	Any trad. method	Periodic abstinence	Withdrawal	Other methods	Not using any method	Total percent
URBAN															
India	51.0	45.3	11.7	1.9	3.9	0.0	5.8	30.4	3.2	5.7	3.5	2.1	0.2	49.0	100.0
North															
Delhi	60.7	54.9	31.5	3.0	8.1	0.1	20.3	20.2	3.1	5.8	3.2	2.5	0.1	39.3	100.0
Haryana	58.0	48.7	20.2	1.5	5.4	0.0	13.3	23.5	5.0	9.3	3.0	6.1	0.2	42.0	100.0
Himachal Pradesh	70.4	63.0	24.4	1.2	8.9	0.0	14.3	29.2	9.6	7.4	2.4	4.9	0.1	29.6	100.0
Jammu Region of J & K	64.4	50.1	22.5	2.5	7.0	0.0	13.1	22.5	5.0	14.3	3.9	9.9	0.4	35.6	100.0
Punjab	62.8	54.2	23.9	1.8	7.8	0.0	14.4	27.6	2.8	8.5	4.3	4.0	0.3	37.3	100.0
Rajasthan	47.1	46.8	8.6	0.8	2.5	0.1	5.1	34.9	3.4	0.3	0.1	0.2	0.0	52.9	100.0
Central															
Madhya Pradesh	47.7	46.2	11.6	1.2	3.6	0.0	6.8	29.9	4.7	1.3	1.0	0.2	0.2	52.3	100.0
Uttar Pradesh	32.0	29.6	13.7	1.5	3.4	0.0	8.8	13.6	2.2	2.4	1.6	0.6	0.2	68.0	100.0
East															
Bihar	42.5	39.2	8.5	2.3	1.6	0.2	4.5	27.5	3.3	3.2	1.7	1.1	0.5	57.5	100.0
Orissa	47.4	45.1	7.9	2.5	3.2	0.0	2.2	33.1	4.1	2.3	1.2	0.7	0.4	52.6	100.0
West Bengal	61.8	36.5	11.1	5.2	1.6	0.0	4.3	23.3	2.1	25.2	12.8	11.8	0.7	38.2	100.0
North-East															
Arunachal Pradesh	39.5	29.0	13.7	4.0	5.6	0.0	4.0	14.5	0.8	10.5	8.9	1.6	0.0	60.5	100.0
Assam	62.3	33.6	10.9	3.9	1.6	0.0	5.5	21.4	1.3	28.7	17.2	11.0	0.5	37.7	100.0
Manipur	44.3	31.6	17.2	3.4	12.0	0.0	1.7	11.0	3.4	12.7	12.0	0.7	0.0	55.7	100.0
Meghalaya	31.9	27.7	7.9	3.7	3.7	0.0	0.5	19.4	0.5	4.2	2.1	2.1	0.0	68.1	100.0
Mizoram	57.1	55.8	9.5	3.6	4.5	0.0	1.4	46.0	0.2	1.4	0.9	0.5	0.0	42.9	100.0
Nagaland	20.6	20.6	8.3	3.2	3.2	0.0	1.8	11.9	0.5	0.0	0.0	0.0	0.0	79.4	100.0
Tripura	71.1	39.3	13.9	9.5	2.0	0.0	2.5	23.4	2.0	31.8	15.4	15.9	0.5	28.9	100.0
West															
Goa	51.2	36.7	9.3	0.9	3.0	0.0	5.4	26.0	1.4	14.5	11.3	3.1	0.1	48.8	100.0
Gujarat	52.7	49.0	11.0	1.7	5.5	0.1	3.7	34.8	3.3	3.7	2.8	0.9	0.0	47.3	100.0
Maharashtra	52.9	50.8	11.3	2.3	4.6	0.0	4.4	36.7	2.8	2.2	2.0	0.1	0.1	47.1	100.0
South															
Andhra Pradesh	56.6	55.6	4.3	1.1	1.0	0.0	2.1	44.1	7.2	1.0	0.8	0.0	0.2	43.4	100.0
Karnataka	52.0	49.1	8.7	0.7	5.0	0.0	2.9	39.5	1.0	2.9	2.6	0.2	0.1	48.0	100.0
Kerala	68.2	57.3	6.9	0.6	2.3	0.0	3.9	42.6	7.8	10.9	7.9	3.0	0.0	31.8	100.0
Tamil Nadu	50.9	44.5	9.9	0.9	6.1	0.0	3.0	33.3	1.4	6.3	4.3	1.6	0.5	49.1	100.0

Table 18 Current use of contraception (Contd.)

Percentage of currently married women age 13-49 who are currently using any contraceptive method, by specific method, according to residence and state, India, 1992-93

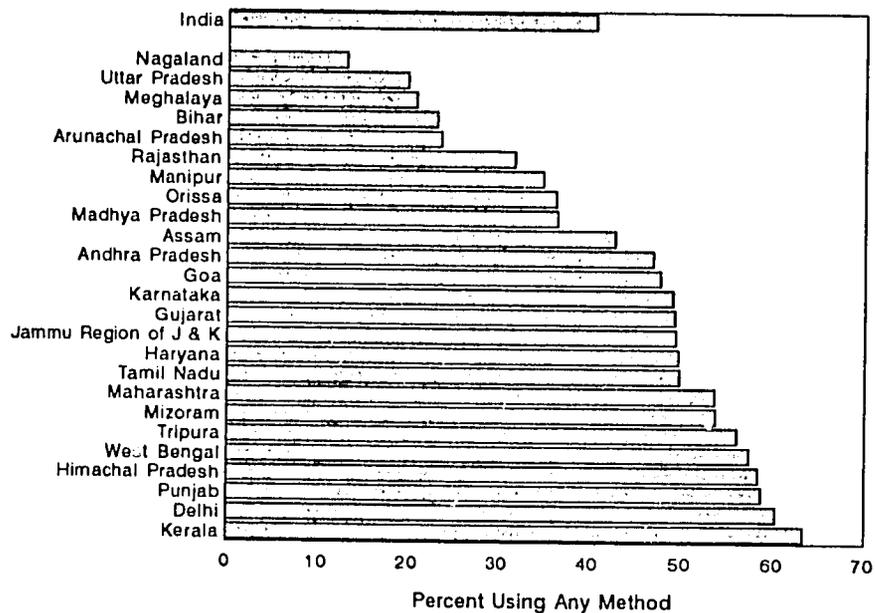
State	Any method	Any modern method	Any modern temporary method	Pill	IUD	Injection	Condom	Female sterilization	Male sterilization	Any trad. method	Periodic abstinence	Withdrawal	Other methods	Not using any method	Total percent
RURAL															
India	36.9	33.1	3.4	0.9	1.2	0.0	1.2	26.3	3.5	3.7	2.3	1.2	0.2	63.1	100.0
North															
Delhi	55.3	50.6	28.4	1.6	4.3	0.0	22.6	17.9	4.3	4.7	2.3	1.9	0.4	44.7	100.0
Haryana	46.7	42.8	5.8	1.1	2.4	0.1	2.3	32.0	5.0	3.9	2.0	1.9	0.0	53.3	100.0
Himachal Pradesh	57.1	53.4	6.9	0.5	2.0	0.1	4.3	33.1	13.6	3.6	1.6	1.9	0.1	42.9	100.0
Jammu Region of J & K	46.2	37.5	7.3	1.1	1.9	0.0	4.4	25.9	4.2	8.8	3.3	5.4	0.0	53.8	100.0
Punjab	57.2	50.2	14.8	2.3	5.7	0.0	6.8	33.0	2.4	7.0	4.5	2.5	0.0	42.8	100.0
Rajasthan	28.2	27.1	2.0	0.4	0.9	0.0	0.6	23.0	2.1	1.0	0.5	0.4	0.1	71.8	100.0
Central															
Madhya Pradesh	33.4	32.5	1.8	0.5	0.4	0.0	0.9	25.4	5.3	0.9	0.6	0.0	0.3	66.6	100.0
Uttar Pradesh	16.7	15.8	3.4	0.9	0.6	0.2	1.8	11.2	1.2	1.0	0.7	0.1	0.1	83.3	100.0
East															
Bihar	19.8	18.5	2.0	0.9	0.4	0.0	0.7	15.6	1.0	1.2	0.8	0.4	0.0	80.2	100.0
Orissa	34.2	32.7	2.1	0.6	1.2	0.0	0.3	27.3	3.3	1.5	0.9	0.2	0.5	65.8	100.0
West Bengal	55.7	37.6	5.0	2.9	1.1	0.1	0.9	27.4	5.1	18.2	10.8	6.9	0.5	44.3	100.0
North-East															
Arunachal Pradesh	20.8	17.6	7.7	3.1	4.4	0.1	0.1	9.6	0.3	3.2	3.0	0.3	0.0	79.2	100.0
Assam	40.1	18.0	4.7	2.7	0.8	0.0	1.2	10.8	2.5	22.1	15.5	5.7	1.0	59.9	100.0
Manipur	30.3	20.5	7.0	1.8	4.2	0.0	1.0	10.8	2.7	9.8	9.0	0.8	0.0	69.7	100.0
Meghalaya	18.0	12.1	4.4	2.1	1.8	0.0	0.5	7.0	0.6	5.9	1.0	0.2	4.7	82.0	100.0
Mizoram	50.5	50.1	7.1	1.5	5.6	0.0	0.0	43.0	0.0	0.4	0.4	0.0	0.0	49.5	100.0
Nagaland	10.9	10.9	6.1	1.9	1.7	0.2	2.2	4.8	0.0	0.0	0.0	0.0	0.0	89.1	100.0
Tripura	52.4	25.9	8.4	5.6	1.4	0.0	1.4	15.1	2.5	26.4	17.0	9.1	0.4	47.6	100.0
West															
Goa	44.4	39.0	5.4	0.5	2.4	0.0	2.5	33.0	0.6	5.3	3.7	1.6	0.0	55.6	100.0
Gujarat	47.5	45.7	3.2	0.7	1.7	0.0	0.8	38.9	3.7	1.7	1.1	0.6	0.0	52.5	100.0
Maharashtra	54.3	53.8	2.9	0.7	1.1	0.0	1.2	42.3	8.5	0.5	0.4	0.0	0.1	45.7	100.0
South															
Andhra Pradesh	43.6	43.3	0.9	0.2	0.4	0.0	0.2	36.0	6.4	0.3	0.1	0.0	0.2	56.4	100.0
Karnataka	47.7	46.4	2.9	0.3	2.3	0.0	0.3	41.8	1.8	1.2	1.0	0.1	0.1	52.3	100.0
Kerala	61.4	53.2	5.8	0.4	2.9	0.0	2.5	41.5	6.0	8.1	5.2	2.8	0.1	38.6	100.0
Tamil Nadu	49.2	45.5	3.4	0.4	2.2	0.0	0.8	39.9	2.3	3.7	1.7	1.3	0.7	50.8	100.0

Table 18 Current use of contraception (Contd.)

Percentage of currently married women age 13-49 who are currently using any contraceptive method, by specific method, according to residence and state, India, 1992-93

State	Any method	Any modern method	Any modern temporary method	Pill	IUD	Injection	Condom	Female sterilization	Male sterilization	Any trad. method	Periodic abstinence	Withdrawal	Other methods	Not using any method	Total percent
TOTAL															
India	40.6	36.3	5.5	1.2	1.9	0.0	2.4	27.3	3.4	4.3	2.6	1.4	0.2	59.4	100.0
North															
Delhi	60.3	54.6	31.3	2.9	7.8	0.1	20.5	20.0	3.2	5.7	3.1	2.5	0.2	39.7	100.0
Haryana	49.7	44.3	9.6	1.2	3.2	0.0	5.2	29.7	5.0	5.3	2.2	3.0	0.1	50.3	100.0
Himachal Pradesh	58.4	54.4	8.6	0.5	2.7	0.0	5.3	32.7	13.2	4.0	1.7	2.2	0.1	41.6	100.0
Jammu Region of J & K	43.4	39.7	10.0	1.3	2.8	0.0	5.9	25.3	4.4	9.7	3.4	6.2	0.1	50.6	100.0
Punjab	41.7	31.3	17.3	2.2	6.3	0.0	8.9	31.5	2.5	7.4	4.4	2.9	0.1	41.3	100.0
Rajasthan	31.8	30.9	3.3	0.5	1.2	0.1	1.5	25.3	2.4	0.8	0.4	0.4	0.1	68.2	100.0
Central															
Madhya Pradesh	36.5	35.5	4.0	0.7	1.1	0.0	2.2	26.4	5.1	1.0	0.7	0.1	0.3	63.5	100.0
Uttar Pradesh	19.8	18.5	5.5	1.0	1.1	0.1	3.2	11.7	1.4	1.3	0.9	0.2	0.1	80.2	100.0
East															
Bihar	23.1	21.6	2.9	1.1	0.5	0.0	1.3	17.3	1.3	1.5	0.9	0.5	0.1	76.9	100.0
Orissa	36.3	34.6	3.0	0.9	1.5	0.0	0.6	28.2	3.4	1.6	0.9	0.3	0.5	63.7	100.0
West Bengal	57.4	37.3	6.7	3.5	1.3	0.1	1.9	26.3	4.3	20.1	11.3	8.3	0.5	42.6	100.0
North-East															
Arunachal Pradesh	23.6	19.3	8.6	3.2	4.6	0.1	0.7	10.3	0.4	4.3	3.8	0.5	0.0	76.4	100.0
Assam	42.8	19.8	5.4	2.8	0.9	0.0	1.7	12.1	2.3	22.9	15.7	6.3	0.9	57.2	100.0
Manipur	34.9	24.1	10.3	2.4	6.7	0.0	1.2	10.9	2.9	10.8	10.0	0.8	0.0	65.1	100.0
Meghalaya	20.7	15.1	5.1	2.4	2.2	0.0	0.5	9.4	0.6	5.6	1.2	0.6	3.8	79.3	100.0
Mizoram	53.8	52.9	8.3	2.5	5.1	0.0	0.7	44.5	0.1	0.9	0.7	0.2	0.0	46.2	100.0
Nagaland	13.0	13.0	6.5	2.1	2.0	0.2	2.1	6.3	0.1	0.0	0.0	0.0	0.0	87.0	100.0
Tripura	56.1	28.6	9.5	6.4	1.5	0.0	1.6	16.7	2.4	27.5	16.7	10.5	0.4	43.9	100.0
West															
Goa	47.8	37.9	7.3	0.7	2.7	0.0	3.9	29.5	1.0	9.9	7.5	2.4	0.1	52.2	100.0
Gujarat	49.3	46.9	5.9	1.0	3.0	0.1	1.8	37.5	3.5	2.4	1.7	0.7	0.0	50.7	100.0
Maharashtra	53.7	52.5	6.4	1.4	2.5	0.0	2.5	40.0	6.2	1.2	1.1	0.1	0.1	46.3	100.0
South															
Andhra Pradesh	47.0	46.5	1.8	0.5	0.6	0.0	0.7	38.1	6.6	0.5	0.3	0.0	0.2	53.0	100.0
Karnataka	49.1	47.3	4.8	0.4	3.2	0.0	1.2	41.0	1.5	1.8	1.5	0.1	0.1	50.9	100.0
Kerala	63.3	54.4	6.1	0.5	2.7	0.0	2.9	41.8	6.5	8.9	6.0	2.9	0.1	36.7	100.0
Tamil Nadu	49.8	45.2	5.7	0.6	3.5	0.0	1.6	37.5	2.0	4.6	2.6	1.4	0.6	50.2	100.0

Figure 5
Current Use of Any Method by State



NFHS, India, 1992-93

Female sterilization is by far the most popular contraceptive method in India. Of the total women using a modern method, 75 percent are sterilized and another 9 percent of women reported that their husbands are sterilized. Female sterilization is the most popular modern contraceptive method in every state except the National Capital Territory of Delhi, where condoms are used by slightly more couples than female sterilization, and Assam and Tripura, where periodic abstinence is at least as popular as female sterilization.

Only 6 percent of currently married women use a modern spacing method. As expected, the use of modern spacing methods is higher in urban areas (12 percent) than rural areas (3 percent). Except in Punjab, where the use of spacing methods is relatively high (17 percent), the current use of modern spacing methods does not exceed 10 percent in any major state. The reported use of spacing methods, particularly condoms and IUDs, is relatively high in every state in the northern region except Rajasthan.

In the two most populous states, Uttar Pradesh and Bihar, less than one-fourth of women are using any method of family planning, and the situation is only slightly better in the other large, demographically backward states of

Rajasthan, Orissa and Madhya Pradesh (Figure 5).

Traditional methods of family planning, mostly periodic abstinence, are used by only 4 percent of Indian women, ranging from a low of less than 1 percent in several states to a high of 28 percent in Tripura. Among the major states, West Bengal and Assam are characterized by unusually high prevalence of traditional methods, which constitute 35 percent and 54 percent of total contraceptive prevalence, respectively.

Differentials in Current use

Differentials in the current use of contraception for population subgroups are shown in Table 19. The overall level of contraceptive use and the method mix vary by women's age. Rates of use of any method range from 5 percent at age 13-14 to a peak of 61 percent at age 35-39. The rates decline slowly thereafter. In the two high fertility age groups (20-24 and 25-29), the prevalence rates are 21 percent and 42 percent, respectively. The age pattern is similar for the use of any modern method and also for female sterilization which is the most popular method. The temporary methods (pills, IUDs, injections, condoms, periodic abstinence and withdrawal) are each consistently used by less than 4 percent of couples at all ages. The low use rate of any method at early ages and the lack of use of temporary methods suggest that very little attempt is being made by women to space their children.

More than half the women in urban areas (51 percent) use contraception compared with 37 percent in rural areas. Male sterilization is the only method that is used more among couples in rural areas than in urban areas. Among current users, both female sterilization and male sterilization are more popular in rural areas, whereas all temporary methods are more popular in urban areas.

Differentials in contraceptive use by education are most evident between illiterate women (34 percent) and all other educational groups (49-55 percent). In general, with the increase in education, women rely relatively more on spacing methods, including traditional methods, than on sterilization. For example, 21 percent of women who have completed high school are currently using modern temporary methods and 10 percent are using traditional methods. Illiterate women, on the other hand, are very unlikely to be using any of these methods. The current use of contraception is strongly related to the number of living children a couple has. The prevalence rate increases steadily from 4 percent for women with no living children to 59 percent for women with three living children.

Table 19 Current use of specific methods by background characteristics

Percent distribution of currently married women by contraceptive method currently used, according to background characteristics, India, 1992-93

Background characteristic	Any method	Any modern method	Any modern temporary method	Pill		Injection	Condom	Female sterilization	Male sterilization	Any trad. method	Periodic abstinence	Withdrawal	Other methods	Not using any method	Total percent
				IUD											
Age															
13-14	4.7	0.8	0.8	0.3	0.0	0.0	0.5	0.0	0.0	3.9	2.8	1.0	0.0	95.3	100.0
15-19	7.1	4.0	2.7	0.8	0.6	0.0	1.2	1.3	0.1	3.1	1.8	1.2	0.1	92.9	100.0
20-24	21.0	17.3	6.4	1.6	2.1	0.0	2.7	10.5	0.4	3.7	2.3	1.3	0.1	79.0	100.0
25-29	42.4	37.8	8.4	1.9	3.1	0.0	3.5	28.2	1.2	4.6	2.7	1.7	0.2	57.6	100.0
30-34	55.8	50.9	7.2	1.3	2.6	0.0	3.2	40.9	2.8	4.9	3.0	1.5	0.4	44.1	100.0
35-39	61.0	55.4	5.1	1.0	1.8	0.0	2.2	44.6	5.7	5.6	3.5	1.7	0.4	39.0	100.0
40-44	56.3	51.7	2.7	0.4	0.7	0.1	1.6	39.9	9.1	4.5	2.8	1.4	0.3	43.7	100.0
45-49	45.8	43.3	1.3	0.3	0.3	0.0	0.7	30.6	11.4	2.5	1.5	0.7	0.3	54.2	100.0
Residence															
Urban	51.0	45.3	11.7	1.9	3.9	0.0	5.8	30.4	3.2	5.7	3.5	2.1	0.2	49.0	100.0
Rural	36.9	33.1	3.4	0.9	1.2	0.0	1.2	26.3	3.5	3.7	2.3	1.2	0.2	63.1	100.0
Education															
Illiterate	33.9	31.5	2.1	0.6	0.6	0.0	0.8	25.7	3.7	2.4	1.6	0.6	0.2	66.1	100.0
Lit., < primary complete	52.2	45.5	4.3	1.4	1.9	0.0	1.1	36.7	4.5	6.7	4.0	2.3	0.4	47.8	100.0
Primary school complete	49.3	44.5	7.0	1.8	2.4	0.0	2.8	34.1	3.3	4.9	2.7	2.0	0.1	50.7	100.0
Middle school complete	50.8	42.4	9.5	2.3	3.3	0.0	3.8	30.1	2.8	8.4	4.9	3.4	0.1	49.2	100.0
High school complete	54.6	45.0	20.9	2.8	7.3	0.0	10.7	22.0	2.1	9.6	5.9	3.4	0.3	45.3	100.0
Number of living children															
None	4.2	2.1	1.4	0.3	0.1	0.0	1.1	0.3	0.4	2.1	1.2	0.8	0.0	95.8	100.0
1	19.2	12.8	8.5	1.6	3.2	0.0	3.6	3.1	1.2	6.4	3.8	2.5	0.2	80.7	100.0
2	46.1	40.2	9.5	1.7	3.6	0.0	4.2	27.1	3.6	5.9	3.7	2.0	0.2	53.9	100.0
3	58.9	55.4	4.8	1.1	1.5	0.0	2.1	45.3	5.3	3.5	2.2	1.1	0.2	41.1	100.0
4+	52.4	49.0	3.4	1.0	1.0	0.1	1.3	40.9	4.6	3.4	2.1	0.9	0.4	47.6	100.0
Total 13-49	40.6	36.3	5.5	1.2	1.9	0.0	2.4	27.3	3.4	4.3	2.6	1.4	0.2	59.4	100.0
Total 15-49	40.7	36.5	5.6	1.2	1.9	0.0	2.4	27.4	3.5	4.3	2.6	1.4	0.2	59.3	100.0
Total 15-44	40.3	35.8	5.9	1.3	2.0	0.0	2.6	27.1	2.7	4.4	2.7	1.5	0.2	59.7	100.0

The two-child family is evidently an accepted concept for many couples. More than 30 percent of couples with two living children have been sterilized, and nearly half of all couples with two children use some method of contraception.

The patterns of contraceptive use by age for the states are presented in Table 20. Although the extent of contraceptive use varies considerably across the

Table 20 Current use of any method by age												
Percentage of currently married women age 13-49 who are currently using any contraceptive method, by age and state, India, 1992-93												
State	Current age									13-49	15-49	15-44
	13-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49				
India - Urban	(10.6)	9.8	26.6	51.2	64.2	70.5	63.5	51.8	51.0	51.1	51.0	
India - Rural	3.9	6.6	19.3	39.1	52.4	56.9	53.2	43.6	36.9	37.1	36.5	
India - Total	4.7	7.1	21.0	42.4	55.8	61.0	56.3	45.8	40.6	40.7	40.3	
North												
Delhi	*	14.7	41.9	61.0	74.3	74.4	72.0	55.5	60.3	60.3	60.8	
Haryana	*	8.2	25.9	53.8	68.2	71.8	72.8	63.5	49.7	49.7	48.7	
Himachal Pradesh	NC	9.1	24.2	63.8	81.2	79.9	73.5	57.9	58.4	58.4	58.4	
Jammu Region of J & K	*	6.2	22.9	42.8	65.4	72.4	68.8	59.5	49.4	49.4	48.5	
Punjab	*	10.7	28.0	55.3	73.6	81.4	73.6	57.6	58.7	58.7	58.8	
Rajasthan	*	2.1	9.0	28.4	43.9	53.0	52.2	46.0	31.7	31.8	30.5	
Central												
Madhya Pradesh	(0.0)	3.8	12.8	34.9	57.6	61.0	61.0	53.2	36.5	36.7	35.5	
Uttar Pradesh	0.0	2.6	7.4	17.4	27.7	34.6	32.5	26.1	19.8	19.8	19.2	
East												
Bihar	(0.0)	2.7	7.8	23.5	35.8	40.0	36.9	30.2	23.1	23.2	22.5	
Orissa	*	1.8	16.3	33.5	53.6	59.3	50.0	40.1	36.3	36.3	36.1	
West Bengal	(20.6)	27.2	44.9	63.9	72.1	76.5	66.3	47.9	57.4	57.7	58.5	
North-East												
Arunachal Pradesh	*	9.0	11.6	26.9	31.6	38.9	26.4	(17.1)	23.6	23.6	23.9	
Assam	*	18.1	31.4	41.0	54.6	62.7	50.7	39.2	42.8	43.0	43.2	
Manipur	NC	*	17.4	27.6	42.2	45.5	47.9	34.7	34.9	34.9	34.9	
Meghalaya	*	3.5	9.1	19.6	31.8	32.5	28.6	22.4	20.7	20.7	20.5	
Mizoram	NC	(5.9)	22.0	37.6	65.1	76.1	73.1	63.6	53.8	53.8	51.9	
Nagaland	NC	(5.0)	4.0	9.2	23.1	22.2	16.1	10.7	13.0	13.0	13.4	
Tripura	*	26.4	40.0	60.9	70.8	74.7	61.3	42.0	56.1	56.4	57.8	
West												
Goa	*	(18.7)	21.4	38.1	51.8	59.0	57.3	49.8	47.8	47.8	47.5	
Gujarat	*	3.2	18.1	42.4	63.8	76.9	73.9	64.3	49.3	49.3	47.8	
Maharashtra	(0.0)	9.1	29.5	59.2	72.4	76.8	71.0	67.4	53.7	54.1	53.0	
South												
Andhra Pradesh	(0.0)	4.5	31.6	57.5	70.4	65.3	62.3	54.3	47.0	47.4	46.9	
Karnataka	(4.0)	4.3	31.8	59.4	67.2	69.7	62.0	48.4	49.1	49.4	49.5	
Kerala	*	13.0	28.5	61.0	75.4	83.1	77.4	68.1	63.2	63.3	62.7	
Tamil Nadu	*	10.6	29.2	55.1	66.9	66.4	58.3	41.7	49.8	49.8	50.6	

() Based on 25-49 unweighted cases
 * Percentage not shown; based on fewer than 25 unweighted cases
 NC: Not calculated; no currently married women age 13-14 were interviewed in the state

states, the age pattern of use is more or less invariant. In most of the states, the use rate reaches a maximum in the age group 35-39. In Kerala and Punjab, more than 80 percent of the women in this age group are using contraception. In Delhi, Haryana, Himachal Pradesh, Jammu, Mizoram, Tripura, West Bengal, Gujarat and Maharashtra, the use rate of contraception in the age group 35-39 varies between 72 and 80 percent. In Kerala, Punjab, West Bengal, Maharashtra, Karnataka, Tamil Nadu, Andhra Pradesh, Himachal Pradesh, Delhi and Tripura, a relatively high proportion of women (55-64 percent) in the age group 25-29 are using family planning. In Uttar Pradesh, Bihar, Rajasthan and some of the small northeastern states, the overall practice of family planning is low, and use in the early reproductive ages of 15-24 is negligible (less than 10 percent).

There are strong urban-rural differentials in the use of contraception in almost all states (Table 21). Maharashtra is the only state where the prevalence rate is higher in rural areas (54 percent) than in urban areas (53 percent). However, the urban-rural differentials are quite small in Tamil Nadu and several other low fertility states. The gap between the urban and rural rates is substantial in Bihar, Rajasthan, Uttar Pradesh and several smaller states. For example, in Bihar 42 percent of urban women are using family planning compared with 20 percent of rural women.

Similar to the pattern of urban-rural differentials, the gap in the contraceptive prevalence rate between illiterate and literate women is conspicuous in Uttar Pradesh, Bihar and Rajasthan. Contraceptive use differentials by literacy are also large in West Bengal, where the use of spacing methods is prominent. In Uttar Pradesh, only 16 percent of illiterate women use family planning compared with 40 percent of women who have completed high school. In general, the use of family planning is higher among literate than illiterate women, but literacy is not strongly related to the use of family planning in Himachal Pradesh, Maharashtra, Goa, Kerala and Tamil Nadu, all of which have relatively high average levels of education.

With respect to the pattern of contraceptive use by the number of living children, Delhi, West Bengal and Tripura stand out as having relatively high levels of use (more than 40 percent) among women with one child. More than 60 percent of two-child couples are using family planning in these three states as well as in Himachal Pradesh, Punjab and Kerala.

Table 21 Current use of any method by background characteristics

Percentage of currently married women age 13-49 who are currently using any contraceptive method, by selected background characteristics, according to state, India, 1992-93

State	Background characteristic												Total
	Residence			Education				Number of living children					
	Urban	Rural	Illit- erate	Literate, <primary complete	Primary school complete	Middle school complete	High school complete	None	1	2	3	4+	
India	51.0	36.9	33.9	52.2	49.3	50.8	54.6	4.2	19.2	46.1	58.9	52.4	40.6
North													
Delhi	60.7	55.3	50.2	59.5	61.2	65.8	68.4	13.1	47.6	70.8	71.4	67.8	60.3
Haryana	58.0	46.7	47.8	50.6	50.7	52.6	55.4	3.4	19.8	48.1	70.6	67.1	49.7
Himachal Pradesh	70.4	57.1	58.0	58.3	59.8	55.4	59.6	6.8	20.1	64.6	76.4	75.3	58.4
Jammu Region of J & K	64.4	46.2	45.7	(43.3)	48.4	49.7	61.1	3.9	23.3	49.9	67.9	65.0	49.4
Punjab	62.8	57.2	56.7	67.2	60.2	58.0	62.4	2.3	28.9	61.1	74.1	76.1	58.7
Rajasthan	47.1	28.2	29.1	42.1	42.6	42.9	46.9	1.9	6.7	27.4	47.2	49.3	31.8
Central													
Madhya Pradesh	47.7	35.4	33.6	41.6	44.2	42.7	49.1	2.2	9.3	35.0	54.9	57.6	36.5
Uttar Pradesh	32.0	16.7	15.5	27.9	28.5	29.5	40.4	1.8	7.8	18.6	28.1	28.5	19.8
East													
Bihar	42.5	19.8	17.6	31.2	42.2	42.4	45.6	1.7	7.9	24.6	34.3	33.4	23.1
Orissa	47.4	34.2	33.8	43.1	38.9	33.8	47.5	2.7	12.1	39.9	51.7	54.3	36.3
West Bengal	61.8	55.7	49.1	62.5	60.4	66.9	74.7	19.8	49.3	66.4	74.2	62.0	57.4
North-East													
Arunachal Pradesh	39.5	20.8	19.9	(32.7)	22.5	27.5	46.9	4.1	14.2	25.0	25.5	34.5	23.6
Assam	62.3	40.1	32.1	46.1	59.2	63.7	69.3	18.0	28.4	46.4	51.4	49.6	42.8
Manipur	44.3	30.3	30.4	34.8	35.8	40.8	41.0	4.8	20.3	35.0	46.9	42.2	34.9
Meghalaya	31.9	18.0	17.0	21.0	18.9	30.8	32.0	4.0	13.5	23.5	32.1	23.4	20.7
Mizoram	57.1	50.5	35.4	60.3	56.2	49.4	51.5	0.9	25.2	48.9	67.0	74.3	53.8
Nagaland	20.6	10.9	6.6	15.2	16.6	17.8	20.8	2.4	7.3	9.6	17.5	17.3	13.0
Tripura	71.1	52.4	45.0	59.7	62.0	66.9	67.8	15.7	45.1	60.8	71.4	62.5	56.1
West													
Goa	51.2	44.4	46.6	52.6	45.2	41.3	49.8	4.6	27.1	48.6	63.0	66.6	47.8
Gujarat	52.7	47.5	46.3	53.7	49.5	53.9	54.8	3.3	18.2	55.6	67.7	68.6	49.3
Maharashtra	52.9	54.3	54.1	55.1	52.0	45.4	58.0	3.1	22.8	50.3	74.8	76.0	53.7
South													
Andhra Pradesh	56.6	43.6	43.5	48.2	60.1	55.3	52.2	1.6	15.2	53.2	73.5	69.9	47.0
Karnataka	52.0	47.7	45.5	55.0	52.5	52.8	56.9	2.2	18.5	54.9	72.3	63.5	49.1
Kerala	58.2	61.4	66.7	70.2	60.5	60.4	62.9	8.5	37.1	78.0	83.1	68.9	63.2
Tamil Nadu	50.9	49.2	47.5	52.4	51.4	52.6	52.3	3.3	24.4	59.5	72.6	64.6	49.8

() Based on 25-49 unweighted cases

Source of Supply

Family planning methods and services in India are provided through a network of government hospitals and family welfare centres in urban areas and Primary Health Centres and sub-centres in rural areas. Besides these government outlets, family planning methods and services are also available at a number of private hospitals and clinics and nongovernmental organizations. Sterilization operations and IUD insertions are carried out mostly in government hospitals and Primary Health Centres. 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.

In order to assess the relative importance of various sources of contraceptive methods, women who reported current use of modern methods of contraception at the time of the NFHS were asked where they obtained the method the last time. The results are shown in Table 22. Overall, the public sector, including government/municipal hospitals, Primary Health Centres and other government health facilities, supply methods to 79 percent of all modern method users. The private medical sector, including private hospitals or clinics, private doctors and pharmacies/drugstores, supply 15 percent of users. Another 5 percent of users obtain their methods from other sources, such as shops, friends and relatives.

The mix of public and private sector sources varies according to the method used. In the case of sterilization, the government is by far the most important source of supply. Ninety-three percent of male sterilizations and 86 percent of female sterilizations are done at a public health facility. The public sector is also the major source of supply of IUDs (63 percent). The pill is obtained from both the government sector (31 percent) and the private medical sector (42 percent). More than one-quarter of pill users obtain the pill from shops, friends and relatives. One-fifth of condom users obtain their supplies from the private medical sector, and another 61 percent of condom users obtain their supplies from shops, friends or relatives.

Urban and rural areas differ regarding sources of contraceptive methods. In urban areas, the public sector is the source of supply for the majority of methods: 62 percent of users make use of the public sector. In rural areas, the public sector is even more dominant with 87 percent of methods provided by this sector. The predominance of the public sector is especially evident for male and female sterilization in rural areas, where it is the source of more than 90 percent of these services. In urban areas, one-quarter of female sterilizations are

Table 22 Source of supply of specific modern methods

Percent distribution of current users of modern contraceptive methods by source of method, India, 1992-93

Source of supply	Pill	IUD	Injec- tion	Condom	Female steril- ization	Male steril- ization	All modern methods
URBAN							
Public sector	17.3	52.2	*	7.8	74.6	86.1	62.4
Private medical sector	49.9	46.1	*	21.8	24.9	9.8	26.3
Other source	32.7	1.1	*	67.0	0.3	2.7	10.4
Don't know	0.0	0.0	*	3.1	0.0	0.3	0.4
Missing	0.1	0.7	*	0.2	0.3	1.2	0.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
RURAL							
Public sector	41.0	74.9	*	27.4	90.8	95.7	87.0
Private medical sector	35.5	23.6	*	17.8	8.6	2.6	9.6
Other source	23.5	1.4	*	51.7	0.2	0.8	2.9
Don't know	0.0	0.0	*	2.5	0.0	0.3	0.1
Missing	0.0	0.0	*	0.5	0.4	0.6	0.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
TOTAL							
Public sector	31.0	62.6	(54.8)	15.2	86.1	93.4	79.0
Medical private sector	41.5	35.8	(45.2)	20.3	13.3	4.3	15.0
Other source	27.4	1.2	(0.0)	61.3	0.3	1.3	5.4
Don't know	0.0	0.0	(0.0)	2.9	0.0	0.3	0.2
Missing	0.1	0.4	(0.0)	0.3	0.4	0.8	0.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

() Based on 25-49 unweighted cases

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

conducted in private medical facilities. In the case of the pill, the public sector is the main source of supply in rural areas (41 percent), whereas the private medical sector is the main source of supply in urban areas (50 percent).

In every state the public sector is the major source of supply of modern contraceptive methods (Table 23). However, in some states, the private sector also plays an important role in the supply of contraceptive services. For instance, in the National Capital Territory of Delhi, which is predominantly urban, 53 percent of modern contraceptives are provided by either the private medical sector (19 percent) or by other sources (35 percent). More than one-fifth of modern contraceptive users in Assam, Meghalaya, Nagaland, Tripura, Kerala, Goa, Gujarat and Maharashtra are supplied by the private medical sector. In every state, the government is a more important source of modern contraceptives in rural

Table 23 Source of supply of any modern contraceptive method						
Percent distribution of current users of any modern contraceptive method by most recent source of supply, according to residence and state, India, 1992-93						
State	Source of supply					Total percent
	Public sector	Private medical sector	Other source	Don't know	Missing	
URBAN						
India	62.4	26.3	10.4	0.4	0.4	100.0
North						
Delhi	45.2	19.0	34.4	0.2	1.2	100.0
Haryana	65.8	21.9	12.1	0.2	0.0	100.0
Himachal Pradesh	75.2	5.3	19.1	0.4	0.0	100.0
Jammu Region of J & K	62.8	20.7	16.3	0.2	0.0	100.0
Punjab	62.7	18.7	18.4	0.0	0.2	100.0
Rajasthan	85.8	4.1	9.8	0.0	0.4	100.0
Central						
Madhya Pradesh	74.9	11.7	12.2	0.4	0.9	100.0
Uttar Pradesh	55.2	14.8	28.9	1.1	0.0	100.0
East						
Bihar	55.0	31.2	13.3	0.0	0.5	100.0
Orissa	79.7	13.7	5.3	0.6	0.6	100.0
West Bengal	57.9	34.2	7.9	0.0	0.0	100.0
North-East						
Arunachal Pradesh	(72.2)	(22.2)	(5.6)	(0.0)	(0.0)	100.0
Assam	55.8	38.9	4.7	0.6	0.0	100.0
Manipur	80.4	17.4	2.2	0.0	0.0	100.0
Meghalaya	58.5	39.6	1.9	0.0	0.0	100.0
Mizoram	87.4	11.0	1.6	0.0	0.0	100.0
Nagaland	(68.9)	(24.4)	(6.7)	(0.0)	(0.0)	100.0
Tripura	69.6	25.3	5.1	0.0	0.0	100.0
West						
Goa	62.7	35.8	1.1	0.0	0.4	100.0
Gujarat	63.6	28.8	7.1	0.5	0.0	100.0
Maharashtra	55.2	39.3	5.1	0.4	0.0	100.0
South						
Andhra Pradesh	61.8	32.9	3.9	0.2	1.2	100.0
Karnataka	68.9	27.5	3.0	0.3	0.3	100.0
Kerala	72.1	21.1	5.6	0.9	0.2	100.0
Tamil Nadu	63.3	30.1	5.2	1.0	0.3	100.0

areas than in urban areas.

F. MATERNAL CARE

The importance of safe motherhood practices and child survival programmes cannot be exaggerated in a country which is characterized by high neonatal, post-

Table 23 Source of supply of any modern contraceptive method (Contd.)

Percent distribution of current users of any modern contraceptive method by most recent source of supply, according to residence and state, India, 1992-93

State	Source of supply					Total percent
	Public sector	Private medical sector	Other source	Don't know	Missing	
RURAL						
India	87.0	9.6	2.9	0.1	0.4	100.0
North						
Delhi	46.2	14.6	36.9	0.8	1.5	100.0
Haryana	90.1	6.8	3.0	0.0	0.0	100.0
Himachal Pradesh	92.5	2.3	4.5	0.2	0.5	100.0
Jammu Region of J & K	86.2	5.2	8.4	0.2	0.0	100.0
Punjab	83.1	7.1	9.6	0.1	0.1	100.0
Rajasthan	95.1	2.6	1.6	0.1	0.5	100.0
Central						
Madhya Pradesh	94.9	2.3	1.7	0.1	1.1	100.0
Uttar Pradesh	83.6	6.0	9.6	0.4	0.5	100.0
East						
Bihar	83.7	9.5	6.5	0.0	0.3	100.0
Orissa	96.8	1.7	1.1	0.1	0.3	100.0
West Bengal	87.5	9.9	2.5	0.0	0.1	100.0
North-East						
Arunachal Pradesh	89.6	10.4	0.0	0.0	0.0	100.0
Assam	76.2	21.5	1.6	0.6	0.0	100.0
Manipur	83.7	16.3	0.0	0.0	0.0	100.0
Meghalaya	73.5	26.5	0.0	0.0	0.0	100.0
Mizoram	94.0	5.2	0.9	0.0	0.0	100.0
Nagaland	71.6	25.0	3.4	0.0	0.0	100.0
Tripura	77.4	19.7	2.9	0.0	0.0	100.0
West						
Goa	80.7	18.2	0.7	0.0	0.4	100.0
Gujarat	82.3	15.2	1.9	0.3	0.3	100.0
Maharashtra	87.8	11.4	0.6	0.0	0.2	100.0
South						
Andhra Pradesh	85.6	13.5	0.3	0.1	0.5	100.0
Karnataka	90.9	7.9	0.6	0.1	0.6	100.0
Kerala	76.0	19.8	3.7	0.2	0.3	100.0
Tamil Nadu	85.8	12.4	1.2	0.2	0.4	100.0

neonatal, child and maternal mortality. The promotion of the health of mothers and children has been one of the most important features of the Family Welfare Programme in India and it has been further strengthened by introducing the Child Survival and Safe Motherhood Programme.

Proper care in the antenatal period and during delivery is crucial for the good health of both the mother and the child. It is also critical for the family planning programme since improvements in Maternal and Child Health (MCH)

Table 23 Source of supply of any modern contraceptive method (Contd.)

Percent distribution of current users of any modern contraceptive methods by most recent source of supply, according to residence and state, India, 1992-93

State	Source of supply					Total percent
	Public sector	Private medical sector	Other source	Don't know	Missing	
TOTAL						
India	79.0	15.0	5.4	0.2	0.4	100.0
North						
Delhi	45.2	18.7	34.6	0.3	1.2	100.0
Haryana	83.1	11.2	5.7	0.1	0.0	100.0
Himachal Pradesh	90.6	2.7	6.1	0.2	0.4	100.0
Jammu Region of J & K	81.1	8.6	10.1	0.2	0.0	100.0
Punjab	77.1	10.5	12.2	0.1	0.1	100.0
Rajasthan	92.3	3.1	4.0	0.1	0.4	100.0
Central						
Madhya Pradesh	89.2	5.0	4.7	0.2	1.0	100.0
Uttar Pradesh	74.5	8.8	15.7	0.6	0.4	100.0
East						
Bihar	76.1	15.2	8.3	0.0	0.3	100.0
Orissa	93.4	4.1	2.0	0.2	0.4	100.0
West Bengal	79.6	16.4	3.9	0.0	0.1	100.0
North-East						
Arunachal Pradesh	85.7	13.0	1.2	0.0	0.0	100.0
Assam	72.0	25.1	2.2	0.6	0.0	100.0
Manipur	82.3	16.7	0.9	0.0	0.0	100.0
Meghalaya	68.2	31.1	0.7	0.0	0.0	100.0
Mizoram	90.6	8.1	1.3	0.0	0.0	100.0
Nagaland	70.7	24.8	4.5	0.0	0.0	100.0
Tripura	75.3	21.3	3.5	0.0	0.0	100.0
West						
Goa	72.0	26.7	0.9	0.0	0.4	100.0
Gujarat	75.5	20.1	3.8	0.4	0.2	100.0
Maharashtra	74.8	22.5	2.4	0.1	0.1	100.0
South						
Andhra Pradesh	78.1	19.6	1.5	0.1	0.7	100.0
Karnataka	83.4	14.6	1.4	0.2	0.5	100.0
Kerala	74.9	20.2	4.3	0.4	0.2	100.0
Tamil Nadu	78.0	18.6	2.6	0.5	0.4	100.0

() Based on 25-49 unweighted cases

may lead to an increase in the number of acceptors of family planning. The NFHS collected information on several maternal care practices, including antenatal care, provision of tetanus toxoid injections and iron and folic acid tablets during pregnancy, place of delivery and assistance at delivery. Each woman who had a live birth during the four years preceding the survey was asked a series of questions covering matters related to pregnancy and childbirth. She was first

asked whether any health worker visited her at home to provide an antenatal check-up when she was pregnant. Next, she was asked whether she had gone for an antenatal check-up outside the home and whom she saw for the check-up. Although interviewers were instructed to record all responses if more than one source of antenatal care outside the home was mentioned for the same pregnancy, in the present analysis only the provider with the highest qualification is considered. Each mother who had a live birth during the past four years was asked whether she was given an injection in the arm to prevent her and her baby from getting tetanus, and whether she had received iron and folic acid tablets during each pregnancy. Tables 24 and 25 show the percentage of all births in the four years preceding the survey whose mothers received various types of antenatal care services, by state and other background characteristics.

In all, information is available for 50,000 live births (11,359 and 38,641 live births in urban and rural areas, respectively). Overall, mothers of 61 percent of all births in the last four years received at least one dose of tetanus toxoid vaccine during pregnancy. The proportion of births whose mothers received at least one dose is higher in urban areas (81 percent) than in rural areas (55 percent). The overall coverage level is low, especially in light of the fact that the Universal Immunization Programme of India (introduced in 1985-86) aimed at protecting all pregnant women against tetanus by 1990.

There are substantial interstate variations in the coverage of tetanus vaccine. The coverage exceeds 90 percent in Kerala, Tamil Nadu and Goa. At the other end of the spectrum, coverage is below 45 percent in Rajasthan, Arunachal Pradesh, Assam, Meghalaya, Nagaland, Bihar and Uttar Pradesh. The low coverage rates in four of the largest states, namely Rajasthan (35 percent), Bihar (37 percent), Uttar Pradesh (44 percent) and Madhya Pradesh (51 percent), are particularly notable. Interstate variations in the coverage of vaccinations for tetanus are more pronounced in rural areas (where coverage rates vary between 31 percent in Rajasthan and 93 percent each in Goa and Kerala) than in urban areas (where coverage rates vary between 56 percent in Rajasthan and 97 percent in Kerala and Tamil Nadu). Table 25 additionally shows that for births during the last four years, tetanus toxoid coverage is higher for young mothers (below age 35), mothers pregnant with lower-order births (order 1-3), and literate mothers.

Since proper maternal nutrition is crucial for the healthy intrauterine growth of a baby and the child's survival, the provision of iron and folic acid tablets as a prophylaxis against nutritionally induced anaemia among pregnant women forms an integral part of the maternal and child health care activities of the Indian Family

Table 24 Antenatal care

For all births in the four years preceding the survey, the percentage whose mothers received various types of antenatal services, by residence and state, India, 1992-93

State	Received tetanus toxoid	Received iron/folic acid tablets	Received home visit from health worker during pregnancy	Got antenatal check-up from		
				Doctor ¹	Other health professional ²	Other person
URBAN						
India	80.7	68.7	9.8	69.6	7.2	0.2
North						
Delhi	81.3	75.7	3.2	74.0	6.5	0.6
Haryana	82.7	74.6	6.7	55.5	28.4	0.6
Himachal Pradesh	94.5	90.6	4.4	66.0	28.3	0.8
Jammu Region of J & K	95.0	86.6	2.2	80.4	15.8	0.0
Punjab	91.0	82.5	5.2	51.0	39.7	0.6
Rajasthan	55.8	44.2	3.2	40.3	4.5	0.2
Central						
Madhya Pradesh	73.2	64.2	6.2	63.6	7.1	0.1
Uttar Pradesh	70.8	52.4	8.8	51.1	11.8	0.3
East						
Bihar	65.6	47.3	7.3	52.6	4.6	0.5
Orissa	77.0	66.2	17.7	60.0	7.2	0.2
West Bengal	83.5	63.2	5.9	75.0	4.4	0.0
North-East						
Arunachal Pradesh	71.1	74.7	7.2	84.3	1.2	0.0
Assam	75.6	69.4	4.3	73.0	5.6	0.0
Manipur	75.8	49.1	1.9	75.2	1.9	0.0
Meghalaya	81.6	83.1	0.0	83.8	2.2	0.7
Mizoram	94.1	71.1	8.8	56.1	36.8	0.4
Nagaland	60.2	34.4	11.8	47.3	5.4	0.0
Tripura	96.0	80.0	1.3	98.7	0.0	0.0
West						
Goa	92.6	90.4	7.2	92.9	1.1	0.0
Gujarat	81.1	77.8	15.1	66.4	10.2	0.7
Maharashtra	87.7	72.0	4.0	85.4	3.0	0.4
South						
Andhra Pradesh	90.3	82.3	15.6	81.8	3.0	0.0
Karnataka	82.9	78.6	15.6	78.2	3.9	0.0
Kerala	97.4	93.8	17.7	98.3	0.5	0.0
Tamil Nadu	96.6	88.3	24.1	87.5	3.9	0.0

Welfare Programme. It is recommended that a pregnant woman should take 100 tablets of iron and folic acid, and health workers are instructed accordingly. Table 24 indicates that mothers of only 51 percent of births during the last four years received iron and folic acid tablets (69 percent in urban areas and 45 percent in rural areas). The coverage is particularly low in Rajasthan, Nagaland, Bihar, and Uttar Pradesh, where mothers received iron and folic acid tablets for less than

Table 24 Antenatal care (Contd.)

For all births in the four years preceding the survey, the percentage whose mothers received various types of antenatal services, by residence and state, India, 1992-93

State	Received tetanus toxoid	Received iron/folic acid tablets	Received home visit from health worker during pregnancy	Got antenatal check-up from		
				Doctor ¹	Other health professional ²	Other person
RURAL						
India	55.3	45.1	24.3	31.1	10.0	0.2
North						
Delhi	78.9	64.5	7.2	62.7	7.8	0.6
Haryana	66.7	56.0	13.4	22.1	40.0	0.4
Himachal Pradesh	69.0	70.3	10.9	29.3	42.6	0.4
Jammu Region of J & K	75.3	68.3	2.2	43.6	31.4	0.8
Punjab	85.4	71.3	8.6	29.4	55.1	0.2
Rajasthan	30.7	26.5	13.0	11.0	8.0	0.4
Central						
Madhya Pradesh	45.8	39.3	23.1	18.0	9.7	0.0
Uttar Pradesh	38.9	25.0	18.1	15.0	8.5	0.2
East						
Bihar	32.7	17.5	11.7	16.7	5.1	0.2
Orissa	60.6	47.1	32.7	29.0	4.4	0.4
West Bengal	75.9	54.3	16.0	56.2	8.9	0.4
North-East						
Arunachal Pradesh	38.8	39.9	2.0	40.4	1.1	0.0
Assam	40.9	36.6	6.9	31.7	11.6	0.3
Manipur	55.7	30.0	3.1	53.4	2.3	0.0
Meghalaya	35.6	41.5	2.8	35.6	5.3	0.7
Mizoram	76.9	55.7	19.0	29.0	48.9	2.3
Nagaland	40.5	22.0	4.6	29.1	5.5	0.9
Tripura	60.3	48.7	4.9	51.9	5.1	0.2
West						
Goa	93.0	88.4	23.7	91.4	1.6	0.7
Gujarat	64.9	65.5	46.2	27.5	10.5	0.1
Maharashtra	77.7	69.6	35.7	45.4	11.8	0.2
South						
Andhra Pradesh	70.2	74.1	49.3	55.0	4.3	0.1
Karnataka	74.0	73.3	52.5	52.0	5.9	0.1
Kerala	92.9	90.1	29.6	95.0	0.8	0.0
Tamil Nadu	92.0	81.6	49.5	61.2	9.6	0.0

30 percent of births. On the other hand, in Kerala, Tamil Nadu and Goa, iron and folic acid tablets were given to the mothers of more than 84 percent of births. As in the case of coverage for tetanus vaccination, young mothers, mothers pregnant with lower-order births, literate mothers and mothers residing in urban areas are more likely to have received iron and folic acid tablets during pregnancy (Table 25).

Table 24 Antenatal care (Contd.)

For all births in the four years preceding the survey, the percentage whose mothers received various types of antenatal services, by residence and state, India, 1992-93

State	Received tetanus toxoid	Received iron/folic acid tablets	Received home visit from health worker during pregnancy	Got antenatal check-up from		
				Doctor ¹	Other health professional ²	Other person
TOTAL						
India	61.1	50.5	21.0	39.8	9.4	0.2
North						
Delhi	81.1	74.7	3.5	73.0	6.7	0.6
Haryana	70.2	60.1	11.9	29.5	37.5	0.4
Himachal Pradesh	71.0	71.9	10.4	32.1	41.5	0.4
Jammu Region of J & K	78.0	70.8	2.2	48.8	29.2	0.7
Punjab	86.7	73.9	7.8	34.4	51.5	0.3
Rajasthan	34.7	29.3	11.5	15.6	7.5	0.4
Central						
Madhya Pradesh	51.3	44.2	19.7	27.1	9.2	0.0
Uttar Pradesh	44.3	29.6	16.5	21.1	9.1	0.2
East						
Bihar	37.0	21.4	11.1	21.4	5.0	0.3
Orissa	63.0	49.9	30.5	33.6	4.8	0.4
West Bengal	77.7	56.3	13.7	60.5	7.9	0.3
North-East						
Arunachal Pradesh	43.1	44.5	2.7	46.3	1.1	0.0
Assam	43.9	39.5	6.7	35.4	11.1	0.3
Manipur	61.6	35.6	2.7	59.7	2.2	0.0
Meghalaya	44.6	49.6	2.3	45.0	4.7	0.7
Mizoram	85.9	63.7	13.7	43.0	42.6	1.3
Nagaland	43.3	23.8	5.6	31.8	5.5	0.8
Tripura	65.2	53.0	4.4	58.3	4.4	0.2
West						
Goa	92.8	89.3	16.0	92.1	1.4	0.3
Gujarat	69.9	69.3	36.6	39.6	10.4	0.3
Maharashtra	81.6	70.6	23.3	61.0	8.4	0.2
South						
Andhra Pradesh	81.2	76.1	41.0	61.6	4.0	0.1
Karnataka	76.5	74.8	41.9	59.5	5.3	0.0
Kerala	94.1	91.0	26.5	95.9	0.7	0.0
Tamil Nadu	93.6	84.0	40.4	70.6	7.6	0.0

¹Allopathic doctor

²Ayurvedic or homoeopathic doctor, nurse/midwife or other health professional

Overall, antenatal care was provided at home by a health worker for only 21 percent of births during the last four years. However, in the case of 40 percent of births, the mother went outside her home and received antenatal care from an allopathic doctor. Antenatal care was provided by other health professionals (such as nurse-midwives and ayurvedic or homoeopathic doctors) for 9 percent of births. As expected, antenatal care through home visits is much more common in rural

Table 25 Antenatal care by background characteristics

For all births in the four years preceding the survey, the percentage whose mothers received various types of antenatal services, according to selected background characteristics, India, 1992-93

Background characteristic	Received tetanus toxoid	Received iron/folic acid tablets	Received home visit from health worker during pregnancy	Got antenatal check-up from		
				Doctor ¹	Other health professional ²	Other person
Age						
13-19	63.0	51.9	22.7	40.8	9.9	0.2
20-34	62.2	51.5	20.7	40.8	9.4	0.2
35+	37.4	30.3	17.2	22.4	6.1	0.1
Residence						
Urban	80.7	68.7	9.8	69.6	7.2	0.2
Rural	55.3	45.1	24.3	31.1	10.0	0.2
Education						
Illiterate	48.3	38.3	21.8	25.3	9.2	0.3
Lit., < primary complete	76.1	64.6	23.7	56.0	9.8	0.1
Primary school complete	80.8	67.8	21.0	58.6	12.1	0.2
Middle school complete	90.0	77.0	20.8	72.2	10.5	0.2
High school complete	95.6	85.7	14.2	84.2	6.4	0.0
Birth order						
1	72.0	60.7	20.5	51.9	10.1	0.2
2-3	65.2	54.1	22.1	42.7	10.0	0.2
4-5	52.3	41.6	21.4	28.9	8.8	0.3
6+	35.5	28.6	17.6	19.5	6.4	0.1
Total	61.1	50.5	21.0	39.8	9.4	0.2

¹Allopathic doctor
²Ayurvedic or homeopathic doctor, nurse/midwife or other health professional

areas (covering 24 percent of births) than in urban areas (covering 10 percent of births). On the other hand, urban women are more likely to receive antenatal care from an allopathic doctor (70 percent) than rural women (31 percent). Home visits by health workers and antenatal check-ups by allopathic doctors vary substantially across the states. Coverage by antenatal home visits from a health worker in urban areas is highest in Tamil Nadu (24 percent) and lowest in Meghalaya where not a single home visit by a health worker was reported. In rural areas, antenatal care at home was provided in about half of all cases in Karnataka (53 percent), Tamil Nadu (50 percent) and Andhra Pradesh (49 percent). In rural areas of Jammu, Arunachal Pradesh, Manipur, Meghalaya, Nagaland, and Tripura, home visits for antenatal purposes were reported for less than 5 percent of births. It should be stated, however, that in some states the estimates are based on small numbers of births in urban and rural areas. Antenatal

care provided by allopathic doctors is nearly universal in Kerala (96 percent) and Goa (92 percent). In urban areas, the proportion of births covered by antenatal check-ups from allopathic doctors varies between 40 percent in Rajasthan and 99 percent in Tripura. The range is even wider in rural areas, from 11 percent in Rajasthan to 95 percent in Kerala.

The pattern of differentials in the receipt of antenatal care by background characteristics is the same as the pattern observed for tetanus toxoid vaccinations (Table 25). The proportion of births whose mothers received antenatal care from an allopathic doctor increases steadily with education, from 25 percent for illiterate mothers to 84 percent for mothers who have completed high school.

Another important thrust of maternal and child health services is the encouragement of deliveries under proper hygienic conditions and the overall supervision of trained health professionals to ensure better health for the mother and the child. In order to ascertain the current situation in this regard, respondents in the NFHS were asked, for each birth during the four years before the survey, where they gave birth and who assisted at the delivery. Tables 26 and 27 present the percentage of institutional births and the percentage of births by type of assistance at delivery, according to state and selected background characteristics. As in the case of antenatal care, interviewers were instructed to record all persons reported to have assisted during the delivery. However, in these tables, only the most highly qualified attendant is considered if there is more than one attendant. Overall, 26 percent of deliveries occurred in health facilities -- 15 percent in public institutions (such as government-operated district, taluk, town or municipal hospitals and Primary Health Centres) and 11 percent in private medical institutions (Table 26). The proportion of deliveries that took place in health facilities was 58 percent in urban areas and 16 percent in rural areas. The NFHS results are very consistent with estimates from the Sample Registration System. According to the SRS, 24 percent of all births in 1991 occurred in a health facility (54 percent in urban areas and 18 percent in rural areas).

There are large interstate variations in the proportion of institutional deliveries, which ranges from 87-88 percent in Kerala and Goa to 11-12 percent in Rajasthan, Assam, Bihar and Uttar Pradesh. Only 6 percent of the births in Nagaland are reported to have occurred in a health facility. The majority of institutional deliveries took place in a public health facility in all states except Kerala, Goa, Gujarat, Andhra Pradesh, Bihar and Punjab. In every state, the proportion of deliveries in health facilities is higher in urban areas than in rural areas. Table 27 shows that the proportion of births occurring in health facilities

Table 26 Assistance at delivery

For all births in the four years preceding the survey, the percentage whose mother received assistance at delivery by type of assistance, according to residence and state, India, 1992-93

State	Delivered in institution					Not delivered in institution			
	Public		Private		Total	Doctor	Other health prof.	TBA	Other
	Doctor	Other	Doctor	Other					
URBAN									
India	21.5	8.8	24.1	3.5	57.9	2.1	6.0	21.8	12.2
North									
Delhi	24.2	1.6	19.7	0.5	46.0	3.3	5.8	37.0	7.9
Haryana	13.2	5.0	16.9	1.9	36.9	3.7	12.2	43.0	4.1
Himachal Pradesh	35.1	16.4	5.7	0.8	57.9	1.3	8.8	28.1	3.9
Jammu Region of J & K	25.4	1.0	19.6	0.7	46.7	4.1	16.0	30.1	3.1
Punjab	5.8	2.0	24.2	3.8	35.9	2.6	21.0	39.1	1.5
Rajasthan	25.1	2.2	6.7	0.6	34.6	2.6	8.2	32.7	21.9
Central									
Madhya Pradesh	26.8	7.8	12.1	3.0	49.7	2.1	9.6	18.7	19.9
Uttar Pradesh	15.3	2.6	15.4	1.3	34.6	1.3	9.5	30.3	24.3
East									
Bihar	14.5	3.9	21.7	1.6	41.6	3.8	6.9	40.1	7.6
Orissa	23.8	7.7	7.7	1.2	40.5	3.6	6.2	25.7	24.0
West Bengal	30.1	20.0	13.9	1.8	65.8	1.1	0.6	22.1	10.4
North-East									
Arunachal Pradesh	34.9	9.6	3.6	0.0	48.2	4.8	1.2	7.2	38.6
Assam	24.4	5.1	18.9	1.5	49.9	1.5	6.0	18.9	23.6
Manipur	36.0	0.6	1.2	0.0	37.9	2.5	22.4	35.4	1.9
Meghalaya	34.6	11.8	14.0	13.2	73.5	2.2	2.9	6.6	14.7
Mizoram	27.2	32.6	5.0	1.7	66.5	0.0	14.2	15.5	3.8
Nagaland	2.2	7.5	1.1	0.0	10.8	4.3	30.1	8.6	46.2
Tripura	53.3	18.7	6.7	0.0	78.7	0.0	0.0	18.7	2.7
West									
Goa	25.8	10.6	48.8	3.7	88.9	0.4	0.9	2.8	7.1
Gujarat	15.8	8.7	31.3	6.4	62.2	1.3	2.8	27.6	6.1
Maharashtra	21.0	14.8	30.4	7.5	73.7	2.2	2.7	12.4	9.0
South									
Andhra Pradesh	19.0	4.8	43.5	3.0	70.3	4.5	4.8	13.6	6.7
Karnataka	23.0	11.9	28.2	3.9	67.0	1.6	8.8	7.7	14.9
Kerala	36.6	5.5	51.7	1.4	95.2	0.2	0.5	3.6	0.5
Tamil Nadu	27.6	17.6	37.6	7.2	90.0	0.8	1.8	5.6	1.8

is higher for mothers age 20-34 years, mothers having their first child, and mothers with at least a high school education.

Twenty-two percent of all the births during the last four years were attended by a doctor and even fewer births were attended by a nurse/midwife or other health professional. Another 35 percent of births were attended by a traditional birth attendant. Most institutional deliveries (three-fourths) were assisted by a medical doctor. Among the noninstitutional births (a total of 37,201 births, which

Table 26 Assistance at delivery (Contd.)

For all births in the four years preceding the survey, the percentage whose mother received assistance at delivery by type of assistance, according to residence and state, India, 1992-93

State	Delivered in institution					Not delivered in institution			
	Public		Private		Total	Doctor	Other health prof.	TBA	Other
	Doctor	Other	Doctor	Other					
RURAL									
India	6.4	3.7	5.0	1.0	16.1	2.4	7.0	39.0	35.5
North									
Delhi	10.2	0.0	15.7	1.2	27.1	3.6	3.0	53.6	12.7
Haryana	4.5	2.2	3.4	1.0	11.0	5.0	8.3	72.7	2.9
Himachal Pradesh	5.9	5.5	0.9	0.3	12.6	2.8	7.0	57.0	20.5
Jammu Region of J & K	12.7	2.5	2.2	0.3	17.7	3.6	4.0	64.1	10.7
Punjab	7.5	2.8	8.2	2.9	21.4	4.5	19.0	52.8	2.3
Rajasthan	3.5	2.7	0.8	0.3	7.3	2.6	8.0	42.0	10.1
Central									
Madhya Pradesh	4.1	2.3	1.0	0.2	7.6	2.2	13.0	32.6	44.6
Uttar Pradesh	3.3	1.5	1.3	0.5	6.6	0.8	4.5	34.0	54.2
East									
Bihar	2.8	1.1	3.0	0.7	7.6	2.7	3.9	60.9	24.9
Orissa	6.7	2.0	0.8	0.1	9.7	1.7	4.7	39.2	44.8
West Bengal	8.9	10.4	1.8	0.3	21.4	2.1	0.5	40.3	35.8
North-East									
Arunachal Pradesh	9.7	5.3	0.4	0.0	15.4	0.7	0.6	17.6	65.6
Assam	4.1	1.7	1.0	0.5	7.3	2.8	4.2	21.2	64.5
Manipur	15.8	0.0	0.5	0.0	16.3	3.8	10.4	40.5	29.0
Meghalaya	6.9	7.3	3.0	1.8	19.0	0.5	8.5	25.6	46.3
Mizoram	7.7	19.5	0.9	1.4	29.4	0.9	11.3	36.2	22.2
Nagaland	2.2	2.6	0.4	0.2	5.3	2.0	11.2	11.5	70.0
Tripura	12.4	10.1	0.0	0.0	22.6	1.5	1.9	53.4	20.7
West									
Goa	35.7	10.9	36.1	2.8	85.5	1.1	1.0	6.0	6.4
Gujarat	6.6	4.4	9.6	3.1	23.8	3.5	5.6	52.7	14.4
Maharashtra	8.6	5.9	10.0	0.8	25.3	2.5	10.5	24.7	37.0
South									
Andhra Pradesh	8.9	1.5	9.5	0.8	20.7	7.9	11.8	40.4	19.2
Karnataka	10.2	6.2	7.7	1.6	25.7	3.5	11.7	27.5	31.6
Kerala	32.8	5.1	44.5	3.7	86.0	0.2	2.0	10.0	1.8
Tamil Nadu	12.5	15.0	16.9	4.6	49.0	0.4	11.3	29.8	9.5

constitutes 74 percent of all births), 47 percent were assisted by traditional birth attendants, 41 percent by only relatives, friends and neighbours, and 12 percent by health professionals (3 percent by doctors and 9 percent by other health professionals). The percentage of births attended by a doctor is more than three times as high in urban areas (48 percent) as in rural areas (14 percent).

Again there are large interstate variations in the type of persons who assisted at deliveries. The percentage of births attended by a doctor is the highest

Table 26 Assistance at delivery (Contd.)

For all births in the four years preceding the survey, the percentage whose mother received assistance at delivery by type of assistance, according to residence and state, India, 1992-93

State	Delivered in institution					Not delivered in institution			
	Public		Private		Total	Doctor	Other health prof.	TBA	Other
	Doctor	Other	Doctor	Other					
TOTAL									
India	7.8	4.9	9.4	1.5	25.6	2.4	6.7	35.1	30.2
North									
Delhi	23.0	1.4	19.4	0.6	44.4	3.3	5.5	38.4	0.3
Haryana	6.4	2.8	6.3	1.2	16.7	4.7	9.2	66.2	3.1
Himachal Pradesh	8.2	6.3	1.3	0.3	16.1	2.7	7.2	54.8	19.3
Jammu Region of J & K	14.4	2.3	4.6	0.3	21.7	3.7	5.7	59.3	9.6
Punjab	7.1	2.7	11.9	3.1	24.8	4.1	19.5	49.6	2.1
Rajasthan	6.9	2.6	1.7	0.3	11.6	2.6	8.1	40.5	37.2
Central									
Madhya Pradesh	8.6	3.4	3.2	0.8	16.0	2.2	12.3	29.8	39.7
Uttar Pradesh	5.3	1.7	3.7	0.6	11.3	0.9	5.3	33.3	49.1
East									
Bihar	4.4	1.4	5.5	0.8	12.1	2.8	4.3	58.2	22.6
Orissa	9.2	2.9	1.8	0.3	14.2	2.0	4.9	37.3	41.7
West Bengal	13.7	12.6	4.6	0.7	31.5	1.8	0.5	36.2	30.0
North-East									
Arunachal Pradesh	13.1	5.9	0.8	0.0	19.8	1.3	0.6	16.3	62.0
Assam	5.9	2.0	2.6	0.6	11.1	2.7	4.3	21.0	60.9
Manipur	21.7	0.2	0.7	0.0	22.6	3.4	13.9	39.0	21.1
Meghalaya	12.3	8.2	5.2	4.0	29.7	0.9	7.4	21.9	40.1
Mizoram	17.8	26.3	3.0	1.5	48.7	0.4	12.8	25.4	12.6
Nagaland	2.2	3.3	0.5	0.2	6.1	2.3	13.9	11.1	66.5
Tripura	18.0	11.3	0.9	0.0	30.2	1.3	1.6	48.6	18.2
West									
Goa	31.1	10.8	42.0	3.2	87.1	0.8	1.0	4.5	6.7
Gujarat	9.5	5.7	16.3	4.1	35.7	2.8	4.7	44.9	11.9
Maharashtra	13.4	9.4	18.0	3.4	44.1	2.4	7.4	19.9	26.1
South									
Andhra Pradesh	11.4	2.3	17.9	1.3	33.0	7.1	10.1	33.8	16.1
Karnataka	13.9	7.8	13.6	2.3	37.6	3.0	10.8	21.8	26.8
Kerala	33.8	5.2	46.4	3.1	88.4	0.2	1.6	8.3	1.4
Tamil Nadu	17.8	15.9	24.3	5.6	63.6	0.5	7.9	21.2	6.8

TBA: Traditional birth attendant

in Kerala (80 percent), followed by Goa (74 percent). Among the major states, less than 15 percent of births in Uttar Pradesh, Rajasthan, Bihar, Madhya Pradesh, Orissa and Assam were attended by a doctor. The urban-rural differences in this regard in every state are the same as those observed in the country as a whole. The percentage of births attended by a doctor is more than six times as high for mothers with at least a high school education (69 percent) as for illiterate mothers

Table 27 Assistance at delivery by background characteristics

For all births in the four years preceding the survey, the percentage whose mother received assistance at delivery by type of assistance, according to selected background characteristics, India, 1992-93

Background characteristic	Delivered in institution					Not delivered in institution			
	Public		Private		Total	Doctor	Other health prof.	TBA	Other
	Doctor	Other	Doctor	Other					
Age									
13-19	9.8	5.4	7.7	1.2	24.1	3.3	7.4	35.0	30.2
20-34	10.2	4.9	10.3	1.7	27.0	2.1	6.6	34.7	29.6
35+	4.9	2.6	4.4	0.9	12.8	1.2	6.0	41.1	38.8
Residence									
Urban	21.5	8.8	24.1	3.5	57.9	2.1	6.0	21.8	12.2
Rural	6.4	3.7	5.0	1.0	16.1	2.4	7.0	39.0	35.5
Education									
Illiterate	5.4	3.3	2.5	0.7	11.9	2.0	6.6	41.6	37.9
Lit., < primary school	12.8	9.0	8.5	2.2	32.4	2.9	7.3	33.1	24.3
Primary school complete	15.1	8.9	13.8	2.9	40.8	3.4	8.1	28.3	19.3
Middle school complete	21.5	9.2	21.6	2.9	55.1	2.3	7.8	20.2	14.5
High school complete	23.4	5.8	41.9	4.2	75.3	3.3	5.2	10.3	5.9
Birth order									
1	14.8	6.3	15.2	2.0	38.3	3.5	6.9	28.6	22.7
2-3	10.1	5.2	9.8	1.8	26.9	2.3	7.1	34.2	29.4
4-5	5.8	3.5	4.2	1.1	14.6	1.7	6.6	40.9	36.2
6+	3.5	2.5	2.4	0.5	8.9	1.2	5.4	43.6	40.9
Total	9.8	4.9	9.4	1.5	25.6	2.4	6.7	35.1	30.2

TBA: Traditional birth attendant

(10 percent). Births to mothers age 20-34 and births of order 3 or less are more likely to have received a doctor's assistance during delivery.

G. IMMUNIZATION OF CHILDREN

The immunization of children against six serious but preventable diseases (namely, tuberculosis, diphtheria, pertussis, tetanus, polio 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 in India on a priority basis. The Expanded Programme on Immunization (EPI) was started 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. In order to step up the

immunization scheme, a special programme called the Universal Immunization Programme (UIP) was started in 1985-86, and the UIP was designated as one of the seven Technology Missions.

The standard immunization schedule developed for the immunization programme for children 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). One dose each of BCG and measles vaccines and three doses each of DPT vaccine and oral polio drops should be given by the time a child is 9 months old.

An vaccination card for children is normally issued to mothers who bring their children for immunizations. The card contains particulars of each type of vaccine (number of doses and date of administration) received by the child. Mothers are instructed to bring the card with them for updating each time a child is vaccinated.

In the NFHS, mothers were asked whether they had a vaccination card for each child born in the four years preceding the survey. If a card was available, the interviewer was required to copy carefully the dates when the child received vaccinations against each disease. If the mother could not produce the vaccination card, she was asked whether the child had received a vaccination against tuberculosis (BCG); diphtheria, whooping cough (pertussis) and tetanus (DPT); polio; and measles. For DPT and polio, information was also obtained on the number of injections or oral doses given.

Table 28 presents the percentage of children age 12-23 months who received each vaccine at any time before the interview and the percentage of children for whom a vaccination card was seen by the interviewer. Among all the children age 12-23 months, vaccination cards were seen by the interviewer for only 31 percent of the children (38 percent in urban areas and 29 percent in rural areas). The proportion of children for whom the mother showed a vaccination card varies substantially across the states. At one end of the scale is Goa, where cards were seen for 75 percent of children. At the other extreme is Nagaland, where vaccination cards were seen for only 12 percent of children. In most major states, the percentage of children for whom vaccination cards were seen is, as expected, higher in urban areas than in rural areas. However, for Orissa, Karnataka, Goa and Maharashtra, the percentage is somewhat higher in rural areas. Interstate variations in availability of vaccination cards are observed for both urban and rural areas, with more pronounced variations in rural areas. Female children, children

Table 28 Vaccinations

The percentage of children age 12-23 months with vaccination cards seen by the interviewer, and the percentage who have received each vaccine (according to the vaccination card or mother's report), by residence and state, India, 1992-93

State	Per-centage showing a card	Percent of children age 12-23 months who have received:										
		Polio		DPT			Polio			Measles	All ¹	None
		BCG	0	1	2	3	1	2	3			
URBAN												
India	37.8	77.6	7.8	80.4	75.2	68.8	80.8	76.8	70.2	57.5	50.7	16.4
North												
Delhi	44.9	90.3	13.3	88.8	81.9	70.8	89.6	84.6	73.9	69.6	58.0	6.7
Haryana	36.4	79.7	3.5	86.7	81.1	72.7	86.7	81.8	73.4	64.3	58.0	13.3
Himachal Pradesh	57.6	96.7	8.7	96.7	92.4	91.3	96.7	95.7	90.2	87.0	81.5	2.2
Jammu Region of J & K	59.6	92.9	1.0	93.9	92.9	92.9	94.9	93.9	92.9	85.9	84.8	5.1
Punjab	40.2	86.6	2.4	90.2	86.6	86.6	90.2	85.4	85.4	80.5	75.6	9.8
Rajasthan	30.3	69.7	22.0	71.6	66.1	53.2	71.6	66.1	56.0	56.9	45.9	28.4
Central												
Madhya Pradesh	32.3	73.2	6.5	75.3	71.8	62.8	77.9	74.2	67.5	56.9	43.0	19.6
Uttar Pradesh	30.8	64.1	4.9	68.7	60.4	54.2	68.5	62.7	56.5	41.5	32.9	28.4
East												
Bihar	23.6	51.7	6.5	56.9	52.1	45.7	60.2	57.6	48.9	27.7	21.5	37.9
Orissa	41.6	68.6	5.1	70.1	67.9	57.7	72.3	69.3	59.9	48.2	43.8	25.5
West Bengal	56.4	72.0	1.3	85.0	74.6	63.4	85.0	79.8	70.3	47.1	44.1	13.7
North-East												
Arunachal Pradesh	(57.7)	(61.5)	(3.8)	(69.2)	(69.2)	(65.4)	(65.4)	(65.4)	(61.5)	(42.3)	(38.5)	(30.8)
Assam	70.0	72.5	2.5	84.2	68.3	56.7	85.8	72.5	57.5	47.5	40.0	14.2
Manipur	(66.7)	(81.0)	(2.4)	(83.3)	(76.2)	(61.9)	(81.0)	(73.8)	(64.3)	(47.6)	(45.2)	(16.7)
Meghalaya	(24.0)	(60.0)	(4.0)	(56.6)	(44.0)	(40.0)	(56.0)	(48.0)	(44.0)	(32.0)	(24.0)	(36.0)
Mizoram	50.9	90.6	9.4	90.6	83.0	75.5	90.6	84.9	73.6	73.6	62.3	5.7
Nagaland	(26.9)	(38.5)	(7.7)	(42.3)	(38.5)	(34.6)	(42.3)	(42.3)	(38.5)	(30.8)	(19.2)	(53.8)
West												
Goa	73.9	92.5	12.7	93.3	91.0	88.1	94.0	91.8	89.8	76.1	74.6	6.0
Gujarat	38.0	82.9	7.0	83.5	79.7	70.3	83.5	79.7	70.3	61.4	57.0	14.6
Maharashtra	36.3	86.3	6.8	87.9	84.2	81.6	87.4	83.7	79.5	67.4	61.6	8.9
South												
Andhra Pradesh	35.8	83.3	3.3	84.2	80.0	75.8	84.2	81.7	75.0	65.8	58.3	10.8
Karnataka	32.7	82.4	5.5	80.0	75.8	73.3	81.2	76.4	73.3	61.2	57.6	13.9
Kerala	57.7	93.8	11.3	89.7	84.5	77.3	90.7	87.6	81.4	62.9	55.7	5.2
Tamil Nadu	44.0	94.7	23.3	96.7	95.3	92.0	96.7	95.3	92.0	75.3	73.3	2.0

from rural areas and children of illiterate mothers are least likely to have a vaccination card (Table 29).

Table 28 Vaccinations (Contd.)

The percentage of children age 12-23 months with vaccination cards seen by the interviewer, and the percentage who have received each vaccine (according to the vaccination card or mother's report), by residence and state, India, 1992-93

State	Per-centage showing a card	Percent of children age 12-23 months who have received:												
		BCG	Polio			DPT			Polio			Measles	All ¹	None
			0	1	2	3	1	2	3					
RURAL														
India	28.5	57.6	3.6	62.1	54.5	46.6	62.9	56.5	48.4	37.7	30.9	34.0		
North														
Delhi	(51.2)	(88.4)	(2.3)	(90.7)	(81.4)	(79.1)	(90.7)	(90.7)	(86.0)	(69.8)	(55.8)	(7.0)		
Haryana	29.8	76.7	1.6	78.6	73.1	65.0	78.6	73.5	66.0	59.9	52.1	18.8		
Himachal Pradesh	53.2	83.5	1.6	59.5	83.1	77.0	89.5	85.1	76.6	70.2	61.3	9.3		
Jammu Region of J & K	46.1	79.6	1.9	82.2	80.7	75.5	82.2	80.7	74.7	66.5	62.8	17.8		
Punjab	37.1	74.5	1.5	79.4	76.0	69.7	79.8	76.0	69.7	59.9	57.7	19.9		
Rajasthan	13.5	40.9	9.2	43.1	33.1	25.0	44.2	36.2	28.1	26.1	16.1	52.5		
Central														
Madhya Pradesh	19.0	52.5	3.7	57.0	48.7	38.7	58.9	52.1	41.1	36.4	25.6	38.3		
Uttar Pradesh	21.5	46.0	0.9	49.0	38.3	30.3	48.7	41.3	33.5	23.5	17.4	46.1		
East														
Bihar	15.7	31.3	2.3	40.6	34.7	26.6	42.7	38.1	29.0	12.7	9.1	55.8		
Orissa	41.7	62.3	2.7	68.8	62.9	56.1	69.9	64.0	56.1	38.8	34.7	28.5		
West Bengal	45.2	60.5	0.8	70.4	59.6	48.5	72.4	62.8	51.9	41.2	31.3	24.9		
North-East														
Arunachal Pradesh	33.6	43.3	2.2	46.3	41.0	33.6	44.8	40.3	34.3	24.6	19.4	50.7		
Assam	36.5	45.8	1.0	50.3	39.6	28.5	51.0	39.9	30.2	23.6	17.4	46.5		
Manipur	30.6	55.3	3.5	57.6	45.9	34.1	55.3	40.0	27.1	31.8	21.2	40.0		
Meghalaya	13.4	40.3	0.8	32.8	27.7	19.3	31.9	28.6	19.3	9.2	6.7	58.8		
Mizoram	26.3	64.9	0.0	77.2	77.2	68.4	71.9	68.4	64.9	57.9	50.9	22.8		
Nagaland	9.0	15.7	2.2	17.2	12.7	8.2	17.9	14.2	10.4	6.0	0.7	79.1		
Tripura	42.1	38.3	0.0	55.1	40.2	28.0	55.1	39.3	28.0	27.1	16.8	43.9		
West														
Goa	75.9	94.5	15.2	94.5	89.0	85.5	94.5	89.7	85.5	79.3	75.2	4.8		
Gujarat	29.0	74.2	3.2	74.8	67.2	60.5	74.8	66.9	59.2	53.2	46.2	21.0		
Maharashtra	40.9	87.2	5.3	91.3	86.9	84.1	91.9	86.6	82.8	71.9	65.6	6.6		
South														
Andhra Pradesh	35.1	70.2	3.3	74.5	69.2	62.3	76.8	71.9	65.2	49.0	39.7	20.2		
Karnataka	35.2	81.4	5.2	80.8	76.9	69.6	82.2	78.2	70.6	52.2	49.9	15.7		
Kerala	55.7	83.6	12.1	83.2	80.5	72.5	83.2	80.5	73.2	59.7	54.0	13.4		
Tamil Nadu	34.9	90.1	17.3	94.1	90.4	83.5	92.6	88.6	81.6	69.5	60.3	4.0		

Based on the information obtained from the card or reported by the mother, only 35 percent of children age 12-23 months in India are fully vaccinated⁹, and 30 percent have not received any vaccinations. One of the major objectives of the

⁹ They have received BCG, measles, and three doses of DPT and polio (excluding polio 0). Polio 0 has been introduced only recently and because it is a vaccination given at the time of birth, mothers may not remember whether the first dose of the polio vaccine was given just after birth or later. Therefore, the coverage of polio 0 reported in the NFHS may be subject to response errors.

Table 28 Vaccinations (Contd.)

The percentage of children age 12-23 months with vaccination cards seen by the interviewer, and the percentage who have received each vaccine (according to the vaccination card or mother's report), by residence and state, India, 1992-93

State	Per-centage showing a card	Percent of children age 12-23 months who have received:										
		BCG	Polio 0	DPT			Polio			Measles	All ¹	None
				1	2	3	1	2	3			
TOTAL												
India	30.6	62.2	4.6	66.3	59.2	51.7	67.0	61.2	53.4	42.2	35.4	30.0
North												
Delhi	45.5	90.1	2.3	89.0	81.9	71.6	88.8	85.1	75.0	69.6	57.8	6.7
Haryana	31.3	77.4	2.1	80.5	75.0	66.8	80.5	75.4	67.7	60.9	53.5	17.5
Himachal Pradesh	53.6	84.5	2.2	90.1	83.8	78.2	90.1	85.9	77.7	71.5	62.9	8.7
Jammu Region of J & K	47.9	81.3	1.7	83.7	82.3	77.8	83.8	82.4	77.1	69.1	65.7	16.2
Punjab	37.8	77.4	1.7	81.9	78.5	73.6	82.2	78.2	73.4	64.8	61.9	17.5
Rajasthan	16.3	45.7	11.4	47.8	38.6	29.7	48.8	41.2	32.8	31.2	21.1	48.5
Central												
Madhya Pradesh	21.8	56.8	4.3	60.8	53.5	43.7	62.8	56.7	46.6	40.7	29.2	34.4
Uttar Pradesh	23.0	48.9	1.5	52.2	41.8	34.1	51.8	44.7	37.1	26.3	19.8	43.3
East												
Bihar	16.7	33.9	2.8	42.8	37.0	29.1	45.0	40.6	31.6	14.6	10.7	53.5
Orissa	41.7	63.3	3.1	69.0	63.6	56.3	70.3	64.8	56.7	40.2	36.1	28.0
West Bengal	47.7	63.1	0.9	73.7	62.9	51.9	75.2	66.6	56.0	42.5	34.2	22.4
North-East												
Arunachal Pradesh	37.5	46.2	2.5	50.0	45.6	38.7	48.1	44.4	38.7	27.5	22.5	47.5
Assam	39.5	48.2	1.2	53.4	42.2	31.0	54.2	42.9	32.7	25.8	19.4	43.6
Manipur	42.5	63.8	3.1	66.1	55.9	43.3	63.8	51.2	39.4	37.0	29.1	32.3
Meghalaya	15.3	43.7	1.4	36.8	30.6	22.9	36.1	31.9	23.6	13.2	9.7	54.9
Mizoram	38.2	77.3	4.5	83.6	80.0	71.8	80.9	76.4	69.1	65.5	56.4	14.5
Nagaland	11.9	19.4	3.1	21.3	16.9	12.5	21.9	18.8	15.0	10.0	3.8	75.0
Tripura	43.0	39.7	0.8	57.0	43.8	32.2	57.0	43.0	32.2	28.9	19.0	42.1
West												
Goa	74.9	93.5	14.0	93.9	90.0	86.7	94.3	90.7	87.1	77.8	74.9	5.4
Gujarat	32.0	77.1	4.4	77.8	71.4	63.8	77.8	71.2	62.9	55.9	49.8	18.9
Maharashtra	39.2	86.9	5.9	90.0	85.9	83.1	90.2	85.5	81.6	70.2	64.1	7.5
South												
Andhra Pradesh	35.3	73.9	3.3	77.3	72.3	66.1	78.9	74.6	68.0	53.8	45.0	17.5
Karnataka	34.4	81.7	5.3	80.6	76.6	70.7	81.9	77.7	71.4	54.9	52.2	15.2
Kerala	56.2	86.1	11.9	84.8	81.5	73.7	85.1	82.3	75.2	60.5	54.4	11.4
Tamil Nadu	38.2	91.7	19.4	95.0	92.2	86.5	94.1	91.0	85.3	71.6	64.9	3.3

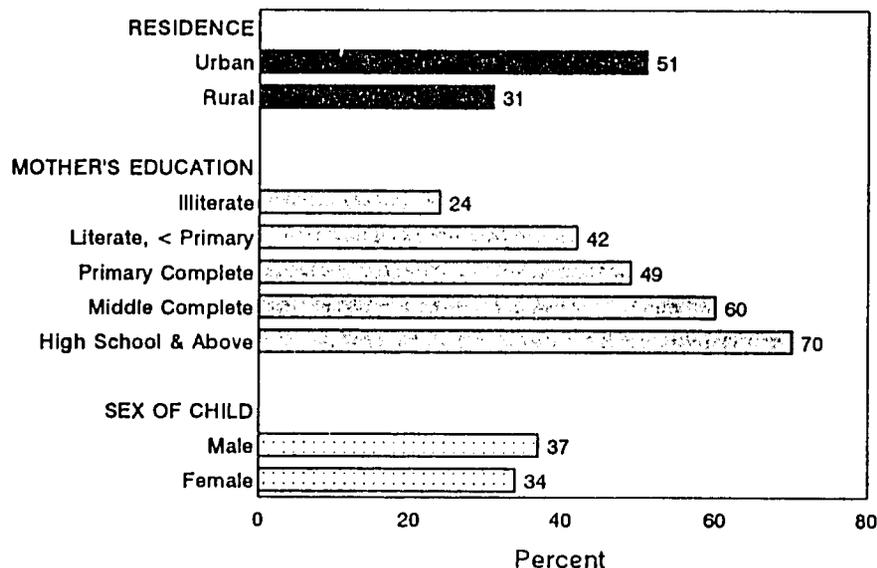
Note: Urban total includes 14 children from Tripura, who are not shown separately, because there are fewer than 25 unweighted cases.

() Based on 25-49 unweighted cases

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

UIP was to vaccinate at least 85 percent of all infants against six vaccine-preventable diseases by 1990. It is, therefore, a matter of great concern that none of the states has achieved this target even in 1992-93. The highest coverage is for BCG (62 percent) and the first doses of DPT (66 percent) and polio (67 percent).

Figure 6
 Percentage of Children Age 12-23 Months
 Who Have Received All Vaccinations



NFHS, India, 1992-93

Slightly more than half of children have received three doses of DPT and polio vaccine, and 42 percent have been vaccinated against measles. The DPT and polio coverage rates are about the same because both vaccines are normally administered together. Not all children who begin with the DPT and polio series go on to complete them. More than 1 in 5 children drop out between the first and third doses of DPT and polio.

The analysis of vaccine-specific data indicates higher coverage for each type of vaccine in urban areas than in rural areas. The proportion of children fully vaccinated is 51 percent in urban areas and 31 percent in rural areas (Figure 6). In addition, dropout rates for DPT and polio are lower in urban than in rural areas. With the exception of polio 0, vaccine coverage is slightly higher for males than for females. The percentage fully vaccinated is 37 percent for male children and 34 percent for female children.

There are some notable differentials in vaccination coverage across the states (Figure 7). The proportion of children fully vaccinated is highest in Goa (75 percent), followed by Jammu (66 percent), Tamil Nadu (65 percent), Maharashtra

Table 29 Vaccinations by background characteristics

The percentage of children age 12-23 months with vaccination cards seen by the interviewer, and the percentage who have received each vaccine (according to the vaccination card or mother's report), by selected background characteristics, India, 1992-93

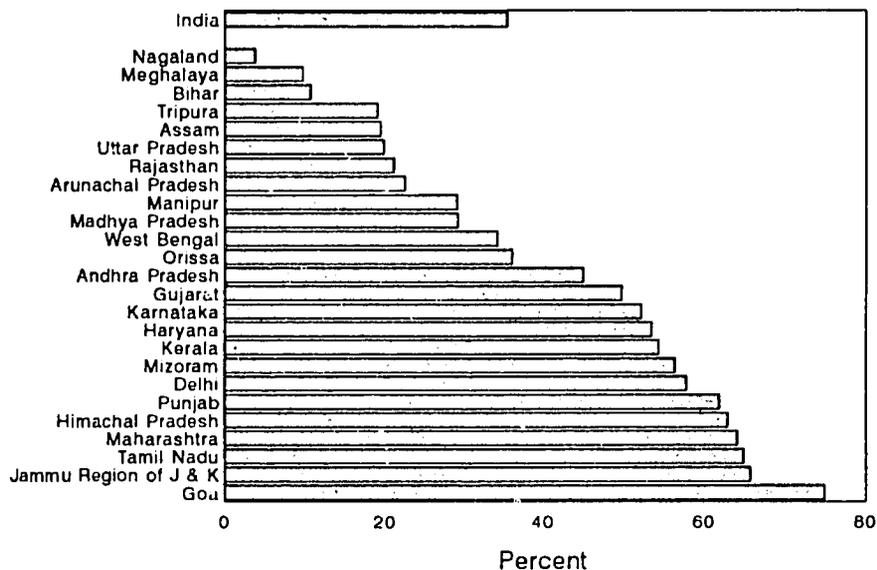
Background characteristic	Pre-centage showing a card	Percent of children age 12-23 months who have received:										
		BCG	Polio 0	DPT			Polio			Measles	All ¹	None
				1	2	3	1	2	3			
Sex of child												
Male	32.4	64.0	4.6	68.2	61.3	53.5	69.1	63.4	55.0	43.7	36.7	27.8
Female	28.7	60.3	4.6	64.4	57.1	49.8	64.8	58.9	51.7	40.6	34.1	32.3
Residence												
Urban	37.8	77.6	7.8	80.4	75.2	68.8	80.8	76.8	70.2	57.5	50.7	16.4
Rural	28.5	57.6	3.6	62.1	54.5	46.6	62.9	56.5	48.4	37.7	30.9	34.0
Education												
Illiterate	23.4	50.8	2.9	55.4	47.5	39.0	56.4	49.5	41.0	30.8	24.0	40.1
Lit., < primary complete	39.9	69.4	5.1	73.2	66.1	57.1	73.9	66.8	58.3	48.2	42.1	23.0
Primary school complete	41.9	78.9	5.5	83.6	77.1	71.1	84.2	80.2	73.5	55.7	49.2	14.1
Middle school complete	47.5	87.1	9.0	90.0	84.8	79.3	88.7	85.4	78.7	67.4	60.3	8.2
High school complete	46.1	92.8	10.4	94.2	90.5	86.3	94.6	91.9	87.7	76.7	70.0	4.2
Total	30.6	62.2	4.6	66.3	59.2	51.7	67.0	61.2	53.4	42.2	35.4	30.0

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

(64 percent), Himachal Pradesh (63 percent), and Punjab (62 percent). Among the major states, the worst conditions exist in Bihar, where only one-tenth of children age 12-23 months are fully vaccinated. Less than one-fifth of the children are also fully vaccinated in Nagaland (4 percent), Meghalaya (10 percent), Assam (19 percent), Tripura (19 percent) and Uttar Pradesh (20 percent). In every state except Maharashtra and Goa, the percentage fully vaccinated is higher in urban areas than in rural areas. The urban-rural differences in vaccination coverage stand out for Rajasthan, Assam and Bihar, where the coverage rate is more than twice as high in urban areas as in rural areas.

The proportion who received all vaccinations increases with mother's education, ranging from 24 percent for children of illiterate mothers to 70 percent for children of mothers with at least a high school education. Also, the proportions dropping out between the first and third doses of DPT and polio are lower among children of mothers with at least a high school education.

Figure 7
Percentage of Children Age 12-23 Months Who
Have Received All Vaccinations by State



NFHS, India, 1992-93

H. CHILDHOOD DIARRHOEA

It is known that diarrhoea has been one of the major killer diseases in India affecting particularly children under age 5. Deaths from acute diarrhoea are most often due to dehydration resulting from loss of water and electrolytes. However, nearly all dehydration-related deaths can be prevented by prompt administration of rehydration solutions. Because deaths from diarrhoea are a significant proportion of all deaths to children, the government has launched the Oral Rehydration Therapy Programme as one of its priority activities for child survival. A major purpose of this programme is to increase awareness among women and in the community about the causes and treatment of diarrhoea. Mothers are instructed how to use Oral Rehydration Salt (ORS) packets, which are made widely available. The programme also promotes use of a home-made solution made from sugar, salt and water, which is known as Recommended Home Solution (RHS). This instruction is provided mostly through the electronic and print media and in adult literacy classes. Documentaries on diarrhoea among children and the use of ORS and preparation of RHS are regularly shown in cinema theatres. Spot announcements are also shown on television, and All India Radio frequently airs

messages about ORS and RHS. In order to gauge the extent of knowledge and use of oral rehydration, the NFHS asked mothers of children born during the last four years a series of questions regarding the prevalence of diarrhoea during the last two weeks, the type of treatment given to the child, and feeding practices during recent episodes of diarrhoea. Questions were also asked on whether ORS packets or home solutions were administered to the children suffering from diarrhoea. If the respondent had more than three births during the four years before the survey, the questions on diarrhoea were asked only for the last three births.

It should be noted that as the NFHS was not undertaken synchronously (at one point of time) in the various states in India, the calendar dates of the reference period (whether the past 24 hours or the past two weeks) for the assessment of prevalence of diarrhoea vary from state to state. Since there is seasonal variation in the incidence of diarrhoea, the prevalence rates of diarrhoea for any state cannot be assumed to reflect the situation throughout the year in that state. However, the data collection was conducted in three phases throughout the year, and hence the prevalence rate for total India may be taken as more representative of the situation throughout the year.

Five percent of children under age 4 are reported to have had diarrhoea during the 24 hours preceding the survey. During the two weeks before the survey, the corresponding proportion is 10 percent (Table 30). A marked interstate variation is observed in the prevalence of diarrhoea. Diarrhoea is most prevalent in Mizoram and least prevalent in West Bengal.

Children below two years of age are most susceptible to diarrhoea; among children below age 2, prevalence is highest among children age 6-11 months (Table 31). There are no substantial differentials by sex of the child, place of residence, and education of the mother in the prevalence of diarrhoea (Table 31).

The use of Oral Rehydration Therapy for the treatment of diarrhoea is not widespread. Among the children who had diarrhoea, only 18 percent were treated with ORS packets, and only 19 percent received a Recommended Home Solution. More than two-thirds of the children did not receive either ORS or RHS.

There is a marked interstate variation in the use of ORS or RHS. West Bengal tops the list with three-fourths of all the children suffering from diarrhoea receiving either ORS or RHS. It should be noted, however, that the prevalence of diarrhoea in West Bengal is very low. Only one-fifth of the children suffering from diarrhoea in the last two weeks in Haryana and Gujarat have received Oral

Table 30 Prevalence of diarrhoea and use of oral rehydration therapy (ORT)

Among children under four years of age, the percentage reported by the mother to have had diarrhoea in the past 24 hours and the past two weeks, and the percent of those with diarrhoea in the past two weeks who were given oral rehydration therapy (ORT), either an oral rehydration solution made from a packet (ORS) or a recommended home solution (RHS), by state, India, 1992-93

State	Percent of children who had diarrhoea:		Percent of children with diarrhoea who received ORT:		
	In past 24 hours	In past 2 weeks	ORS packets	Recommended home solution	Either ORS or RHS
India	4.8	9.9	17.5	18.6	30.5
North					
Delhi	4.5	9.7	20.6	28.2	39.4
Haryana	5.9	12.0	8.4	15.0	19.3
Himachal Pradesh	7.6	19.3	30.1	24.2	45.2
Jammu Region of J & K	9.1	22.1	33.0	22.3	44.4
Punjab	4.3	10.9	21.9	15.9	33.1
Rajasthan	3.7	5.7	13.2	13.2	22.5
Central					
Madhya Pradesh	3.9	8.5	22.3	16.0	32.9
Uttar Pradesh	4.6	8.8	12.6	12.6	22.6
East					
Bihar	6.3	13.6	11.7	13.7	23.0
Orissa	9.2	21.2	16.7	32.0	41.1
West Bengal	0.4	2.5	45.3	46.7	74.7
North-East					
Arunachal Pradesh	10.5	17.5	26.7	12.4	33.3
Assam	2.4	6.3	21.6	21.9	35.2
Manipur	7.7	12.3	51.5	30.3	62.1
Meghalaya	5.8	8.3	38.9	11.1	40.7
Mizoram	12.5	22.1	21.2	8.1	24.2
Nagaland	3.5	11.0	20.3	14.5	24.6
Tripura	1.2	3.5	*	*	*
West					
Goa	2.3	7.8	27.4	18.4	41.4
Gujarat	6.5	12.5	12.7	11.4	20.6
Maharashtra	5.1	9.5	18.2	33.9	41.7
South					
Andhra Pradesh	5.9	11.7	22.3	14.9	32.2
Karnataka	5.0	9.6	24.9	17.7	34.0
Kerala	3.4	9.2	18.9	28.0	37.8
Tamil Nadu	5.1	12.5	18.6	14.6	27.1

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

Rehydration Therapy.

Children age 6 months and above, male children, children in urban areas and children of mothers with at least a high school education are more likely to have received either ORS or RHS when they suffered from diarrhoea.

Table 31. Prevalence of diarrhoea and use of oral rehydration therapy (ORT) by background characteristics

Among children under four years of age, the percentage reported by the mother to have had diarrhoea in the past 24 hours and the past two weeks, and the percent of those with diarrhoea in the past two weeks who were given oral rehydration therapy (ORT), either an oral rehydration solution made from a packet (ORS) or a recommended home solution (RHS), by selected background characteristics, India, 1992-93

Background characteristic	Percent of children who had diarrhoea:		Percent of children with diarrhoea who received ORT:		
	In past 24 hours	In past 2 weeks	ORS packets	Recommended home solution	Either ORS or HS
Age of child					
< 6 months	6.4	10.0	8.4	10.9	16.7
6-11 months	8.6	16.3	18.9	19.7	32.7
12-23 months	5.6	12.8	20.9	20.0	34.6
24-35 months	3.5	8.4	17.7	19.2	30.3
36-47 months	2.1	5.1	15.6	20.4	31.3
Sex of child					
Male	4.9	10.2	19.6	18.7	32.4
Female	4.6	9.7	15.2	18.4	28.4
Residence					
Urban	4.0	8.7	16.8	26.3	36.7
Rural	5.0	10.3	17.7	16.6	28.9
Education					
Illiterate	4.8	10.2	15.4	14.8	25.6
Literate, < primary complete	5.2	10.5	21.0	18.9	34.5
Primary school complete	4.9	10.2	20.9	24.1	37.7
Middle school complete	4.7	9.6	20.9	26.0	39.6
High school complete	3.9	8.3	24.1	34.0	48.3
Total	4.8	9.9	17.5	18.6	30.5

I. INFANT FEEDING PRACTICES

Infant feeding practices and child nutrition have significant effects on child survival, child health and fertility. Breastfeeding improves the nutritional status of young children and reduces morbidity and mortality. Breast milk not only provides the child with important nutrients but also protects the child against certain infections. The timing and type of supplementary foods introduced in the infant's diet also have significant effects on the nutritional status of the child. The duration and intensity (i.e., frequency) of breastfeeding have additional effects on the duration of postpartum amenorrhoea, birth intervals, and fertility.

In the NFHS, data on breastfeeding and supplementation were obtained from a series of questions in Section 4 of the Woman's Questionnaire. These questions pertained to births during the four years preceding the survey. For any

given woman, a maximum of three births was included in the analysis.

The findings on breastfeeding and supplementation are summarized in Table 32. As expected, the practice of breastfeeding in India is nearly universal, with 98 percent of all children age 0-3 months currently being breastfed. Although the proportion not breastfeeding increases as children's age increases, 92 percent of children age 10-12 months are still breastfed. The urban-rural difference in the universality of breastfeeding is minor, with 96 and 99 percent of children age 0-3 months receiving breast milk in urban and rural areas, respectively.

The Innocenti Declaration on the Protection, Promotion and Support of Breastfeeding and the WHO Working Group on Infant Feeding recommend that infants should be given only breast milk up to 4-6 months of age. Aside from breast milk, no other foods or liquids are needed during this period. Exclusive breastfeeding reduces the chances of introducing infections from outside. However, only a little more than half of infants under four months are exclusively breastfed (receive only breast milk). Twenty-two percent are given both breast

Table 32 Breastfeeding and supplementation

Percent distribution of children age 0-12 months by breastfeeding status, food supplementation and use of bottle with a nipple, according to age and residence, India, 1992-93

Age in months	Not currently breastfeeding	Breast milk only	Breast milk and:				Total	Percentage bottle feeding ¹
			Plain water	Other liquids	Solid/mushy food	DK supplement		
URBAN								
0-3 months	3.7	33.6	29.8	30.5	1.8	0.5	100.0	16.2
4-6 months	7.0	14.4	23.0	42.5	12.9	0.2	100.0	29.3
7-9 months	9.7	6.3	14.2	30.1	39.6	0.0	100.0	28.7
10-12 months	14.9	1.7	8.1	21.4	53.9	0.0	100.0	25.6
RURAL								
0-3 months	1.5	55.4	19.9	21.5	1.3	0.4	100.0	7.7
4-6 months	2.5	29.7	27.1	30.7	9.8	0.2	100.0	13.6
7-9 months	3.4	10.4	18.9	31.1	35.9	0.3	100.0	12.2
10-12 months	5.6	4.8	10.0	20.8	58.7	0.0	100.0	11.9
TOTAL								
0-3 months	1.9	50.9	22.0	23.4	1.4	0.4	100.0	9.5
4-6 months	3.5	26.4	26.2	33.3	10.5	0.2	100.0	17.0
7-9 months	5.0	9.4	17.7	30.9	36.8	0.3	100.0	16.4
10-12 months	8.0	4.0	9.5	21.0	57.5	0.0	100.0	15.4

DK: Don't know/no information

¹Based on last-born children

milk and plain water, and 23 percent are given breast milk and other liquids such as milk, juice and soup. One percent are given solid or mushy foods along with breast milk. The percentage of children age 0-3 months who are exclusively breastfed is 34 and 55 percent in urban and rural areas, respectively.

Another WHO recommendation is that at age 4-6 months, appropriate and adequate complementary food should be added to the infant's diet because exclusive breastfeeding may not provide the child sufficient nutrients for optimal growth. However, only 44 percent of children age 4-6 months (55 percent in urban areas and 41 percent in rural areas) receive other liquids or solid/mushy food.

The use of a bottle with a nipple to feed children is of interest to both demographers and health personnel. 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 exposes children to an increased risk of diarrhoea and other diseases. It is, therefore, recommended that a feeding bottle with a nipple should not be used at any age, mainly for reasons of sanitation and the prevention of diseases. The use of bottles with nipples is not common in India, increasing from 10 percent for children age 0-3 months to 17 percent for children age 4-6 months. At ages 10-12 months, 15 percent of children are bottle fed. At all ages, a higher percentage of infants in urban areas than those in rural areas are likely to be bottle fed.

Parallel to the above recommendations, several indicators of breastfeeding practices have been suggested by WHO 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 being breastfed. The *continued breastfeeding rate through 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 are presented for India as well as for states in Table 33.

Table 33 Recommended breastfeeding indicators

Recommended breastfeeding indicators for children age 0-23 months by state, India, 1992-93

State	Recommended breastfeeding indicators				
	Percent of children 0-3 months exclusively breastfed	Percent of children 6-9 months receiving breast milk and solid/mushy food	Percent of children 12-15 months breastfed	Percent of children 20-23 months breastfed	Percent of last-born children <12 months bottle fed
India	51.0	31.4	87.5	66.6	14.2
North					
Delhi	20.0	25.1	74.6	52.8	36.3
Haryana	37.5	38.5	89.4	58.3	20.0
Himachal Pradesh	36.4	39.9	80.2	54.7	24.6
Jammu Region of J & K	16.9	44.8	83.4	51.8	38.3
Punjab	3.3	37.3	77.9	40.4	27.1
Rajasthan	65.9	9.4	87.3	74.8	8.9
Central					
Madhya Pradesh	31.4	27.7	90.2	65.4	7.3
Uttar Pradesh	60.3	19.4	89.9	73.8	12.1
East					
Bihar	51.5	18.1	92.0	79.3	10.0
Orissa	45.7	30.2	91.5	79.7	14.5
West Bengal	40.0	53.6	91.9	83.9	21.7
North-East					
Arunachal Pradesh	(73.9)	35.8	98.0	73.0	7.2
Assam	65.0	39.2	94.8	82.5	12.8
Manipur	70.4	(50.0)	(89.5)	(61.5)	7.2
Meghalaya	18.0	(56.2)	63.6	(51.4)	24.4
Mizoram	(45.5)	(64.3)	(81.6)	(37.9)	14.7
Nagaland	61.1	43.5	70.3	(46.9)	23.7
Tripura	(47.9)	*	98.1	(74.2)	29.5
West					
Goa	10.8	33.9	53.1	40.0	66.7
Gujarat	36.3	22.9	85.8	48.1	9.2
Maharashtra	37.1	25.0	85.2	62.2	11.2
South					
Andhra Pradesh	70.5	47.8	86.9	67.7	12.5
Karnataka	65.6	38.2	84.3	54.5	13.5
Kerala	59.2	69.3	84.0	61.7	26.2
Tamil Nadu	55.8	56.5	65.4	35.5	30.7

() Based on 25-49 unweighted cases

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

Although breastfeeding is universal in India, there are wide interstate differences in the exclusive breastfeeding rate. Exclusive breastfeeding rates above 70 percent are noted for Arunachal Pradesh, Manipur and Andhra Pradesh. Less

than 20 percent of infants age 0-3 months are exclusively breastfed in Jammu, Punjab, Meghalaya and Goa. As already mentioned, slightly more than 50 percent of the infants age 0-3 months in the country as a whole are exclusively breastfed.

The timely complementary feeding rate for India as a whole is only 31 percent. The timely complementary feeding rate varies substantially by state, ranging from 9 percent in Rajasthan to 69 percent in Kerala. In all major states except West Bengal, Kerala and Tamil Nadu, more than 50 percent of children age 6-9 months are not receiving solid/mushy foods in addition to breast milk.

Nearly 88 percent of children age 12-15 months are still breastfed, and there is not much variation in this continued breastfeeding rate by state. The continued breastfeeding rate for children age 20-23 months is 67 percent for India as a whole. In this case there are marked interstate variations. The highest continued breastfeeding rate for children age 20-23 months occurs in West Bengal (84 percent) and the lowest continued breastfeeding rate occurs in Tamil Nadu (36 percent).

For India as a whole, the bottle feeding rate among infants below age 12 months is 14 percent. Again there is substantial variation by state. Goa has by far the highest bottle feeding rate, at 67 percent. The next highest is Jammu, at 38 percent. Less than 10 percent of infants are bottle fed in Rajasthan, Arunachal Pradesh, Manipur, Gujarat and Madhya Pradesh.

J. INFANT AND CHILD MORTALITY

The level of infant and child mortality is a basic indicator of the quality of life in a society. Although the questionnaire and interviewing procedures used in the NFHS were designed to collect complete and accurate mortality information, the reporting of the date of birth and age at death of deceased children can be taxing for mothers. Indeed, some mothers may be reluctant to report childhood deaths altogether. Accordingly, the data on childhood mortality should be viewed with caution until a more thorough analysis is conducted.

All respondents in the NFHS were asked to give a complete history of their births, including the sex, date of birth, survival status, and age at the time of the survey or age at death for each live birth. For children who had died, age at death was recorded in days for children dying in the first month of life, in months for children dying before their second birthday, and in years for children dying at later

ages. This information was used to calculate several measures of infant and child mortality which are described in the following paragraph¹⁰.

Tables 34 and 35 and Figure 8 present mortality rates for three quinquennial periods (0-4 years, 5-9 years, and 10-14 years preceding the survey). The following rates are shown:

- ▶ **Neonatal mortality:** the probability of dying within the first month of life;
- ▶ **Postneonatal mortality:** the difference between infant and neonatal mortality;
- ▶ **Infant mortality (${}_1q_0$):** the probability of dying before exact age 1;
- ▶ **Child mortality (${}_4q_1$):** the probability of dying between the first and fifth birthday;
- ▶ **Under-five mortality (${}_5q_0$):** the probability of dying between birth and exact age 5.

The infant mortality rate for India for the 5-year period immediately preceding the survey (approximately 1988-92) is estimated to be 79 per 1,000 live births. In other words, 8 percent of children born in India do not survive until their first birthday. The child mortality rate for the same time period is 33 per 1,000 children who reach their first birthday and the under-five mortality rate is 109 per 1,000 live births. Thus, 1 out of every 9 children dies within the first five years of life. The NFHS infant mortality rate (79 deaths per 1,000 births) is virtually identical with the SRS infant mortality rate of 80 for 1990, which is approximately the midpoint of the period for calculating the NFHS rate. The NFHS estimate, however, is slightly lower than the average SRS infant mortality

¹⁰ A detailed description of the method for calculating the probabilities presented here is given in Shea Oscar Rutstein (1984), *Infant and Child Mortality: Levels, Trends, and Demographic Differentials*, WFS Comparative Studies No. 43, International Statistical Institute, Voorburg, Netherlands. The mortality estimates are not rates, but are true probabilities, calculated according to the conventional life table approach. For any calendar period, deaths and exposure in that 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, denoted q_i . Finally, probabilities of death over larger age intervals are calculated by multiplying the relevant age-interval survival probabilities together and subtracting the product from one:

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

Table 34 Infant and child mortality

Infant and child mortality rates for 0-4 years preceding the survey, by state, India, 1992-93

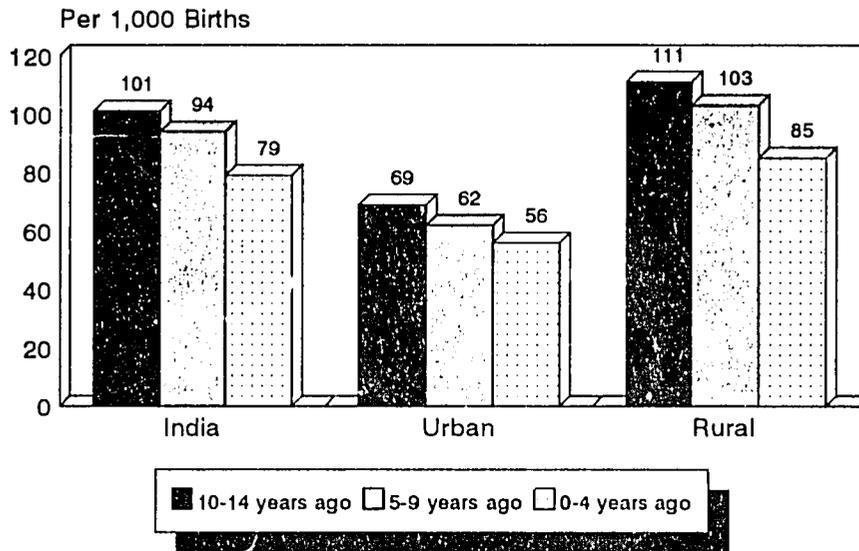
State	Neonatal mortality (NN)	Postneonatal mortality (PNN)	Infant mortality (${}_1q_0$)	Child mortality (${}_4q_1$)	Under-five mortality (${}_5q_0$)
India	48.6	29.9	78.5	33.4	109.3
North					
Delhi	34.9	30.5	65.4	19.0	83.1
Haryana	38.4	34.9	73.3	27.4	98.7
Himachal Pradesh	34.2	21.7	55.8	14.1	69.1
Jammu Region of J & K	31.9	13.5	45.4	14.3	59.1
Punjab	31.2	22.5	53.7	15.0	68.0
Rajasthan	37.2	35.4	72.6	32.3	102.6
Central					
Madhya Pradesh	53.2	32.0	85.2	49.3	130.3
Uttar Pradesh	59.9	40.0	99.9	46.0	141.3
East					
Bihar	54.8	34.4	89.2	42.0	127.5
Orissa	64.7	47.4	112.1	21.3	131.0
West Bengal	51.8	23.5	75.3	26.0	99.3
North-East					
Arunachal Pradesh	17.5	22.5	40.0	33.3	72.0
Assam	50.9	37.8	88.7	58.7	142.2
Manipur	25.1	17.3	42.4	20.2	61.7
Meghalaya	37.8	26.3	64.2	24.3	86.9
Mizoram	8.3	6.3	14.6	14.9	29.3
Nagaland	10.0	7.2	17.2	3.6	20.7
Tripura	43.6	32.3	75.8	31.2	104.6
West					
Goa	20.6	11.3	31.9	7.2	38.9
Gujarat	42.3	26.4	68.7	37.9	104.0
Maharashtra	36.4	14.0	50.5	20.9	70.3
South					
Andhra Pradesh	45.3	25.0	70.4	22.4	91.2
Karnataka	45.3	20.2	65.4	23.5	87.3
Kerala	15.5	8.2	23.8	8.4	32.0
Tamil Nadu	46.2	21.5	67.7	20.1	86.5

Note: Postneonatal mortality is computed as the difference between infant and neonatal mortality.

rate for the period 1988-92 (85 deaths per 1,000 live births). Neonatal mortality was estimated to be responsible for 62 percent of infant mortality in the NFHS and 66 percent in the 1990 SRS.

Infant mortality rates vary dramatically from one state to another, ranging from 15 in Mizoram to 112 in Orissa (Figure 9). Orissa also recorded the highest infant mortality rate in the SRS in every year between 1988 and 1992. Other states with NFHS infant mortality rates above the national average are Uttar

Figure 8
Infant Mortality Rates for Five-Year
Periods by Residence



Note: Rates are for 5-year periods preceding the survey

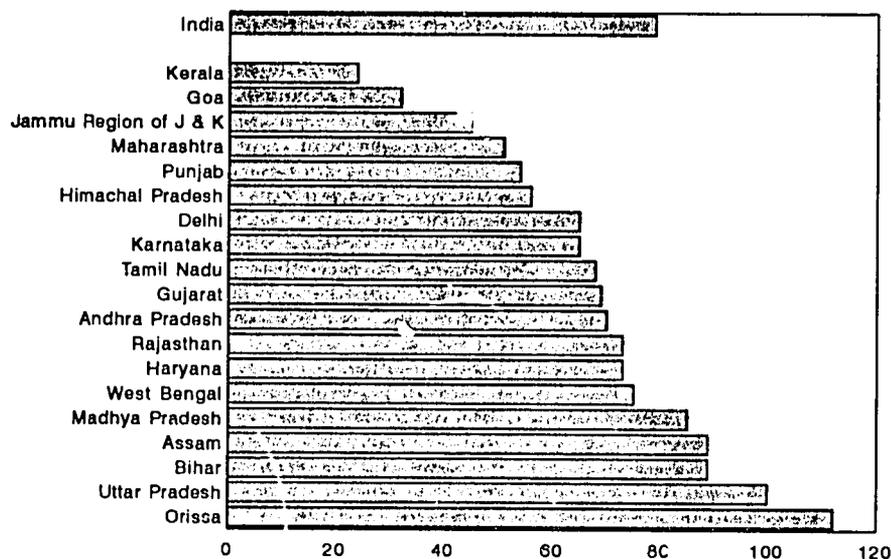
NFHS, India, 1992-93

twice as high in rural areas. Over the three periods shown in Table 35, neonatal and child mortality declined at the same rate in urban and rural areas, whereas postneonatal mortality declined nearly twice as fast in rural areas than in urban areas. Despite the substantial improvement in survival rates over time, 1 in every 8 children in rural areas still dies before reaching age 5.

K. MATERNAL MORTALITY

It has been estimated by the World Health Organization that worldwide at least one-half million women die every year from causes related to pregnancy and childbirth. Although reliable national estimates of maternal mortality are not available for most countries, South Asia is thought to have among the highest maternal mortality rates in the world. Most demographic surveys do not have samples which are large enough to produce reliable estimates of maternal mortality. The NFHS sample, however, is sufficiently large to estimate maternal mortality at the national level for the two-year period preceding the survey. The NFHS estimates are based on a series of questions in the household questionnaire

Figure 9
Infant Mortality Rate by State



Note: Rates are for 5-year periods preceding the survey; excludes 6 small north-eastern states

NFHS, India, 1992-93

about deaths occurring to usual residents of the household and visitors since January (or since *Pongal* or *Makar Sankranti*) of the second calendar year preceding the start of the survey in each state. In the case of deaths to women age 13-49, a series of follow-up questions was asked about whether the woman was pregnant when she died, whether the death occurred during childbirth, whether she died within two months after the end of a pregnancy or childbirth, and whether the death was due to a complication of the pregnancy or childbirth.

On the basis of this information, it is possible to calculate the *maternal mortality rate* (MMR), which is defined here as the number of maternal deaths per 100,000 live births. This measure is based on the annual number of female deaths to usual residents of the sample households that occurred during childbirth or within two months after the end of a pregnancy or childbirth. The average maternal mortality rate at the national level for the 2-year period preceding the NFHS was 420 deaths per 100,000 live births. The rural MMR (431) was 13 percent higher than the urban MMR (380). There is no way to assess the completeness and accuracy of these estimates, but it should be pointed out that direct survey estimates of this type often underenumerate maternal deaths.

NFHS death records, are in close agreement with the SRS estimates (in fact, the NFHS adult mortality estimates are slightly higher), so there is no reason to believe that the NFHS maternal mortality rates are seriously underestimated.

L. KNOWLEDGE OF AIDS

Acquired Immune Deficiency Syndrome, or AIDS as it is more commonly known, was first identified in 1981. Several million individuals worldwide are now estimated to be infected with the human immunodeficiency virus (HIV), which causes AIDS. A large proportion (30-50 percent) of these infected individuals are expected to die within 5-10 years of acquiring the infection¹¹. Because of the high case fatality rate and the lack of a curative treatment or a vaccine, the HIV/AIDS pandemic is one of the most serious health problems in the world.

Control programmes have been undertaken in many countries, including India, which has initiated an AIDS prevention programme. According to an estimate of the Ministry of Health and Family Welfare, approximately 600,000 persons in India were HIV positive in 1992¹². Thus, AIDS is already a matter of serious concern in India and it has the potential of becoming a major health problem.

In 13 of the 25 states, the NFHS included a series of questions about knowledge of AIDS, its modes of transmission and measures of prevention. A detailed analysis of responses to these questions is contained in the individual state survey reports. In this preliminary report, only the findings on the overall knowledge of AIDS are presented.

Table 36 shows the percentage of women who have heard about AIDS. In general, the knowledge that there is an illness called AIDS is very low. Among the major states where the knowledge of AIDS has been investigated (Assam, Gujarat, Maharashtra, Tamil Nadu and West Bengal), the level of knowledge is highest in Tamil Nadu, where only 23 percent of women reported having heard about the disease. In Assam and West Bengal, less than 10 percent of women are

¹¹ World Health Organization. 1992. *AIDS in Africa: A Manual for Physicians*, World Health Organization, Geneva.

¹² Ministry of Health and Family Welfare. 1993. *Country Scenario, AIDS*, National AIDS Control Organization, New Delhi.

Table 36 Knowledge of Acquired Immune Deficiency Syndrome (AIDS)

Percentage of interviewed women who have heard about AIDS, by state, India, 1992-93

State	Percentage who have heard about AIDS
Delhi	35.8
Arunachal Pradesh	16.2
Assam	8.4
Manipur	72.5
Meghalaya	26.7
Mizoram	84.8
Nagaland	40.9
Tripura	13.2
West Bengal	9.8
Tamil Nadu	23.4
Goa	41.7
Gujarat	10.6
Maharashtra	18.6

aware of AIDS. Even in Delhi, where considerable media attention has been focused on AIDS, only 36 percent of women have heard of the disease. In the northeastern states, the level of knowledge varies substantially. In Mizoram and Manipur, where the incidence of AIDS is reported to be high, a large majority of women (85 and 73 percent, respectively) reported having heard about the disease. In Arunachal Pradesh and Tripura, on the other hand, fewer than 1 in 6 women have heard of AIDS.