

NFHS-2

PN-ACJ-019 105381

PN-ACJ-019

Andhra Pradesh

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



International Institute for Population Sciences

World Summit for Children Indicators: Andhra Pradesh, 1998–99

BASIC INDICATORS

Childhood mortality	Infant mortality rate	66 per 1,000
	Under-five mortality rate	86 per 1,000
Childhood malnutrition	Percent stunted (children 0–35 months)	38.6
	Percent wasted (children 0–35 months)	9.1
	Percent underweight (children 0–35 months)	37.7
Clean water supply	Percent of households within 15 minutes of a safe water supply ¹	54.9
Sanitary excreta disposal	Percent of households with flush toilets	18.0
Basic education	Percent of women age 15–49 with completed primary education	37.8
	Percent of men age 15–49 with completed primary education	61.3
	Percent of girls age 6–12 attending school	76.1
	Percent of boys age 6–12 attending school	84.9
	Percent of women age 15–49 who are literate	43.5
Children in especially difficult situations	Percent of children age 0–14 who live in single adult households	2.2

SUPPORTING INDICATORS

Birth spacing	Percent of births within 24 months of a previous birth	27.3
Safe motherhood	Percent of births with medical antenatal care	92.7
	Percent of births with antenatal care in first trimester	52.4
	Percent of births with medical assistance at delivery	65.2
	Percent of births in a medical facility	49.8
	Percent of births at high risk	44.5
Family planning	Contraceptive prevalence rate (any method, currently married women)	59.6
	Percent of currently married women with an unmet need for family planning	7.7
	Percent of currently married women with an unmet need for family planning to avoid a high-risk birth	4.7
Maternal nutrition	Percent of mothers with low BMI	37.4
Low birth weight	Percent of births with low birth weight (of those reporting a numeric weight)	18.5
Breastfeeding	Percent of children under 4 months who are exclusively breastfed	74.6
Iodized salt intake	Percent of households that use iodized salt	27.4
Vaccinations	Percent of children whose mothers received tetanus toxoid vaccinations during pregnancy	87.4
	Percent of children 12–23 months with measles vaccination	64.7
	Percent of children 12–23 months fully vaccinated	58.7
Diarrhoea control	Percent of children with diarrhoea in the preceding 2 weeks who received ORS, sugar-salt-water solution, or gruel	48.0
Acute respiratory infection	Percent of children with acute respiratory infection in the preceding 2 weeks seen by medical personnel	69.4

¹Piped, well, and bottled water

PHHS 019

NATIONAL FAMILY HEALTH SURVEY (NFHS-2)

INDIA

1998-99

ANDHRA PRADESH

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

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

May 2000

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PREFACE

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

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

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

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

The survey used uniform questionnaires, sample designs, and field procedures to facilitate comparability of the data and to achieve a high level of data quality. Preliminary reports with selected results were prepared earlier for each state and presented to policymakers and

programme administrators responsible for improving health and family welfare programmes in most states.

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

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

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

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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 for successful execution of the project.

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

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

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FACT SHEET, ANDHRA PRADESH

NATIONAL FAMILY HEALTH SURVEY, 1998-99

Sample Size

Households	3872
Ever-married women age 15-49.....	4032

Characteristics of Households

Percent with electricity	74.4
Percent within 15 minutes of safe water supply ¹	54.9
Percent with flush toilet	18.0
Percent with no toilet facility	72.7
Percent using govt. health facilities for sickness.....	14.8
Percent using iodized salt (at least 15 ppm).....	27.4

Characteristics of Women²

Percent urban	24.9
Percent illiterate.....	63.8
Percent completed high school and above	10.8
Percent Hindu	87.3
Percent Muslim.....	6.7
Percent Christian.....	5.9
Percent regularly exposed to mass media	76.3
Percent working in the past 12 months	58.7

Status of Women²

Percent involved in decisions about own health	56.1
Percent with control over some money.....	57.7

Marriage

Percent never married among women age 15-19	55.1
Median age at marriage among women age 20-49.....	15.4

Fertility and Fertility Preferences

Total fertility rate (for the past 3 years)	2.25
Mean number of children ever born to women 40-49 ³	4.03
Median age at first birth among women age 20-49.....	18.3
Percent of births ⁴ of order 3 and above	31.5
Mean ideal number of children ⁵	2.4
Percent of women with 2 living children wanting another child	11.3

Current Contraceptive Use⁶

Any method	59.6
Any modern method	58.9
Pill	0.5
IUD	0.6
Condom	0.7
Female sterilization.....	52.7
Male sterilization	4.3
Any traditional method	0.5
Rhythm/safe period.....	0.4
Withdrawal	0.1
Other traditional or modern method.....	0.2

Unmet Need for Family Planning⁶

Percent with unmet need for family planning	7.7
Percent with unmet need for spacing	5.2

¹ Water from pipes, handpump, or covered well

² Ever-married women age 15-49

³ Ever-married women

⁴ For births in the past 3 years

⁵ Excluding women giving non-numeric responses

⁶ Among currently married women age 15-49

Quality of Family Planning Services⁷

Percent told about side effects of method	13.3
Percent who received follow-up services	79.9

Childhood Mortality

Infant mortality rate ⁸	65.8
Under-five mortality rate ⁸	85.5

Safe Motherhood and Women's Reproductive Health

Percent of births ⁹ within 24 months of previous birth	27.3
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Percent of births⁴ whose mothers received:

Antenatal check-up from a health professional.....	92.7
Antenatal check-up in first trimester.....	52.4
Two or more tetanus toxoid injections.....	81.5
Iron and folic acid tablets or syrup	81.2

Percent of births⁴ whose mothers were assisted at delivery by a:

Doctor.....	50.5
Nurse/midwife	13.6
Traditional birth attendant	26.5

Percent⁶ reporting at least one reproductive health problem..... 48.5

Awareness of AIDS

Percent of women who have heard of AIDS.....	55.3
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Child Health

Percent of children age 0-3 months exclusively breastfed	74.6
Median duration of breastfeeding (months).....	24.8

Percent of children¹⁰ who received vaccinations:

BCG.....	90.2
DPT (3 doses)	79.5
Polio (3 doses)	81.6
Measles.....	64.7
All vaccinations	58.7

Percent of children¹¹ with diarrhoea in the past 2 weeks who received oral rehydration salts (ORS)..... 40.0

Percent of children with acute respiratory infection in the past 2 weeks taken to a health facility or provider..... 69.4

Nutrition

Percent of women with anaemia ¹²	49.8
Percent of women with moderate/severe anaemia ¹²	17.3
Percent of children age 6-35 months with anaemia ¹²	72.3
Percent of children age 6-35 months with moderate/ severe anaemia ¹²	49.3
Percent of children chronically undernourished (stunted) ¹³	38.6
Percent of children acutely undernourished (wasted) ¹³	9.1
Percent of children underweight ¹³	37.7

⁷ For current users of modern methods

⁸ For the 5 years preceding the survey (1994-98)

⁹ For births in the past 5 years (excluding first births)

¹⁰ Children age 12-23 months

¹¹ Children under 3 years old

¹² Anaemia-haemoglobin level < 11.0 grams/deciliter (g/dl) for children and pregnant women and < 12.0 g/dl for nonpregnant women. Moderate/severe anaemia-haemoglobin level < 10.0 g/dl.

¹³ Stunting assessed by height-for-age, wasting assessed by weight-for-height, underweight assessed by weight-for-age

SUMMARY OF FINDINGS

The second National Family Health Survey (NFHS-2), conducted in 1998–99, provides information on fertility, family planning, and important aspects of health, nutrition, and healthcare. The International Institute for Population Sciences (IIPS) coordinated the survey, which collected information from a nationally representative sample of approximately 95,000 ever-married women, age 15–49, from 26 states of India. These states comprise more than 99 percent of India's population.

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

In Andhra Pradesh, NFHS-2 field staff collected information from 3,872 households between 26 November 1998 and 4 March 1999 and interviewed 4,032 eligible women in these households. In addition to information on these women and their households, the survey collected information on 1,129 of their children born since January 1995. One health investigator on each survey team measured the height and weight of women and young children and took blood samples to assess the prevalence of anaemia.

Background Characteristics of the Survey Population

Three-quarters (76 percent) of the population of Andhra Pradesh live in rural areas. The age distribution is typical of populations that have recently experienced a fertility decline, with relatively low proportions in the younger and older age groups. Thirty-three percent of the population is below age 15, and 5 percent is age 65 and above. The sex ratio is 995 females for every 1,000 males in rural areas but only 954 females for every 1,000 males in urban areas, suggesting that more men than women have migrated to urban areas.

The survey provides a variety of demographic and socioeconomic background information. Two-thirds (67 percent) of males and nearly half (46 percent) of females age six and above are literate, an increase of 7–8 percentage points from literacy rates at the time of NFHS-1. Seventy-six percent of children age 6–14 are attending school, an increase from 63 percent in NFHS-1. The proportions enrolled are rising rapidly at all levels of schooling, particularly for girls, but girls still lag behind boys in school attendance. Moreover, the disparity in school attendance by sex grows with increasing age of children. At age 15–17, 48 percent of boys attend school, compared with 30 percent of girls.

Questions about housing conditions and the standard of living of household members indicate some improvements since the time of NFHS-1. Seventy-four percent of households in Andhra Pradesh have electricity, and 52 percent have piped drinking water, compared with 62 percent and 36 percent, respectively, in NFHS-1. Seventy-three percent of households do not have any toilet facility, however.

In the state as a whole, 88 percent of household heads are Hindu, 6 percent are Muslim, and 6 percent are Christian. Muslims are concentrated in urban areas, where they comprise 15 percent of household heads. Twenty percent of household heads belong to scheduled castes, 5 percent belong to scheduled tribes, and 44 percent belong to other backward classes (OBCs). Less than one-third of household heads do not belong to any of these groups.

Women in Andhra Pradesh tend to marry at an early age. Forty-five percent of women age 15–19 are already married. In rural areas, more than half (53 percent) of women age 15–19 are married. Older women are more likely than younger women to have married at an early age: 61 percent of women who are now age 45–49 married before they were 15, compared with 18 percent of women age 15–19. Although this indicates that the proportion of women who marry young is declining rapidly, the majority of women in Andhra Pradesh still marry before reaching the legal minimum age of 18 years. On average, women are six years younger than the men they marry.

As part of an increasing emphasis on gender issues in NFHS-2, the survey asked women about their participation in household decision-making. In Andhra Pradesh, 93 percent of women are involved in decision-making on at least one of four selected topics. A much lower proportion (56 percent), however, are involved in decision-making about their own healthcare. Fifty-nine percent of women do work other than housework, and more than three-fourths of these women work for cash. Only 32 percent of women who earn cash can decide independently how to spend the money that they earn.

Fertility and Family Planning

Fertility continues to decline in Andhra Pradesh. At current fertility levels, women will have an average of 2.3 children each throughout their childbearing years, one of the lowest levels in India. The total fertility rate is down from 2.6 children per woman at the time of NFHS-1 and is now approaching the replacement level of just over two children per woman.

Efforts to encourage the trend toward lower fertility might usefully focus on groups within the population that have higher fertility than average. In Andhra Pradesh, poor women and women from scheduled tribes and scheduled castes have somewhat higher fertility than other women, but the differences are not large. A more striking feature is the high level of childbearing among young women. The median age at first childbirth is 19 years, and women age 15–19 account for 29 percent of total fertility. Studies in India and elsewhere have shown that health and mortality risks increase when women give birth at such young ages—both for the women themselves and for their children. Family planning programmes focusing on women in this age group could make a significant impact on maternal and child health as well as reducing overall fertility in the state.

The appropriate design of family planning programmes depends, to a large extent, on women's fertility preferences. Women may have large families because they want many children, or they may prefer small families but, for a variety of reasons, may have more children than they actually want. For 7 percent of births over the three years preceding NFHS-2, mothers report that they did not want the pregnancy at all, and for another 13 percent of these births, mothers say that they would have preferred to delay the pregnancy. When asked about their preferred family size, nearly one-half (44 percent) of women who already have three children

and nearly one-fourth (22 percent) of women with four or more children respond that they consider the two-child family ideal. This gap between women's actual fertility experience and what they want or would consider ideal suggests a need for expanded or improved family welfare services to help women achieve their fertility goals.

If women in Andhra Pradesh are not using family planning, it is not due to lack of knowledge. Knowledge of contraception is nearly universal: 99 percent of currently married women know at least one modern family planning method. Women are most familiar with female sterilization (99 percent), followed by male sterilization (91 percent), the pill (60 percent), the IUD (51 percent), and the condom (48 percent). Knowledge of modern spacing methods has increased by 6–7 percentage points since the time of NFHS-1, although use rates for these methods remain extremely low.

Sixty percent of married women are currently using some method of contraception, an increase from 47 percent at the time of NFHS-1. Contraceptive prevalence is slightly higher in urban areas (63 percent) than in rural areas (58 percent). Female sterilization is by far the most popular method: 53 percent of currently married women are sterilized, a substantial increase from 38 percent at the time of NFHS-1. By contrast, only 4 percent of women report that their husbands are sterilized, a decrease from 7 percent in NFHS-1. Overall, sterilization accounts for 96 percent of total contraceptive use. Use rates for the pill, IUD, and condom remain very low, each at less than 1 percent.

Contraceptive prevalence does not vary widely among socioeconomic groups, although Muslim women and women belonging to scheduled tribes are somewhat less likely than other women to use contraception. Muslim women, more-educated women, and women from better-off households are all more likely than other women to use the three modern spacing methods, but the use of these methods does not exceed 10 percent in any group.

Given the near-exclusive emphasis on sterilization, women tend to adopt family planning only after they have achieved their desired family size. As a result, contraceptive use can be expected to rise steadily with age and with number of living children. In Andhra Pradesh, contraceptive use does indeed go up with age, peaking at 82 percent for women age 35–39. Use also goes up with the number of children, peaking at 86 percent for women with three living children. Son preference (which is evident in all population groups but is lower than in many other states) appears to have some effect on contraceptive use. Women who have one or more sons are generally more likely to use contraception than are women who have the same number of children but have only daughters. Yet son preference is not a major obstacle to contraceptive acceptance: More than half of women with two or more daughters but no sons have been sterilized.

Five percent of currently married women are not using contraception but say that they want to wait at least two years before having another child. Another 3 percent are not using contraception although they do not want any more children. These women are described as having an 'unmet need' for family planning. The unmet need is highest for young women, who are particularly interested in spacing their births.

For many years, the Government of India has been using electronic and other mass media to promote family planning. Exposure to mass media is quite high in Andhra Pradesh, where 100 percent of rural residents live in villages that are electrified and 88 percent live in villages that

have a cable connection. Among the different types of media, television has the broadest reach across all categories of women, including those who are poor and illiterate. Overall, 58 percent of currently married women watch television at least once a week. Nevertheless, 24 percent of women are not regularly exposed to television, radio, or other types of media. Seventy-six percent of women saw or heard a family planning message in the media in the few months before the survey. Exposure to family planning messages is relatively low among disadvantaged socioeconomic groups, yet messages reached more than 60 percent of illiterate women, women from households with a low standard of living, and women belonging to scheduled castes or scheduled tribes.

More than three-fourths (79 percent) of women who use modern contraception obtained their method from a government hospital or other source in the public sector. Only 19 percent obtained their method from the private medical sector. The private sector plays a larger role in urban areas (supplying 30 percent of women who use modern methods) than in rural areas (supplying only 15 percent).

An important indication of the quality of family planning services is the information that women receive when they obtain contraception and the extent to which they receive follow-up services after accepting contraception. In Andhra Pradesh, only 7 percent of women who use a modern method were told about any other method by the person who motivated them to use contraception. Only 13 percent were told by any health or family planning worker about possible side effects of the method they adopted. Eighty percent of contraceptive users, however, have had at least one follow-up visit.

From the information provided in NFHS-2, a picture emerges of women marrying early, having their first child soon after marriage, having a second and possibly a third child in close succession, and then being sterilized—all before they reach their mid-20s. The median age for female sterilization has been declining steadily in recent years and is now 23.6 years. Very few women use modern spacing methods that could help them delay their first births and increase intervals between pregnancies.

Infant and Child Mortality

NFHS-2 provides estimates of infant and child mortality and factors associated with the survival of young children. During the five years preceding the survey, the annual infant-mortality rate (deaths of children up to age one year) was 66 per 1,000 live births, a slight decrease from 70 per 1,000 in NFHS-1. The annual child-mortality rate (deaths of children age 1–5 years), at 21 per 1,000 children reaching age one, remained virtually unchanged from the level recorded during NFHS-1. Expressed differently, 1 in 15 children born in Andhra Pradesh during the five years preceding NFHS-2 died in the first year of life, and 1 in 12 died before reaching age five. Child-survival programmes might usefully focus on specific groups of children with particularly high infant and child mortality rates, such as children who live in rural areas, children whose mothers are illiterate, children belonging to scheduled castes or scheduled tribes, and children from poor households.

Along with these socioeconomic groups, efforts to promote child survival need to concentrate on very young mothers and mothers whose children are closely spaced. Infant mortality is 40 percent higher among children born to mothers under age 20 than among children

whose mothers are age 20–29 (84 deaths, compared with 60, per 1,000 live births). Infant mortality is more than three times as high among children born less than 24 months after a previous birth as among children born after a gap of 48 months or more (106 deaths, compared with 33, per 1,000 live births). Clearly, efforts to expand the use of temporary contraceptive methods for delaying and spacing births would help reduce infant mortality as well as fertility.

Health and Health Care

Promotion of maternal and child health has been one of the most important components of the Family Welfare Programme of the Government of India. One goal is for each pregnant woman to receive at least three antenatal check-ups plus two tetanus toxoid injections and a full course of iron and folic acid supplementation. In Andhra Pradesh, mothers of 93 percent of the children born in the three years preceding NFHS-2 received at least one antenatal check-up, and mothers of 80 percent of these children received at least three antenatal check-ups. For 82 percent of these children, mothers received the recommended number of tetanus toxoid vaccinations, and for 81 percent of children, mothers received iron and folic acid supplementation. Coverage by all three interventions is somewhat lower for women in disadvantaged socioeconomic groups than for other women. Coverage is also low for women who already have four or more children.

The Family Welfare Programme encourages women to deliver in a medical facility or, if at home, with assistance from a trained health professional and to receive at least three check-ups after delivery. During the three years preceding NFHS-2, only half of births in Andhra Pradesh were delivered in a medical facility. Among births delivered at home, 29 percent were assisted by a health professional and 52 percent by a traditional birth attendant. Less than half (45 percent) of births outside a medical facility were followed by a postpartum check-up within two months of delivery. Overall, these results show that health services in Andhra Pradesh are reaching many more women during pregnancy than during delivery or after childbirth. They also point to the important role of traditional birth attendants for the substantial proportion of births that occur at home.

The World Health Organization (WHO) recommends that breastfeeding should begin immediately after childbirth and that infants should be exclusively breastfed for about the first six months of life. Although breastfeeding is nearly universal in Andhra Pradesh, very few children begin breastfeeding immediately after birth—only 10 percent in the first hour and 37 percent in the first day. Three-quarters of children under four months of age are exclusively breastfed. The median length of breastfeeding is 25 months, or slightly over two years, and the median length of exclusive breastfeeding is 4.6 months. By age seven months, adequate and appropriate supplementary food should be added to an infant's diet to provide sufficient nutrients for optimal growth. However, less than three-quarters (73 percent) of children age 7–9 months receive the recommended combination of breast milk and supplements.

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

Based on international standards, one-third (38 percent) of children under age three years are underweight, a similar proportion (39 percent) are stunted, and 9 percent are wasted. Child nutritional status has improved in Andhra Pradesh since the time of NFHS-1, when nearly one-half (49 percent) of young children were underweight, but it is still a serious problem. Undernutrition is much higher in rural areas than in urban areas and is particularly high among children from disadvantaged socioeconomic groups. The prevalence of undernutrition is about the same for girls as for boys. Nearly three-quarters (72 percent) of children age 6–35 months are anaemic, including a large majority of children in every subgroup of the population.

Child immunization is an important component of child-survival programmes in India, with efforts focusing on six serious but preventable diseases—tuberculosis, diphtheria, pertussis, tetanus, polio, and measles. The objective of the Universal Immunization Programme (UIP), launched in 1985–86, was to extend immunization coverage against these diseases to at least 85 percent of infants by 1990. In Andhra Pradesh, 59 percent of children age 12–23 months are fully vaccinated, another 37 percent have received some but not all of the recommended vaccinations, and 5 percent have not been vaccinated at all.

Immunization coverage, although far from complete, has improved substantially since NFHS-1, when only 45 percent of children were fully vaccinated and 18 percent had not been vaccinated at all. In fact, child immunization coverage in Andhra Pradesh is higher than would appear from information on full coverage alone. Ninety percent of children age 12–23 months have been vaccinated against tuberculosis, 80 percent have received three doses of DPT vaccine, and 82 percent have received three doses of polio vaccine. Full immunization coverage is not as high as it might be primarily because only 65 percent of children have been vaccinated against measles. Dropout rates for the series of DPT and polio vaccinations are also a problem. Ninety percent of children received the first DPT vaccination, but 80 percent received all three doses; 94 percent received the first polio vaccination, but 82 percent received all three doses.

NFHS-2 collected information on the prevalence and treatment of three health problems that cause considerable mortality in young children—fever, acute respiratory infection (ARI), and diarrhoea. In Andhra Pradesh, 29 percent of children under age three were ill with fever during the two weeks preceding the survey, 19 percent were ill with ARI, and 15 percent had diarrhoea. About two-thirds of the children who became ill with ARI or diarrhoea were taken to a health facility or health provider. Fifty-five percent of children with diarrhoea received some form of oral rehydration therapy (ORT), an increase from 34 percent at the time of NFHS-1, suggesting that there has been substantial improvement in the management of childhood diarrhoea.

The survey collected information on the prevalence of tuberculosis, asthma, malaria, and jaundice among all household members. Disease prevalence based on reports from household heads must be interpreted with caution, however. The survey found that less than 1 percent of the population suffers from tuberculosis, 4 percent suffers from asthma, 5 percent suffered from malaria during the three months preceding the survey, and 2 percent suffered from jaundice during the preceding 12 months. Prevalence of all four conditions is higher in rural areas than in urban areas. Men are more likely than women to suffer from tuberculosis, asthma, and jaundice, but women are slightly more likely to suffer from malaria. Only just over one-quarter of households (27 percent) use cooking salt that is iodized at the recommended level, suggesting that iodine deficiency disorders are likely to be a serious problem.

NFHS-2 also collected basic information on selected lifestyle indicators for household members. According to household respondents, 36 percent of adult men and 20 percent of adult women smoke, 26 percent of men and 17 percent of women drink alcohol, and 11 percent of men and women chew *paan masala* or tobacco.

Almost half (49 percent) of currently married women in Andhra Pradesh report some type of reproductive-health problem, including abnormal vaginal discharge, symptoms of urinary tract infections, and pain or bleeding associated with intercourse. Among these women, 63 percent have not sought any advice or treatment. These results suggest a need to expand reproductive-health services and information programmes that encourage women to discuss their problems with a healthcare provider.

Nearly one-fourth (23 percent) of all women in Andhra Pradesh have experienced domestic violence. Most of these women have been beaten or physically mistreated by their husbands. Domestic violence against women is especially prevalent in disadvantaged socioeconomic groups, particularly scheduled tribes (43 percent) and scheduled castes (31 percent). Four out of five women accept at least one reason as a justification for a husband beating his wife.

Based on a weight-for-height index, more than one-third (37 percent) of women in Andhra Pradesh are undernourished. Nutritional deficits are particularly serious for women in rural areas and women in disadvantaged socioeconomic groups. Women who are undernourished themselves are also much more likely than other women to have children who are undernourished. Anaemia is a serious problem among women in every population group, with prevalence rates ranging from 39 to 64 percent. Overall, 50 percent of women in Andhra Pradesh have some degree of anaemia.

Most people in Andhra Pradesh (55 percent) go to private hospitals or clinics for treatment when a family member is ill. Only 15 percent normally use any type of government health facility. Even in poor households, only 19 percent of household members normally use public-sector services when they are ill. Most respondents are generally satisfied with the healthcare they receive. Ratings are lowest for public-sector facilities in urban areas, where slightly more than half of respondents are critical of staff attitudes and cleanliness of the facilities.

Overall, only 17 percent of women received a home visit from a health or family planning worker during the 12 months preceding the survey. Women who received visits were visited rather regularly—four times, on average, in the year preceding the survey. Virtually all of these women express general satisfaction with the services they received at home from health or family planning workers.

Although the spread of HIV/AIDS is a major concern in India, nearly half of women in Andhra Pradesh (45 percent) have never even heard of AIDS. Awareness of AIDS is particularly low among women in rural areas, poor women, and women who are illiterate. Among women who have heard of AIDS, 74 percent learned about the disease from television and 34 percent from radio, suggesting that the government's efforts to promote AIDS awareness through the electronic mass media have achieved some success. Among women who have heard of AIDS, however, more than one-third (37 percent) do not know of any way to avoid infection. Survey

results suggest that health personnel could play a much larger role in promoting AIDS awareness. In Andhra Pradesh, only 3 percent of women who know about AIDS learned about the disease from a health worker.

CHAPTER 1

INTRODUCTION

1.1 Background of the Survey

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

The NFHS-2 sample covers more than 99 percent of India's population, living in all 26 states. It does not cover the union territories. NFHS-2 is a household survey with an overall target sample size of approximately 90,000 ever-married women in the age group 15–49.

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

1.2 Basic Socioeconomic and Demographic Features of Andhra Pradesh

Andhra Pradesh was the first state in independent India to be formed on a purely linguistic basis, with Hyderabad as its capital. It is the fifth largest state in India in terms of both area and population. It has an area of 275,068 square kilometres. The state is divided into 23 districts distributed in three regions: Coastal Andhra Pradesh, comprising Srikakulam, Vizianagaram, Visakhapatnam, East Godavari, West Godavari, Krishna, Guntur, Prakasam, and Nellore districts; Telangana, comprising Mahbubnagar, Rangareddi, Hyderabad, Medak, Nizamabad, Adilabad, Karimnagar, Warangal, Khammam, and Nalgonda districts; and Rayalseema, comprising Chittoor, Cuddapah, Kurnool, and Anantapur districts. Coastal Andhra Pradesh comprises 34 percent of the total land area of the state, and the other two regions, Telangana and Rayalseema, comprise 42 and 24 percent of the total land area, respectively.

Although Andhra Pradesh is predominantly an agricultural state, the state has been changing rapidly. The contribution of the agricultural sector to the state domestic product declined from 43 percent in 1980-81 to 35 percent in 1996-97. The manufacturing sector contributed around 10 percent to the state domestic product in both time periods, but the share of other sectors increased from 46 percent in 1980-81 to 56 percent in 1996-97 (EPW Research Foundation, 1998). At the time of the 1991 Census, the agricultural sector provided a livelihood to 71 percent of the working population in the state (Office of the Registrar General and Census Commissioner, 1992). Paddy, jowar, bajra, ragi, maize, groundnuts, chilli pepper, tobacco, cotton, castor, and sugarcane are extensively cultivated. Andhra Pradesh leads all other states in the production of tobacco and it has a virtual monopoly of Virginia tobacco. Andhra Pradesh is the largest maritime state in India with a coastline of 970 km. The natural harbour of Visakhapatnam facilitates the export of iron ore to Japan and other countries and also caters to the needs of Madhya Pradesh and Orissa. The export of prawns and fish from this port is steadily increasing due to a rapid increase in pisciculture within the state, as well as increasing numbers of deep-sea fishing trawlers owned by large private companies that are shifting their operations to Visakhapatnam.

Rapid industrial growth in Andhra Pradesh began in the early 1960s. The state experienced significant industrial development during the 1970s and 1980s. The number of registered factories increased from 5,498 in 1970-71 to 14,292 in 1988-89 (Centre for Monitoring Indian Economy, 1993). The state capital, Hyderabad, with its fast-growing software industry, has developed into a major centre of information technology in India. The average annual per capita net domestic product in the state increased from Rs. 1,380 in 1980-81 to Rs. 2,130 in 1996-97 at constant (1980-81) prices or Rs. 9,867 at current prices (EPW Research Foundation, 1998). As per the estimates given by the Planning Commission for 1993-94, 16 percent of the rural population and 38 percent of the urban population in Andhra Pradesh were below the poverty line¹ (Central Statistical Organisation, 1999).

According to the 1991 Census, Andhra Pradesh had a population of 66.5 million, accounting for 8 percent of the total population of India. The total population of the state was 43.5 million in 1971 and 53.6 million in 1981. The decadal growth rate increased from 21 percent in 1961-71 to 23 percent in 1971-81 and 24 percent in 1981-91, which is almost the same as the percentage increase for the country as a whole. Population density per km² in Andhra Pradesh increased from 157 in 1971 to 195 in 1981 and 242 in 1991. Although the population density is lower than the density for the country as a whole (273), the increasing density indicates an increasing pressure on land and other resources.

Andhra Pradesh has been undergoing fairly rapid urbanization. The percentage of the total population living in urban areas increased from 19 in 1971 to 23 in 1981 and 27 in 1991, which is about the same as the level of urbanization for India (26 percent).

¹The Task Force on "Minimum Needs and Effective Consumption Demand" constituted by the Planning Commission in 1979 defined the poverty line as per capita monthly expenditure of Rs. 49.09 in rural areas and Rs. 56.64 in urban areas at 1973-74 prices, corresponding to the per capita daily calorie requirement of 2,400 in rural areas and 2,100 in urban areas. For subsequent years, the poverty line has been adjusted because of price changes, using the price indices that are implicit in the private consumption expenditure series reported in the National Accounts Statistics. The corresponding levels at 1993-94 prices are Rs. 205.84 for rural areas and Rs. 286.72 for urban areas (Planning Commission figures as reported in Malhotra, 1997).

According to the 1991 Census, the proportions of the total population designated as scheduled castes and scheduled tribes² are lower in Andhra Pradesh than in all of India. The scheduled-caste population increased from 13 percent of the total population of Andhra Pradesh in 1971 to 16 percent in 1991. The scheduled-tribe population increased from 4 percent of the total population in 1971 to 6 percent in both 1981 and 1991.

Andhra Pradesh is one of the educationally backward states in India. According to the 1991 Census, the literacy rate among the population age seven and above was 44 percent, compared with 52 percent for India as a whole. The literacy rates were 55 percent for males and 33 percent for females in Andhra Pradesh, compared with 64 and 39 percent for males and females, respectively, for India. The gap in literacy rates between males and females in Andhra Pradesh is only slightly smaller than the gap in India as a whole.

For 1997, the Sample Registration System estimated an infant mortality rate of 63 per 1,000 live births in Andhra Pradesh, compared with 71 in India. For 1996–2001, life expectancy is projected to be 61.6 years for males and 63.7 years for females, a substantial increase from the estimates of 56.1 years for males and 60.0 years for females in 1981–86. The couple protection rate (defined as the percentage of eligible couples effectively protected against pregnancy by various methods of contraception) in Andhra Pradesh was 47 in 1997, compared with 12 percent in 1971. The couple protection rate in 1997 was the same as the estimate for all India.

Between 1971 and 1997, fertility declined substantially in the state. The crude birth rate declined from 34.8 per 1,000 population in 1971 to 22.5 in 1997. The total fertility rate also declined substantially, from 4.6 children per woman in 1971 to 2.5 children per woman in 1997—dropping by 2.1 children in 26 years. The crude death rate also declined, from 14.6 per 1,000 population in 1971 to 8.3 in 1997. The infant mortality rate declined from 106 per 1,000 live births in 1971 to 63 in 1997, a decline of 41 percent.

1.3 Questionnaires

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

The Household Questionnaire listed all usual residents in each sample household plus any visitors who slept in the household the night before the interview. For each listed person, the survey collected basic information on age, sex, marital status, relationship to the head of the household, education, and occupation. The Household Questionnaire also collected information on the prevalence of asthma, tuberculosis, malaria, and jaundice, as well as three risk behaviours—chewing *paan masala* or tobacco, drinking alcohol, and smoking. Information was also collected on the usual place where household members go for treatment when they get sick, the main source of drinking water, type of toilet facility, source of lighting, type of cooking fuel, religion of the household head, caste/tribe of the household head, ownership of a house,

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

ownership of agricultural land, ownership of livestock, and ownership of other selected items. In addition, a test was conducted to assess whether the household uses cooking salt that has been fortified with iodine. Finally, the Household Questionnaire asked about deaths occurring to household members in the two years before the survey, with particular attention to maternal mortality. The information on the age, sex, and marital status of household members was used to identify eligible respondents for the Woman's Questionnaire.

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

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

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

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

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

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

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

Breastfeeding and health: Questions cover the length of breastfeeding, immunizations, and recent occurrences of diarrhoea, fever, and cough for the last two births since January 1995.

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

Status of Women: The questionnaire asks about women's autonomy and violence against women.

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

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

1.4 Survey Design and Sample Implementation

Sample Size and Reporting Domains

The overall target sample size for Andhra Pradesh was 4,000 completed interviews with eligible women. The NFHS-1 nonresponse rates at the household and individual levels were used to estimate the sample size that would be required to achieve the target number of completed interviews in NFHS-2.

The sample was designed to provide estimates for the state as a whole and for its rural and urban areas separately. The sample is not large enough to provide reliable estimates for individual districts. The required sampling rates for rural and urban areas were determined by allocating the sample proportionally to the population of the two areas.

Sample Design

Within each domain (rural and urban areas), the sample was selected in two stages: the selection of Primary Sampling Units (PSUs), which are villages (in rural areas) or census enumeration blocks (in urban areas), with probability proportional to population size (PPS) at the first stage, followed by the selection of households within each sample area so as to achieve a self-weighting sample of households within each domain (i.e., so as to give every household in the domain the same chance of being included in the survey).

Sample Selection in Rural Areas

In rural areas, the 1991 Census list of villages served as the sampling frame. The list was stratified by a number of variables. The first level of stratification was geographic, with districts being subdivided into the following six contiguous regions.

- Region I: Srikakulam, Vizianagaram, Visakhapatnam
- Region II: East Godavari, West Godavari, Krishna, Guntur
- Region III: Prakasam, Nellore
- Region IV: Chittoor, Cuddapah, Anantapur, Kurnool
- Region V: Mahbubnagar, Rangareddi, Hyderabad, Medak, Nizamabad, Adilabad, Nalgonda
- Region VI: Karimnagar, Warangal, Khammam

Table 1.1 Sampling stratification				
Sampling stratification procedure, Andhra Pradesh, 1998–99				
Stratum	Region	Stratification variables		
		Village size (number of residential households)	Percent SC/ST population	Population ¹
1	1	≤ 300	NU	1,931,258
2	1	> 300	≤ 10	1,919,848
3	1	> 300	> 10	1,900,371
4	2	≤ 1,000	≤ 25	2,843,193
5	2	≤ 1,000	> 25	2,483,173
6	2	> 1,000	≤ 18	2,939,710
7	2	> 1,000	> 18	3,277,159
8	3	≤ 600	NU	1,802,240
9	3	> 600	NU	2,326,091
10	4	≤ 600	≤ 20	1,915,776
11	4	≤ 600	> 20	2,143,776
12	4	> 600	≤ 20	2,870,544
13	4	> 600	> 20	2,048,172
14	5	≤ 450	≤ 27	2,924,063
15	5	≤ 450	> 27	2,890,535
16	5	> 450	≤ 23	3,284,577
17	5	> 450	> 23	2,662,522
18	6	≤ 500	NU	2,253,845
19	6	> 500	≤ 25	1,995,598
20	6	> 500	> 25	2,203,378
Total	NA	NA	NA	48,615,829

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

In each region, villages were further divided into a number of strata considering village size and the proportion of population designated as scheduled castes or scheduled tribes. Table 1.1 provides details of the stratification along with the population of each stratum. The final level of stratification was implicit for all the strata, consisting of an ordering of the villages within each stratum by the level of female literacy (obtained from the 1991 Census Village Directory). From the list so arranged, villages were selected systematically with probability proportional to the 1991 Census population of the village. Small villages with 5–49 households were linked with an adjoining village to form PSUs with a minimum of 50 households. Villages with fewer than five households were excluded from the sampling frame.

The overall sampling fraction, i.e., the probability of selecting a woman in a domain (f) was computed as:

$$f = \frac{n}{N}$$

where n = number of women to be interviewed in rural or urban areas adjusted upward to account for nonresponse and other loss,

N = projected population of eligible women in September 1999.

A total of 97 rural PSUs were selected in the state. The probability of selecting a PSU (f_1) from rural Andhra Pradesh was computed as:

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

where a = number of PSUs to be selected from rural areas,
 s_i = population size of a specific PSU,
 $\sum s_i$ = total rural population of the state.

A mapping and household listing operation carried out in each sample area provided the necessary frame for selecting households at the second stage. The household listing operation involved preparing up-to-date notional and layout sketch maps of each selected PSU, assigning numbers to structures, recording addresses of these structures, identifying residential structures, and listing the names of heads of all the households in residential structures in the selected PSUs. Sample villages larger than 500 households were segmented, and two segments were selected randomly using the PPS method. Household listing in these PSUs was carried out only in the selected segments. The work was carried out by 10 teams, each comprising 1 lister and 1 mapper, under the supervision of 3 field supervisors and 2 field executives. The teams were trained from 18–20 September 1998 in Hyderabad by an official from IIIHFW, Hyderabad, who was earlier trained in a workshop conducted by IIPS. The mapping and household listing operation was carried out between September and December 1998. The households to be interviewed were selected with equal probability from the household list in each area using systematic sampling.

The probability of selecting a household from a selected PSU (f_2) is computed as:

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

The interval applied for the selection was determined to obtain a self-weighting sample of households. On average, 30 households were initially targeted for selection in each selected enumeration area. To avoid extreme variations in the workload, minimum and maximum limits were put on the number of households that could be selected from any area, at 15 and 60, respectively. All the households which were selected were contacted during the main survey, and no replacement was made if a selected household was absent during data collection. However, if a PSU was inaccessible, a replacement PSU with similar characteristics was selected by IIPS and provided to the field organization.

Sample Selection in Urban Areas

The procedure adopted in urban areas was similar to the one followed in rural areas. The 1991 Census list of wards was arranged according to districts and within districts by the level of female literacy, and a sample of wards was selected systematically with probability proportional to size. Next, one census enumeration block, consisting of approximately 150–200 households, was selected from each selected ward using the PPS method. In Andhra Pradesh, 36 wards were

selected. As in rural areas, a household listing operation was carried out in the selected blocks and, on average, 30 households per block were targeted for selection.

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

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

where a = number of wards selected from the domain,
 s_i = population size of the selected ward,
 $\sum s_i$ = the total urban population of the state.

A household listing operation carried out in each selected census enumeration block provided the necessary frame for selecting households in the third stage of sample selection. The probability of selecting a block from a selected ward (f_2) was computed as:

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

where s_i = population size of a specific block
 $\sum s_i$ = total population of the ward.

The probability of selecting a household from a selected block (f_3) is computed as:

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

Sample Weights

Sample weights for households and women have been calculated to adjust for the effect of differential nonresponse in different geographical areas. The method of calculating the weights is specified below.

Let R_{Hi} and R_{Wi} be the household and eligible women's response rates, respectively. Then the household weight w_{Hi} is calculated as follows:

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

where w_{Di} = the design weight.

The eligible women's weight w_{Wi} is calculated as follows:

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

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

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

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

where n_i refers the number of cases (households or eligible women) interviewed in the i th domain.

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

Sample Implementation

A total of 133 PSUs were selected, of which 36 (27 percent) were urban and 97 (73 percent) were rural. Table 1.2 shows response rates for households and individuals and reasons for nonresponse. Nonresponse can occur at the stage of the household interview or at the stage of the woman's interview. The last row of the table shows the overall effect of nonresponse at the two stages. The survey succeeded in achieving a high overall response rate of 98 percent. Contrary to expectations, the overall response rate is higher in urban areas (99 percent) than in rural areas (97 percent).

Of the 4,034 households selected in Andhra Pradesh, interviews were completed in 96 percent of the cases, 2 percent of the selected households were absent, and 2 percent were found to be vacant. The household response rate—the number of households interviewed per 100 occupied households—was 99 percent in both urban and rural areas.

In the interviewed households, 4,105 women were identified as eligible for the individual interview. Interviews were successfully completed with 98 percent of the eligible women. The response rate for women was slightly higher in urban areas (99 percent) than in rural areas (98 percent). Nonresponse at the individual level was primarily due to eligible women not being at home despite repeated household visits. Very few eligible women refused to be interviewed.

1.5 Recruitment, Training, and Fieldwork

Field staff for the main survey were trained in Hyderabad by officials of IIFW, who were trained earlier in a Training of Trainers Workshop conducted by IIPS. Training in Andhra Pradesh consisted of classroom training, general lectures, and demonstration and practice interviews, as well as field practice and additional training for field editors and supervisors. Health investigators attached to interviewing teams were given additional specialized training on

Table 1.2 Sample results

Sample results for households and ever-married women age 15–49 (based on the unweighted sample), Andhra Pradesh, 1998–99

Result	Urban		Rural		Total	
	Number	Percent	Number	Percent	Number	Percent
Households selected	1,057	100.0	2,977	100.0	4,034	100.0
Households completed (C)	1,018	96.3	2,854	95.9	3,872	96.0
Households with no household member at home or no competent respondent at home at the time of interview (HP)	5	0.5	14	0.5	19	0.5
Households absent for extended period (HA)	11	1.0	62	2.1	73	1.8
Households postponed (P)	0	0.0	0	0.0	0	0.0
Households refused (R)	1	0.1	2	0.1	3	0.1
Dwelling vacant/address not a dwelling (DV)	18	1.7	42	1.4	60	1.5
Dwelling destroyed (DD)	2	0.2	0	0.0	2	0.0
Dwelling not found (DNF)	1	0.1	0	0.0	1	0.0
Other (O)	1	0.1	3	0.1	4	0.1
Households occupied	1,025	100.0	2,870	100.0	3,895	100.0
Households interviewed	1,018	99.3	2,854	99.4	3,872	99.4
Households not interviewed	7	0.7	16	0.6	23	0.6
Household response rate (HRR) ¹	NA	99.3	NA	99.4	NA	99.4
Eligible women	1,075	100.0	3,030	100.0	4,105	100.0
Women interviewed (EWC)	1,068	99.3	2,964	97.8	4,032	98.2
Women not at home (EWNH)	2	0.2	34	1.1	36	0.9
Women postponed (EWP)	0	0.0	0	0.0	0	0.0
Women refused (EWR)	2	0.2	3	0.1	5	0.1
Women partly interviewed (EWPC)	0	0.0	3	0.1	3	0.1
Other (EWO)	3	0.3	26	0.9	29	0.7
Eligible women's response rate (EWRR) ²	NA	99.3	NA	97.8	NA	98.2
Overall response rate (ORR) ³	NA	98.7	NA	97.3	NA	97.6

Note: Eligible women are defined as ever-married women age 15–49 who stayed in the household the night before the interview (including both usual residents and visitors). This table is based on the unweighted sample; all other tables are based on the weighted sample unless otherwise specified.
NA: Not applicable

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

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

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

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

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

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

measuring height and weight and testing for anaemia in a centralized training programme conducted by IIPS in collaboration with the All India Institute of Medical Sciences (AIIMS), New Delhi. This specialized training took place in New Delhi. It included classroom training and extensive field practice in schools, *anganwadis*, and communities.

Five interviewing teams conducted the main fieldwork, each team consisting of one field supervisor, one female field editor, four female interviewers, and one health investigator. The fieldwork was carried out between 26 November 1998 and 4 March 1999. Coordinators and senior staff of IIHFW monitored and supervised the data collection operations. IIPS also appointed one research officer to help with monitoring throughout the training and fieldwork

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

1.6 Field Problems

As is the case with every survey, unforeseen circumstances can have an impact on the progress of fieldwork. The major problems encountered during the fieldwork in Andhra Pradesh are discussed below. However, these problems do not appear to have adversely affected the quality of the survey in Andhra Pradesh.

The houselisting operation, which was started in the third week of September 1998, could not be completed before the start of fieldwork for the main survey due to weather conditions. Coastal Andhra Pradesh was hit by a cyclonic storm, followed by heavy rains for about two weeks in October and November 1998. Due to flood damage, some of the PSUs in Krishna, East Godavari, and Guntur districts were inaccessible by road for some period of time. Hence, the houselisting operation was slowed down in November. After the situation returned to normal, a few additional enumerators were recruited to complete the houselisting work by the middle of December 1998.

Because of the late arrival of tenderlette lancets and other essential anaemia-testing items, measurement of haemoglobin levels could not be carried out in 12 PSUs in 5 districts during the first phase of the fieldwork. However, health investigators and field interviewers were sent to those PSUs towards the final stages of the survey work to complete the anaemia testing on respondents already interviewed.

Because the fieldwork in coastal districts was carried out during the harvest season, a significant number of respondents had migrated temporarily from their place of residence to nearby places for agricultural work. This temporary absenteeism resulted in a significant number of noncontacts with households and eligible women during the first three visits. Selected PSUs were revisited for a fourth time after the *Sankranti* festival to contact the 'not-at-home' households to improve the overall response rate. In addition, during the harvest season, many rural women left for the fields early in the morning and did not return until late in the evening. In order to interview these women, the interviewing teams had to reach the village before 6:00 a.m. and had to conduct many interviews after 7:00 p.m. as well.

Finally, some minor difficulties with transportation and accommodations for the survey teams were encountered during the initial period of the fieldwork. However, these problems were solved at an early stage and the cooperation extended by District Medical and Health Officers in providing transport and accommodation facilities to the field staff was extremely good.

1.7 Data Processing

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

CHAPTER 2

BACKGROUND CHARACTERISTICS OF HOUSEHOLDS

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

2.1 Age-Sex Distribution of the Household Population

The NFHS-2 household population can be tabulated in two ways: *de facto* (the place each person slept the night before the survey interview) or *de jure* (the place of usual residence). The *de facto* and *de jure* populations in Andhra Pradesh may differ because of temporary population movements. Table 2.1 shows the *de facto* population in the NFHS-2 household sample for Andhra Pradesh, classified by age, residence, and sex. The total *de facto* sample population is 18,305. The sample is 26 percent urban and 74 percent rural.

The age distribution of the population in Andhra Pradesh is typical of populations in which fertility has fallen recently, with relatively low proportions of the population in the younger and older age groups (Figure 2.1). Thirty-three percent are below 15 years of age and 5 percent are age 65 or older. The proportion below age 15 is slightly higher in rural areas (34 percent) than in urban areas (32 percent).

The single-year age distributions by sex in the *de facto* population (see Appendix Table B.1) indicate that there is some misreporting of ages, including considerable preference for ages ending in particular digits, especially the digits 0 and 5. One of the most commonly used measures of digit preference in age reporting is Myers' Index (United Nations, 1955). This index provides an overall summary of preferences for, or avoidance of, each of the 10 digits, from 0 to 9. Values of Myers' Index computed for the age range 10–69 in the household sample population in Andhra Pradesh are 15 for males and 10 for females. The index is often used as one indicator of survey quality. The lower estimate for females is probably due to the emphasis during the interviewer training on obtaining accurate age information for women to correctly determine the eligibility of women for the individual interview. The values of Myers' index from NFHS-2 are less than half the values from NFHS-1 (revised and corrected from the published NFHS-1 estimates). This indicates that age reporting on the household questionnaire in Andhra Pradesh is much better in NFHS-2 than in NFHS-1.

Table 2.2 compares the age distributions by sex from the NFHS-2 *de jure* sample with the age distributions by sex from the Sample Registration System (SRS) for 1997. The SRS baseline survey, which is *de jure*, counts all usual residents in a sample area (Office of the Registrar General, 1999). The NFHS-2 and SRS age distributions are similar for broad age groups, despite the misreporting of age that is evident in the single-year age data.

Table 2.1 Household population by age and sex

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

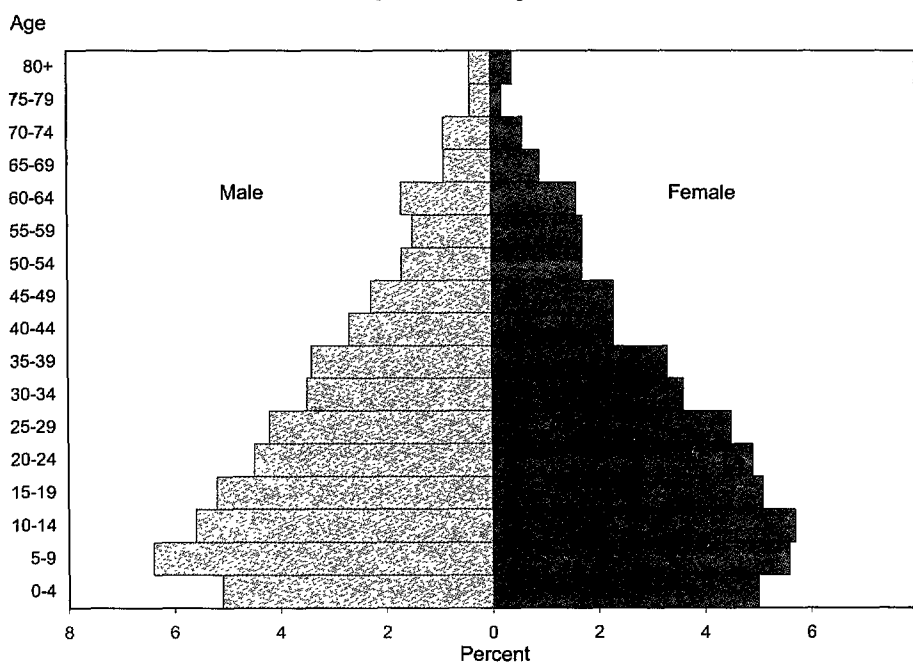
Age	Urban			Rural			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
< 1	2.1	1.9	2.0	2.5	2.2	2.3	2.4	2.1	2.2
1–4	7.8	7.9	7.8	7.7	7.9	7.8	7.7	7.9	7.8
5–9	11.5	10.5	11.0	13.2	11.5	12.3	12.7	11.2	12.0
10–14	11.2	10.6	10.9	11.1	11.9	11.5	11.1	11.6	11.3
15–19	11.0	11.5	11.2	9.9	9.9	9.9	10.2	10.3	10.3
20–24	9.7	11.3	10.5	8.5	9.5	9.0	8.8	9.9	9.4
25–29	9.7	9.5	9.6	7.9	9.0	8.5	8.4	9.2	8.8
30–34	7.8	7.3	7.5	6.7	7.1	6.9	7.0	7.2	7.1
35–39	7.2	7.5	7.3	6.6	6.4	6.5	6.7	6.7	6.7
40–44	5.4	4.2	4.8	5.2	4.9	5.1	5.3	4.7	5.0
45–49	4.6	5.6	5.1	4.6	4.4	4.5	4.6	4.7	4.6
50–54	2.8	3.4	3.1	3.6	3.5	3.6	3.4	3.5	3.5
55–59	2.6	2.4	2.5	3.2	3.8	3.5	3.1	3.5	3.3
60–64	2.9	2.6	2.7	3.6	3.6	3.6	3.4	3.3	3.4
65–69	1.7	1.8	1.7	1.9	2.0	1.9	1.9	1.9	1.9
70–74	1.3	0.8	1.1	2.1	1.3	1.7	1.9	1.2	1.5
75–79	0.4	0.5	0.5	0.8	0.4	0.6	0.7	0.5	0.6
80+	0.4	0.9	0.6	0.8	0.7	0.8	0.7	0.8	0.7
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of persons	2,406	2,296	4,702	6,820	6,783	13,603	9,226	9,079	18,305
Sex ratio ¹	NA	NA	954	NA	NA	995	NA	NA	984

Note: Table is based on the *de facto* population, i.e., persons who stayed in the household the night before the interview.

NA: Not applicable

¹Females per 1,000 males

**Figure 2.1
Population Pyramid**



NFHS-2, Andhra Pradesh, 1998–99

Table 2.2 Population by age and sex from the SRS and NFHS-2					
Percent distribution of population by age and sex from the SRS and NFHS-2, Andhra Pradesh, 1998–99					
Age	SRS (1997)		NFHS-2 (1998–99)		
	Male	Female	Male	Female	Sex ratio
< 5	10.3	9.8	9.6	9.8	1,003
5–14	24.0	23.4	23.6	22.8	945
15–29	27.0	27.7	27.8	29.3	1,034
30–49	25.4	24.6	23.8	23.3	960
50–64	9.5	10.4	9.9	10.4	1,030
65+	3.7	4.2	5.2	4.3	808
Total	100.0	100.0	100.0	100.0	980
Median age	U	U	23.3	23.4	NA

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

Tables 2.1 and 2.2 also present sex ratios (females per 1,000 males) in Andhra Pradesh from NFHS-2. The sex ratio for the *de facto* population of the state is 984 (Table 2.1). The sex ratio of the *de jure* population (980) in Table 2.2 is almost the same as the sex ratio of the *de facto* population (984). The sex ratio for the *de facto* sample is 954 in urban areas and 995 in rural areas, suggesting that rural-urban migration has been dominated by males in Andhra Pradesh.

2.2 Marital Status

NFHS-2 includes information on the marital status of all household members age six and above. Table 2.3 shows the percent distribution by marital status of the *de facto* household population, classified by age, residence, and sex. Among females age six and above, 55 percent are currently married and 32 percent have never been married. (Comparable percentages from NFHS-1 are exactly the same, indicating no change over the six years between the two surveys.) The proportion never married is higher for males (44 percent) than for females (32 percent) and higher in urban areas (48 percent for males and 35 percent for females) than in rural areas (43 percent for males and 30 percent for females). The proportion divorced, separated, or deserted is small in Andhra Pradesh, and widowhood is quite limited until the older ages. Fifty percent of women age 50 or older are widowed.

Also of interest is the proportion of persons who marry young. At age 15–19, the proportions ever married are 1 percent for males and 24 percent for females in urban areas, 4 percent for males and 53 percent for females in rural areas, and 4 percent for males and 45 percent for females in the state as a whole. By age 25–29, marriage is nearly universal for females. For males in this age group, the proportion ever married is 70 percent in urban areas, 86 percent in rural areas, and 81 percent in the state as a whole. Overall, the table shows that women marry at much younger ages than men, and that both men and women marry at much younger ages in rural areas than in urban areas.

Table 2.3 Marital status of the household population

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

Age	Marital status							Total percent
	Never married	Currently married	Married, <i>gauna</i> not performed	Widowed	Divorced	Separated	Deserted	
URBAN								
Male								
6–12	99.8	0.2	0.0	0.0	0.0	0.0	0.0	100.0
13–14	100.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
15–19	98.6	1.4	0.0	0.0	0.0	0.0	0.0	100.0
20–24	74.4	25.2	0.0	0.0	0.4	0.0	0.0	100.0
25–29	29.8	68.6	0.0	0.4	0.0	0.8	0.4	100.0
30–49	3.8	94.8	0.0	0.6	0.0	0.5	0.3	100.0
50+	0.0	92.2	0.0	7.8	0.0	0.0	0.0	100.0
Total	48.0	50.3	0.0	1.3	0.0	0.2	0.1	100.0
Female								
6–12	100.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
13–14	99.0	1.0	0.0	0.0	0.0	0.0	0.0	100.0
15–19	76.5	23.1	0.0	0.4	0.0	0.0	0.0	100.0
20–24	21.9	76.2	0.0	0.4	0.7	0.4	0.4	100.0
25–29	4.3	94.4	0.0	0.9	0.0	0.4	0.0	100.0
30–49	2.4	84.8	0.3	10.6	0.8	0.3	0.7	100.0
50+	0.0	48.3	0.0	50.0	1.0	0.7	0.0	100.0
Total	35.3	53.4	0.1	10.2	0.5	0.3	0.2	100.0
RURAL								
Male								
6–12	99.7	0.2	0.1	0.1	0.0	0.0	0.0	100.0
13–14	100.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
15–19	95.7	4.2	0.0	0.0	0.0	0.0	0.2	100.0
20–24	54.0	45.5	0.0	0.0	0.2	0.3	0.0	100.0
25–29	14.0	85.1	0.0	0.0	0.0	0.6	0.4	100.0
30–49	1.1	97.2	0.0	1.0	0.3	0.1	0.4	100.0
50+	0.8	86.6	0.0	12.3	0.1	0.1	0.2	100.0
Total	42.5	54.5	0.0	2.6	0.1	0.1	0.2	100.0
Female								
6–12	99.5	0.3	0.2	0.0	0.0	0.0	0.0	100.0
13–14	98.4	1.2	0.4	0.0	0.0	0.0	0.0	100.0
15–19	46.7	51.6	0.5	0.5	0.3	0.3	0.1	100.0
20–24	7.0	90.0	0.0	1.3	0.2	0.8	0.8	100.0
25–29	1.8	92.0	0.3	3.3	0.8	1.2	0.5	100.0
30–49	0.7	86.9	0.1	9.4	0.7	0.9	1.2	100.0
50+	0.7	47.6	0.1	50.6	0.4	0.3	0.4	100.0
Total	30.4	56.1	0.2	11.8	0.4	0.5	0.5	100.0

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

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

Age	Marital status							Total percent
	Never married	Currently married	Married, <i>gauna</i> not performed	Widowed	Divorced	Separated	Deserted	
TOTAL								
Male								
6–12	99.7	0.2	0.1	0.1	0.0	0.0	0.0	100.0
13–14	100.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
15–19	96.5	3.4	0.0	0.0	0.0	0.0	0.1	100.0
20–24	59.8	39.7	0.0	0.0	0.2	0.2	0.0	100.0
25–29	18.7	80.1	0.0	0.1	0.0	0.6	0.4	100.0
30–49	1.8	96.5	0.0	0.9	0.2	0.2	0.4	100.0
50+	0.6	87.7	0.0	11.4	0.1	0.1	0.2	100.0
Total	43.9	53.4	0.0	2.2	0.1	0.1	0.2	100.0
Female								
6–12	99.6	0.3	0.1	0.0	0.0	0.0	0.0	100.0
13–14	98.6	1.1	0.3	0.0	0.0	0.0	0.0	100.0
15–19	55.1	43.6	0.3	0.4	0.2	0.2	0.1	100.0
20–24	11.3	86.0	0.0	1.0	0.3	0.7	0.7	100.0
25–29	2.5	92.6	0.2	2.7	0.6	1.0	0.4	100.0
30–49	1.2	86.3	0.2	9.7	0.8	0.8	1.1	100.0
50+	0.5	47.7	0.1	50.4	0.5	0.4	0.3	100.0
Total	31.7	55.4	0.2	11.4	0.4	0.5	0.5	100.0
<p>Note: Table is based on the <i>de facto</i> population, i.e., persons who stayed in the household the night before the interview. The marital status distribution for females by age cannot be directly compared with the published distribution for NFHS-1 because the ages in the NFHS-1 tables were based on the reports of women, whereas the ages in the current table are based on the reports of household respondents.</p>								

Table 2.4 shows estimates of the singulate mean age at marriage (SMAM), which is calculated from age-specific proportions single in a census or household survey. SMAM is calculated from the *de jure* population in NFHS-2 in order to arrive at estimates that are more comparable to those derived from the censuses, which are modified *de jure* counts. According to the SMAM measure, men in Andhra Pradesh tend to marry women five or six years younger than themselves. The census data indicate that age at marriage has been rising for both men and women, but faster for women than for men. Since 1991, however, there has been almost no change in the age at marriage.

2.3 Household Composition

Table 2.5 shows the percent distribution of households by various characteristics of the household head (sex, age, religion, and caste/tribe), as well as by household type and number of usual household members. The table is based on the *de jure* population because household type and number of usual household members pertain to the usual-resident population. The table shows that 89–90 percent of household heads are male, regardless of area of residence (rural or urban). The median age of household heads varies slightly by residence, being 42 years in urban areas and 45 years in rural areas. Household heads are somewhat more concentrated in the 30–44 age group in urban areas than in rural areas. Eighty-eight percent of household heads are Hindu,

Table 2.4. Singulate mean age at marriage			
Singulate mean age at marriage from selected sources, Andhra Pradesh, 1961–1998/99			
Source	Singulate mean age at marriage (SMAM)		
	Male	Female	Difference
1961 Census	22.3	15.2	7.1
1971 Census	22.8	16.3	6.5
1981 Census	23.1	17.3	5.8
1991 Census	23.5	18.3	5.2
1992 NFHS-1			
Urban	25.6	20.3	5.3
Rural	22.8	17.3	5.5
Total	23.6	18.1	5.5
1998–99 NFHS-2			
Urban	25.8	20.3	5.5
Rural	23.1	17.6	5.4
Total	23.9	18.3	5.5

Note: Table is based on the *de jure* population. The male SMAM minus the female SMAM may not correspond exactly to the difference in SMAM due to rounding.

6 percent are Muslim, 6 percent are Christian, and less than 1 percent do not belong to any religion. Muslims are concentrated in urban areas; they constitute 15 percent of urban households, but only 3 percent of rural households. Twenty percent of household heads belong to scheduled castes and 5 percent to scheduled tribes. Both of these groups constitute higher proportions of the population in rural areas than in urban areas. The largest group of household heads belong to other backward classes (OBC)¹. Fifty-seven percent of all households are nuclear family households (consisting of an unmarried adult living alone or a married person or couple and their unmarried children, if any). Mean household size is slightly higher in urban areas (4.9 persons per household) than in rural areas (4.7 persons per household), averaging 4.8 persons per household for the state as a whole.

2.4 Educational Attainment

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

Table 2.6 shows that 54 percent of females and 33 percent of males age six and above are illiterate. Comparable figures from NFHS-1 are 62 percent of females and 40 percent of males, indicating a substantial decline in illiteracy in only six years. The rapid increase in educational attainment can also be seen by examining the differences in educational levels by age. For example, the proportion of males completing at least high school rises from 12 percent at age 50 and above to 31 percent at ages 15–19. For females, the proportion completing at least high school is negligible (only 1 percent) at age 50 and above but reaches a level of 21 percent at age 15–19.

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

Table 2.5 Household characteristics			
Percent distribution of households by selected characteristics of the household head, household composition, and household size, according to residence, Andhra Pradesh, 1998–99			
Characteristic	Urban	Rural	Total
Sex of household head			
Male	88.5	89.5	89.2
Female	11.5	10.5	10.8
Age of household head			
< 30	13.2	13.0	13.0
30–44	42.5	37.6	38.8
45–59	27.8	28.2	28.1
60+	16.5	21.2	20.0
Median age	42.2	44.6	43.8
Religion of household head			
Hindu	80.7	90.2	87.8
Muslim	14.6	3.3	6.1
Christian	4.7	6.4	6.0
No religion	0.0	0.1	0.1
Caste/tribe of household head			
Scheduled caste	12.3	22.8	20.1
Scheduled tribe	0.4	6.6	5.0
Other backward class	41.8	44.1	43.5
Other	45.5	26.3	31.1
Don't know/missing	0.1	0.3	0.2
Household type			
Nuclear household	60.9	56.2	57.4
Non-nuclear household	39.1	43.6	42.5
Household with no usual members	0.0	0.2	0.1
Number of usual members			
0	0.0	0.2	0.1
1	2.8	3.8	3.5
2	8.5	10.9	10.3
3	13.3	13.3	13.3
4	24.0	21.6	22.2
5	22.3	19.4	20.2
6	12.3	14.7	14.1
7	6.6	7.5	7.3
8	3.7	3.7	3.7
9+	6.4	4.9	5.2
Mean household size	4.9	4.7	4.8
Total percent	100.0	100.0	100.0
Number of households	966	2,906	3,872
Note: Table is based on the <i>de jure</i> population.			

A higher percentage of males than of females has completed each level of schooling. The proportion illiterate is lowest at age 6–9 for females and at age 10–14 for males and is highest at age 50 and above for either sex. The median number of years of schooling for males is 4.9, whereas the majority of women have never been to school, implying a median of zero.

Table 2.6 Educational level of the household population

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

Age	Educational level ¹						Total percent	Number of persons	Median number of years of schooling
	Illiterate	Literate, < primary school complete	Primary school complete	Middle school complete	High school complete	Higher secondary complete and above			
URBAN									
Male									
6-9	14.7	84.0	1.3	0.0	0.0	0.0	100.0	218	2.1
10-14	9.9	20.2	54.4	14.8	0.7	0.0	100.0	269	6.0
15-19	10.7	3.6	20.8	21.2	30.5	13.2	100.0	265	9.7
20-29	11.2	1.6	18.1	10.8	23.8	34.4	100.0	466	10.4
30-39	16.3	7.1	16.1	6.9	16.5	37.1	100.0	361	10.3
40-49	20.2	6.4	18.7	12.0	17.5	25.3	100.0	239	8.8
50+	27.4	11.1	20.2	5.5	17.2	18.5	100.0	292	6.2
Total	15.5	15.6	21.3	10.2	16.4	21.0	100.0	2,110	7.7
Female									
6-9	12.8	85.7	1.5	0.0	0.0	0.0	100.0	193	2.4
10-14	6.6	22.2	53.6	16.4	1.2	0.0	100.0	243	6.2
15-19	15.5	5.0	18.8	20.9	26.7	13.0	100.0	263	9.3
20-29	24.7	5.4	19.3	8.5	19.4	22.6	100.0	478	8.3
30-39	43.5	3.6	20.8	5.3	14.6	12.3	100.0	339	5.3
40-49	53.5	4.6	21.2	3.4	11.4	5.9	100.0	224	0.0
50+	67.8	7.6	17.3	4.0	1.3	2.0	100.0	285	0.0
Total	32.6	14.9	21.8	8.5	12.1	10.0	100.0	2,024	5.3
Total									
6-9	13.8	84.8	1.4	0.0	0.0	0.0	100.0	411	2.2
10-14	8.3	21.2	54.0	15.6	0.9	0.0	100.0	512	6.1
15-19	13.1	4.3	19.8	21.0	28.6	13.1	100.0	528	9.5
20-29	18.0	3.5	18.7	9.7	21.6	28.4	100.0	944	10.0
30-39	29.5	5.4	18.3	6.1	15.6	25.1	100.0	699	7.5
40-49	36.3	5.5	19.9	7.8	14.5	15.9	100.0	463	5.8
50+	47.4	9.4	18.8	4.8	9.4	10.3	100.0	576	3.5
Total	23.9	15.3	21.6	9.4	14.3	15.6	100.0	4,133	6.4

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

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

Age	Educational level ¹						Total percent	Number of persons	Median number of years of schooling
	Illiterate	Literate, < primary school complete	Primary school complete	Middle school complete	High school complete	Higher secondary complete and above			
RURAL									
Male									
6–9	25.0	73.3	1.7	0.0	0.0	0.0	100.0	709	1.8
10–14	17.8	27.6	43.6	10.5	0.4	0.0	100.0	755	5.3
15–19	23.1	7.3	21.7	22.5	20.7	4.6	100.0	678	7.8
20–29	34.4	7.3	16.2	11.4	16.4	14.2	100.0	1,122	6.3
30–39	47.6	9.0	18.9	6.9	8.6	9.1	100.0	905	3.4
40–49	51.6	9.7	20.1	5.2	8.0	5.5	100.0	671	2.0
50+	64.5	10.7	15.2	3.6	3.9	2.0	100.0	1,097	0.0
Total	39.4	18.9	19.3	8.4	8.5	5.6	100.0	5,937	3.5
Female									
6–9	28.9	70.4	0.7	0.0	0.0	0.0	100.0	619	1.8
10–14	32.5	24.6	34.4	7.9	0.5	0.0	100.0	809	4.3
15–19	44.6	7.7	20.9	13.2	10.1	3.5	100.0	671	4.5
20–29	60.6	7.5	15.9	5.8	6.6	3.7	100.0	1,255	0.0
30–39	76.7	4.7	12.7	2.4	2.4	1.0	100.0	919	0.0
40–49	79.8	8.1	9.3	1.1	1.4	0.2	100.0	629	0.0
50+	90.1	3.4	5.5	0.5	0.4	0.1	100.0	1,037	0.0
Total	61.3	15.3	14.4	4.4	3.2	1.4	100.0	5,938	0.0
Total									
6–9	26.8	72.0	1.2	0.0	0.0	0.0	100.0	1,328	1.8
10–14	25.4	26.1	38.9	9.2	0.5	0.0	100.0	1,564	4.9
15–19	33.8	7.5	21.3	17.9	15.4	4.1	100.0	1,349	6.1
20–29	48.3	7.4	16.0	8.4	11.2	8.6	100.0	2,377	3.4
30–39	62.2	6.8	15.8	4.6	5.5	5.0	100.0	1,824	0.0
40–49	65.2	8.9	14.9	3.2	4.9	2.9	100.0	1,299	0.0
50+	76.9	7.2	10.5	2.1	2.2	1.1	100.0	2,134	0.0
Total	50.4	17.1	16.8	6.4	5.8	3.5	100.0	11,875	1.4

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

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

Age	Educational level ¹						Total percent	Number of persons	Median number of years of schooling
	Illiterate	Literate, < primary school complete	Primary school complete	Middle school complete	High school complete	Higher secondary complete and above			
TOTAL									
Male									
6–9	22.6	75.8	1.6	0.0	0.0	0.0	100.0	927	1.9
10–14	15.7	25.7	46.5	11.7	0.5	0.0	100.0	1,024	5.5
15–19	19.6	6.3	21.5	22.2	23.4	7.1	100.0	943	8.6
20–29	27.6	5.7	16.8	11.2	18.6	20.1	100.0	1,588	8.0
30–39	38.7	8.5	18.1	6.9	10.8	17.1	100.0	1,266	5.3
40–49	43.3	8.8	19.7	7.0	10.5	10.7	100.0	910	4.4
50+	56.7	10.8	16.3	4.0	6.7	5.5	100.0	1,389	0.0
Total	33.1	18.1	19.8	8.9	10.5	9.6	100.0	8,047	4.9
Female									
6–9	25.1	74.1	0.9	0.0	0.0	0.0	100.0	812	1.9
10–14	26.5	24.1	38.8	9.9	0.7	0.0	100.0	1,052	5.0
15–19	36.4	6.9	20.3	15.4	14.8	6.2	100.0	934	5.8
20–29	50.7	6.9	16.8	6.5	10.1	8.9	100.0	1,733	2.4
30–39	67.7	4.4	14.9	3.2	5.7	4.0	100.0	1,257	0.0
40–49	72.9	7.2	12.5	1.7	4.1	1.7	100.0	852	0.0
50+	85.3	4.3	8.0	1.2	0.6	0.5	100.0	1,322	0.0
Total	54.0	15.2	16.3	5.4	5.5	3.6	100.0	7,962	0.0
Total									
6–9	23.7	75.0	1.3	0.0	0.0	0.0	100.0	1,739	1.9
10–14	21.2	24.9	42.6	10.8	0.6	0.0	100.0	2,076	5.2
15–19	28.0	6.6	20.9	18.8	19.1	6.6	100.0	1,877	7.3
20–29	39.7	6.3	16.8	8.8	14.2	14.2	100.0	3,321	5.6
30–39	53.2	6.5	16.5	5.0	8.3	10.6	100.0	2,523	0.0
40–49	57.6	8.0	16.2	4.4	7.4	6.3	100.0	1,762	0.0
50+	70.6	7.7	12.3	2.7	3.7	3.1	100.0	2,710	0.0
Total	43.5	16.7	18.1	7.2	8.0	6.6	100.0	16,008	3.0

Note: This table and all subsequent tables (unless otherwise indicated) are based on the *de facto* population. Illiterate persons may have been to school, but they cannot read and write.

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

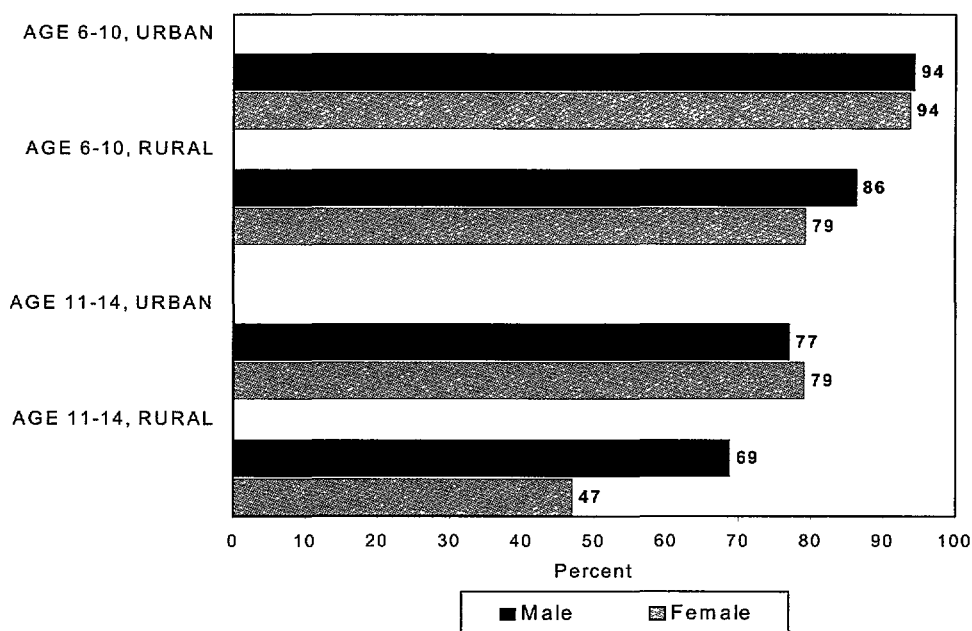
Education levels are much higher in urban areas than in rural areas. The proportion illiterate is almost twice as high for rural females (61 percent) as for urban females (33 percent), and more than twice as high for rural males (39 percent) as for urban males (16 percent).

Table 2.7 and Figure 2.2 show school attendance rates for the school-age household population by age, sex, and residence. In the state as a whole, 76 percent of children age 6–14 are attending school, up from 63 percent in NFHS-1. The attendance rate drops off sharply at age 15–17. For the age group 6–17, the attendance rate is 74 percent for males, 62 percent for females, and 68 percent for the state as a whole. Attendance rates are higher in urban areas than in rural areas. In urban areas, attendance rates are almost the same for males and females, except

Table 2.7 School attendance

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

Age	Male			Female			Total		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
6–10	94.4	86.3	88.2	93.8	79.3	82.6	94.1	82.9	85.5
11–14	77.0	68.8	71.0	79.1	47.0	54.6	78.0	57.6	62.8
15–17	59.2	44.5	48.3	52.8	20.7	29.8	56.0	33.4	39.5
6–14	86.6	79.3	81.1	87.4	65.4	70.5	86.9	72.4	76.0
6–17	80.1	71.3	73.5	78.5	56.0	61.5	79.4	63.9	67.7

**Figure 2.2
School Attendance by Age, Sex and Residence**

NFHS-2, Andhra Pradesh, 1998–99

at age 15–17 where males have a slight edge. In rural areas, however, attendance rates are considerably higher for males than for females at all ages, and the differentials are higher in the older age groups.

Table 2.8 shows reasons for children never attending school or not currently attending school. For boys, ‘not interested in studies’ and ‘required for outside work for payment in cash or kind’ stand out as reasons for never attending school or not currently attending school. These reasons are mentioned in about half the cases. Not surprisingly, the need for children to work in the household is mentioned more for girls than for boys. The accessibility of schools (‘school too far away’ and ‘transport not available’) is mentioned infrequently for both boys and girls. The need for children to remain out of school in order to work (including household work, taking care of siblings, working in a family farm or business, and working outside for payment in cash or kind) is mentioned as the main reason for never attending school for 42 percent of boys and 50 percent of girls, and as the main reason for not currently attending school for 38 percent of boys and 32 percent of girls.

Table 2.8 Reasons for children not attending school

Percent distribution of children age 6–17 who never attended school by reason for never attending school and percent distribution of children age 6–17 who have dropped out of school by reason for not currently attending school, according to residence and sex, Andhra Pradesh, 1998–99

Reason	Urban		Rural		Total	
	Male	Female	Male	Female	Male	Female
Main reason for never attending school¹						
School too far away	(2.4)	(2.8)	2.2	2.1	2.2	2.2
Transport not available	(0.0)	(2.8)	1.1	1.1	0.9	1.2
Education not considered necessary	(4.7)	(8.4)	8.0	15.7	7.6	15.2
Required for household work	(7.1)	(19.5)	12.5	21.6	11.9	21.5
Required for work on farm/family business	(9.4)	(5.5)	11.8	10.4	11.5	10.1
Required for outside work for payment in cash or kind	(14.5)	(8.3)	17.4	16.5	17.1	15.9
Costs too much	(7.1)	(16.6)	11.8	11.5	11.2	11.9
No proper school facilities for girls	(0.0)	(0.0)	0.0	1.0	0.0	1.0
Required for care of siblings	(2.4)	(0.0)	1.5	2.1	1.6	2.0
Not interested in studies	(42.9)	(27.6)	28.1	15.4	30.0	16.2
Other	(7.1)	(5.7)	4.5	2.1	4.8	2.3
Don't know	(2.4)	(2.8)	1.1	0.4	1.3	0.6
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of children	40	34	276	478	315	512
Main reason for not currently attending school²						
School too far away	1.1	2.1	1.1	4.5	1.1	4.0
Transport not available	0.0	0.0	0.8	1.6	0.6	1.3
Further education not considered necessary	6.5	11.4	4.2	3.5	4.7	5.3
Required for household work	3.3	19.8	7.9	14.6	6.8	15.8
Required for work on farm/family business	3.2	1.0	13.2	4.5	10.8	3.7
Required for outside work for payment in cash or kind	21.9	7.3	19.8	10.7	20.3	9.9
Costs too much	20.6	14.5	8.3	9.6	11.4	10.7
No proper school facilities for girls	0.0	1.1	0.0	1.3	0.0	1.2
Required for care of siblings	0.0	1.1	0.0	2.9	0.0	2.5
Not interested in studies	28.3	20.9	34.1	30.6	32.6	28.4
Repeated failures	4.4	5.2	3.0	2.2	3.3	2.9
Got married	0.0	3.1	0.0	4.9	0.0	4.5
Other	5.4	6.2	3.4	6.4	3.9	6.4
Don't know	5.4	6.3	4.2	2.6	4.5	3.4
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of children	87	91	268	316	355	407
() Based on 25–49 unweighted cases						
¹ For children who never attended school						
² For children who have dropped out of school						

2.5 Housing Characteristics

Table 2.9 provides information on housing characteristics by residence. Seventy-four percent of households in Andhra Pradesh have electricity (up from 62 percent in NFHS-1). The proportion of households with electricity is 92 percent in urban areas and 68 percent in rural areas.

Table 2.9 Housing characteristics			
Percent distribution of households by housing characteristics, according to residence, Andhra Pradesh, 1998–99			
Housing characteristic	Urban	Rural	Total
Electricity			
Yes	92.4	68.4	74.4
No	7.6	31.6	25.6
Total percent	100.0	100.0	100.0
Source of drinking water			
Piped	86.7	40.0	51.7
Hand pump	8.7	32.9	26.8
Well water	3.3	22.9	18.0
Surface water	0.0	3.7	2.8
Other	1.3	0.5	0.7
Missing	0.0	0.1	0.1
Total percent	100.0	100.0	100.0
Time to get drinking water			
Percentage < 15 minutes	75.5	61.1	64.7
Median time (minutes)	4.0	9.5	9.2
Method of drinking water purification¹			
Strains water by cloth	25.5	27.1	26.7
Uses alum	0.1	0.2	0.2
Uses water filter	28.7	3.3	9.6
Boils water	8.6	3.7	4.9
Uses electronic purifier	0.7	0.0	0.2
Uses other method	0.2	0.0	0.1
Does not purify water	43.3	67.5	61.5
Sanitation facility			
Flush toilet	52.6	6.5	18.0
Pit toilet/latrine	19.3	6.0	9.3
No facility	28.1	87.5	72.7
Total percent	100.0	100.0	100.0
Main type of fuel used for cooking			
Wood	28.4	86.5	72.0
Crop residues	0.2	2.3	1.8
Dung cakes	0.2	0.2	0.2
Coal/coke/lignite/charcoal	0.7	0.1	0.3
Kerosene	22.8	3.1	8.0
Electricity	0.1	0.1	0.1
Liquid petroleum gas	46.7	6.7	16.7
Biogas	0.8	0.7	0.7
Other	0.1	0.1	0.1
Total percent	100.0	100.0	100.0
Type of house			
<i>Kachha</i>	10.2	37.2	30.4
<i>Semi-pucca</i>	19.6	32.9	29.6
<i>Pucca</i>	70.2	29.8	39.9
Missing	0.0	0.1	0.1
Total percent	100.0	100.0	100.0
Persons per room			
< 3	68.5	52.2	56.3
3–4	21.7	27.6	26.2
5–6	8.0	15.1	13.3
7+	1.7	4.9	4.1
Missing	0.1	0.2	0.2
Total percent	100.0	100.0	100.0
Mean number per room	2.4	3.0	2.9
Number of households	966	2,906	3,872

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

Water sources and sanitary facilities have an important influence on the health of household members, especially children. NFHS-1 and NFHS-2 contained questions on sources of drinking water and types of sanitary facilities. NFHS-2 found that 52 percent of households use piped drinking water (up from 36 percent in NFHS-1), 27 percent drink water from hand pumps, and 18 percent drink water from wells. As in the case of electricity, there are large urban-rural differences in sources of drinking water. The proportion of households with piped drinking water is 87 percent in urban areas but only 40 percent in rural areas. The median time to get drinking water is 4.0 minutes in urban areas, 9.5 minutes in rural areas, and 9.2 minutes overall. The proportion of households that purify water by any method is 57 percent in urban areas and 33 percent in rural areas.

Regarding sanitation facilities, only 18 percent of households have a flush toilet (using either piped water or bucket water for flushing) up slightly from 17 percent in NFHS-1, 9 percent have a pit toilet or latrine, and 73 percent have no facility. Again there are large urban-rural differences: 53 percent of urban households have a flush toilet, whereas 88 percent of rural households have no toilet facility at all.

Several types of fuel are used for cooking in Andhra Pradesh, with wood as the most common type. In the state as a whole, 72 percent of households rely mainly on wood, 17 percent on liquid petroleum gas, 8 percent on kerosene, 2 percent on crop residues, and 1 percent on other fuels. Again there are large urban-rural differences. Seventy percent of urban households rely mainly on liquid petroleum gas or kerosene, while 87 percent of rural households rely mainly on wood.

Regarding type of house construction, 30 percent of houses are *kachha* (made from mud, thatch, or other low-quality materials), down from 39 percent in NFHS-1; 30 percent are semi-*pucca* (partly low-quality and partly high-quality materials); and 40 percent are *pucca* (high-quality materials throughout, including roof, walls, and floor). By residence, the proportion of houses that are *pucca* is 70 percent in urban areas and 30 percent in rural areas.

Crowded conditions may also affect health as well as the quality of life. Forty-four percent of households live in houses with three or more persons per room. The mean number of persons per room is 2.4 in urban areas, 3.0 in rural areas, and 2.9 (compared with 2.8 in NFHS-1) in the state as a whole.

Table 2.10 gives a number of measures related to the socioeconomic status of the household (ownership of land, house, and livestock). Overall, 55 percent of households do not own any agricultural land. Forty-five percent of households in rural areas do not own agricultural land (the same as in NFHS-1), compared with 84 percent of households in urban areas. In rural areas, among those who own land, 73 percent have at least some irrigated land. The proportion of households owning a house is 72 percent in urban areas, 94 percent in rural areas, and 89 percent overall. The proportion of households owning livestock is 7 percent in urban areas, 45 percent in rural areas, and 36 percent overall.

The possession of durable goods is another indicator of a household's socioeconomic level, although these goods may also have other benefits. For example, having access to a radio or television may expose household members to innovative ideas or important information about health and family welfare; a refrigerator prolongs the wholesomeness of food; and a means of transportation allows greater access to many services outside the local area. Table 2.11 shows

Table 2.10 Household ownership of agricultural land, house, and livestock			
Percent distribution of households owning agricultural land and percentage owning a house and livestock by residence, Andhra Pradesh, 1998–99			
Asset	Urban	Rural	Total
No agricultural land	83.9	44.8	54.5
Irrigated land only			
< 1 acre	1.0	7.6	6.0
1–5 acres	7.5	19.1	16.2
6+ acres	1.8	3.6	3.1
Nonirrigated land only			
< 1 acre	0.3	2.8	2.2
1–5 acres	2.6	10.2	8.3
6+ acres	0.6	1.9	1.6
Both irrigated and nonirrigated land			
< 1 acre	0.1	0.2	0.2
1–5 acres	0.5	5.6	4.3
6+ acres	1.4	4.0	3.3
Missing	0.4	0.3	0.3
Total percent	100.0	100.0	100.0
Percentage owning a house	72.4	94.0	88.6
Percentage owning livestock	6.8	45.4	35.7
Number of households	966	2,906	3,872

that in the state as a whole, the majority of households have a cot or a bed (85 percent), a clock or watch (62 percent), a chair (55 percent), or an electric fan (54 percent). Other durable goods often found in households are tables (41 percent), bicycles (39 percent), radios (35 percent), mattresses (33 percent), and black and white televisions (26 percent), with smaller proportions owning pressure cookers (15 percent), water pumps (13 percent), sewing machines (10 percent), motorcycles or scooters or mopeds (9 percent), colour televisions (7 percent), refrigerators (6 percent), telephones (5 percent), or cars (1 percent). Urban households are much more likely than rural households to own each of these durable goods. In rural areas, 10 percent of households own a bullock cart, and less than 1 percent own a thresher or tractor. Six percent of households in Andhra Pradesh do not own any of the above durable goods. Almost all households (94 percent) use aluminium kitchenware; 6 percent use stainless steel kitchenware.

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

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

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

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

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

Table 2.11 Household ownership of durable goods and standard of living			
Percentage of households owning selected durable goods and percent distribution of households by type of kitchenware and the standard of living index by residence, Andhra Pradesh, 1998–99			
Asset	Urban	Rural	Total
Durable goods			
Mattress	59.7	24.0	32.9
Pressure cooker	42.3	5.6	14.8
Chair	79.7	46.1	54.5
Cot/bed	89.2	84.1	85.4
Table	64.4	32.5	40.5
Clock/watch	87.5	54.1	62.4
Electric fan	84.4	43.8	53.9
Bicycle	50.5	34.7	38.7
Radio/transistor	45.4	31.6	35.1
Sewing machine	22.2	5.5	9.7
Telephone	15.2	1.5	4.9
Refrigerator	19.8	2.0	6.4
Television (black and white)	45.1	19.5	25.9
Television (colour)	21.9	2.6	7.4
Moped/scooter/motorcycle	23.9	4.3	9.2
Car	2.5	0.2	0.8
Water pump	23.1	9.1	12.6
Bullock cart	0.9	10.4	8.0
Thresher	0.3	0.2	0.3
Tractor	0.1	0.7	0.6
None of the above	2.1	6.6	5.5
Main type of kitchenware used			
Clay	0.5	0.6	0.6
Aluminium	84.1	96.6	93.5
Cast iron	0.2	0.1	0.1
Brass/copper	1.1	0.0	0.3
Stainless steel	14.1	2.6	5.5
Total percent	100.0	100.0	100.0
Standard of living index			
Low	19.6	47.8	40.8
Medium	48.3	43.2	44.5
High	31.8	8.5	14.3
Missing	0.3	0.4	0.4
Total percent	100.0	100.0	100.0
Number of households	966	2,906	3,872

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

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

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

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

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

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

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

Index scores range from 0–14 for a low SLI to 15–24 for a medium SLI and 25–66 for a high SLI. By this measure, 41 percent of households in Andhra Pradesh have a low standard of living, 45 percent have a medium standard of living, and 14 percent have a high standard of living. The proportion with a low standard of living is much higher in rural areas than in urban areas (48 and 20 percent, respectively), and the proportion with a high standard of living is much higher in urban areas than in rural areas (32 and 9 percent, respectively). The proportion with a medium standard of living is slightly higher in urban areas than in rural areas.

2.6 Lifestyle Indicators

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

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

Eleven percent of persons age 15 and above are reported to chew *paan masala* or tobacco. This proportion rises from 4 percent of males and 1 percent of females at age 15–19 to 14 percent and 24 percent, respectively, at age 50–59. For males the proportion is highest at age 60 and above (17 percent). Chewing of *paan masala* or tobacco is more common in rural areas than in urban areas, particularly for females. It is three times as high among illiterate males as among males who have completed at least high school. Chewing *paan masala* or tobacco is rare among literate women, and it is higher among men and women in households with a low standard of living than in households with a high standard of living.

Twenty-six percent of males, but only 8 percent of females, age 15 and above drink alcohol. The proportion who drink alcohol rises with age up to age 50–59. The proportion who drink is much higher in rural areas than in urban areas and among illiterate men and women. Drinking alcohol by household members is negatively related to the household's standard of living.

Table 2.12 Lifestyle indicators

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

Background characteristic	Chew <i>paan masala</i> or tobacco	Drink alcohol	Currently smoke	Ever smoked ¹	Number of household members
MALE					
Age					
15–19	4.2	4.5	3.8	3.8	973
20–24	9.1	11.3	13.7	14.1	837
25–29	9.8	21.5	30.0	31.7	777
30–39	10.6	33.5	42.7	45.5	1,288
40–49	13.6	38.9	53.0	57.9	933
50–59	13.6	40.6	61.4	67.0	606
60+	16.8	34.6	51.9	61.2	804
Residence					
Urban	8.7	13.6	23.4	26.5	1,649
Rural	11.6	30.6	40.1	43.5	4,568
Education					
Illiterate	15.5	43.3	53.4	57.6	2,344
Literate, < middle school complete	10.9	24.3	38.4	41.9	1,634
Middle school complete	7.8	12.2	20.2	22.4	601
High school complete and above	5.2	8.5	13.3	15.6	1,639
Standard of living index					
Low	13.6	37.5	49.1	52.4	2,133
Medium	10.6	23.9	32.9	36.3	2,953
High	6.4	10.3	17.0	20.3	1,103
Total	10.8	26.1	35.7	39.0	6,217
FEMALE					
Age					
15–19	0.5	2.1	0.2	0.2	958
20–24	2.0	3.4	0.7	0.8	884
25–29	5.4	6.6	1.0	1.2	831
30–39	9.4	8.3	3.9	4.4	1,263
40–49	17.5	8.7	7.8	8.3	867
50–59	24.3	13.2	10.0	11.7	651
60+	19.4	13.1	10.4	11.1	694
Residence					
Urban	4.7	1.8	1.5	2.1	1,622
Rural	12.3	9.6	5.4	5.9	4,527
Education					
Illiterate	15.2	11.3	6.7	7.4	3,875
Literate, < middle school complete	3.0	1.6	0.8	0.9	1,221
Middle school complete	0.9	0.6	0.0	0.3	338
High school complete and above	0.1	0.4	0.0	0.0	714
Standard of living index					
Low	14.3	11.0	8.3	9.2	2,240
Medium	9.6	7.0	2.8	3.1	2,800
High	3.9	2.0	0.2	0.2	1,077
Total	10.3	7.5	4.4	4.9	6,149
Total male and female	10.6	16.9	20.1	22.0	12,366
<p>Note: Totals include 28 males and 31 females with missing information on the standard of living index, who are not shown separately.</p> <p>¹Includes household members who currently smoke</p>					

Table 2.13 Distance from nearest health facility						
Percent distribution of ever-married rural women age 15–49 by distance from nearest health facility, Andhra Pradesh, 1998–99						
Distance	Health facility					Any health facility
	Primary Health Centre	Sub-centre	Either PHC or sub-centre	Hospital ¹	Dispensary/ clinic	
Within village	14.1	46.3	48.3	15.4	45.4	64.2
< 5 km	32.4	29.6	31.8	28.9	21.6	23.9
5–9 km	22.4	14.5	12.8	23.6	15.4	7.8
10+ km	31.1	9.6	7.1	32.0	17.6	4.1
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Median distance	5.4	0.0	0.0	5.8	1.3	0.0

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

Only 5 percent of females are reported to have ever smoked and 4 percent currently smoke. Among males age 15 and above, 36 percent currently smoke. The proportion of males who smoke rises from 4 percent at age 15–19 to 61 percent at age 50–59 and then falls to 52 percent at age 60 and above. The proportion of males who smoke is two-thirds higher in rural areas than in urban areas. It is much higher among illiterate than literate males, and nearly three times as high among males with a low standard of living as among males with a high standard of living. Ninety-two percent of males who ever smoked were still smokers at the time of the survey. The pattern of differentials for ever-smokers closely resembles the pattern for current smokers.

2.7 Availability of Facilities and Services to the Rural Population

The NFHS-2 Village Questionnaire collected information from the *sarpanch*, other village officials, or other knowledgeable persons in the village on facilities and services in the village that can affect health and family planning. One important set of questions was on the distance of the village from various types of health facilities, including Primary Health Centres (PHCs), sub-centres, hospitals, and dispensaries or clinics. Table 2.13 summarizes findings on distance from a health facility. The unit of analysis is ever-married women age 15–49 who reside in rural areas. Fourteen percent of rural women live in a village with a Primary Health Centre, 46 percent live in a village with a sub-centre, and 48 percent live in a village with either a PHC or a sub-centre. The proportions who live in a village with other health facilities are 15 percent for hospitals and 45 percent for dispensaries or clinics. Nearly two-thirds of women (64 percent) live in a village that has some kind of health facility. Median distances from particular health facilities are 5.4 km for a Primary Health Centre, 5.8 km for a hospital, and 1.3 km for a dispensary or a clinic.

Table 2.14 shows the proportion of rural residents (the *de jure* rural population) in Andhra Pradesh that live in villages that have various facilities and services. Almost all rural residents (93 percent) live in villages that have a primary school, 61 percent live in villages with

Table 2.14 Availability of facilities and services			
Percentage of rural residents living in villages that have selected facilities and services, Andhra Pradesh, 1998–99			
Facility/service	Percentage of residents	Facility/service	Percentage of residents
Primary school	93.3	At least one village household has a telephone	68.9
Middle school	61.2	Mill/small-scale industry	51.7
Secondary school	47.6	Credit cooperative society	43.6
Higher secondary school	28.6	Agricultural cooperative society	44.2
College	4.2	Fishermen's cooperative society	19.7
<i>Anganwadi</i>	73.8	Milk cooperative society	42.6
Adult education centre	58.2	<i>Kirana</i> /general market shop	89.9
Primary Health Centre	14.6	Weekly market	26.7
Sub-centre	45.7	Fair price shop	93.3
Hospital	15.7	<i>Paan</i> shop	60.1
Dispensary/clinic	47.1	Pharmacy/medical shop	39.7
Private doctor	60.8	<i>Mahila mandal</i>	71.5
Visiting doctor	57.3	Youth club	51.1
Village health guide	43.7	Community centre	28.7
Traditional birth attendant	72.7	Community television set	17.3
Mobile health unit	31.2	Cable connection	88.4
Electricity	100.0	Integrated Rural Development Programme (IRDP)	50.0
Bank	28.3	National Rural Employment Programme (NREP)	15.5
Post office	72.3	Training Rural Youth for Self-Employment (TRYSEM)	18.1
Telegraph office	16.0	Employment Guarantee Scheme (EGS)	3.3
STD (Subscriber Trunk Dialling) phone booth	16.6	Development of Women and Children of Rural Areas (DWACRA)	73.4
		Indira Awas Yojana (IAY)	31.1
		Sanjay Gandhi Niradhar Yojana (SGNY)	0.0
		Total population	13,663

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

a middle school, and nearly half (48 percent) live in villages that have a secondary school. Higher secondary schools are available in villages where 29 percent of the rural population live. Almost three-quarters of rural residents (74 percent) live in villages that have an *anganwadi*² (a nursery school for children age 3–6) and 58 percent live in villages with an adult education centre. A majority of rural residents (61 percent) live in villages that have a private doctor and 73 percent live in villages with a traditional birth attendant.

All rural residents live in villages that are at least partly electrified. Although only 17 percent of rural residents live in villages with an STD booth (for telephoning within India), 69 percent live in villages that have at least one household with a private telephone. Eighty-eight percent of rural residents live in villages that have cable television service, indicating that exposure to modern influences through the mass media is pervasive in the state. Seventy-two percent live in villages with a *mahila mandal*, a women's community group. Other facilities and clubs that are available in villages where most rural residents live are post offices, mills or small-scale industries, *kirana* shops (small grocery stores), fair price shops, *paan* shops, and youth clubs. The most widely available rural development programmes as reported by the respondents to the Village Questionnaire are the Programme on Development of Women and Children of Rural Areas (DWACRA) and the Integrated Rural Development Programme (IRDP).

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

CHAPTER 3

BACKGROUND CHARACTERISTICS OF RESPONDENTS

Women's demographic and health-seeking behaviour is associated with several characteristics including their age, marital status, religion, and caste. Modernizing influences such as women's and men's education, exposure to mass media, and women's work participation, are also important catalysts for demographic and socioeconomic change. In addition, women's status and autonomy are critical in promoting change in reproductive attitudes and behaviour, especially in patriarchal societies (Dyson and Moore, 1983; Das Gupta, 1987; Jeffery and Basu, 1996).

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

3.1 Background Characteristics

Table 3.1 presents the percentage distribution of ever-married women age 15-49 by age, marital status, coresidence with husband, education, religion, caste/tribe, work status, and husband's education. In Andhra Pradesh, the proportion of respondents in five-year age groups increases from 11 percent in the age group 15-19 years to 20 percent in the age group 25-29 years and then falls steadily to 10 percent in the age group 45-49 years. The initial increase reflects the increasing share of ever-married women in each of these age groups. The decline after age 25-29 (an age by which most women have been married) reflects the normal pyramid shape of the population's age distribution. The age distribution of rural and urban respondents is similar with the notable exception that the proportion of rural respondents who are age 15-19 (12 percent) is twice as high as the proportion of urban respondents in this age group (6 percent). The higher share of respondents age 15-19 among rural women than among urban women is largely a consequence of the lower age at marriage in rural areas.

Ninety-two percent of respondents are currently married, 6 percent are widowed, and 3 percent are divorced, separated, or deserted. The proportion of respondents living with their husbands is 91 percent, indicating that almost all currently married women were coresident with their husbands at the time of the survey. The distribution of respondents by marital status and coresidence with husbands does not vary by urban-rural residence. By contrast, there are sharp urban-rural differences in the composition of respondents by religion and caste/tribe. The proportion of women who are Hindus is lower in urban areas (79 percent) than it is in rural areas (90 percent), whereas the proportion who are Muslims is much higher in urban areas (17 percent) than in rural areas (3 percent).

Table 3.1 Background characteristics of respondents

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

Background characteristic	Residence			Number of women	
	Urban	Rural	Total	Weighted	Unweighted
Age					
15–19	6.2	12.0	10.5	425	421
20–24	19.6	19.0	19.2	773	772
25–29	20.2	20.0	20.0	807	806
30–34	16.4	14.5	15.0	603	605
35–39	15.3	14.0	14.3	578	580
40–44	10.9	11.1	11.1	446	446
45–49	11.5	9.4	9.9	399	402
Marital status					
Currently married	91.8	91.6	91.6	3,695	3,694
Widowed	6.3	5.6	5.8	234	234
Divorced	0.7	0.7	0.7	28	28
Separated	0.7	1.0	0.9	38	38
Deserted	0.7	1.0	0.9	38	38
Coresidence with husband					
Living with husband	90.4	91.0	90.9	3,664	3,663
Not living with husband	1.4	0.5	0.8	31	31
Not currently married	8.2	8.4	8.4	337	338
Education					
Illiterate	40.3	71.6	63.8	2,574	2,551
Literate, < primary school complete	4.0	5.6	5.2	209	209
Primary school complete	21.7	13.3	15.4	620	626
Middle school complete	6.7	4.2	4.8	194	196
High school complete	14.8	4.1	6.8	273	281
Higher secondary complete and above	12.4	1.2	4.0	162	169
Religion					
Hindu	78.7	90.2	87.3	3,522	3,511
Muslim	16.9	3.3	6.7	268	278
Christian	4.4	6.4	5.9	238	239
No religion	0.0	0.0	0.0	1	1
Missing	0.0	0.1	0.1	3	3
Caste/tribe					
Scheduled caste	12.4	22.3	19.8	798	795
Scheduled tribe	0.4	6.3	4.8	194	190
Other backward class	42.2	44.9	44.2	1,783	1,776
Other	44.9	26.3	30.9	1,248	1,262
Missing	0.1	0.3	0.2	9	9
Work status					
Working in family farm/business	5.7	22.0	17.9	722	706
Employed by someone else	14.8	42.5	35.6	1,435	1,417
Self-employed	5.6	5.0	5.2	208	210
Not worked in past 12 months	73.7	30.5	41.3	1,664	1,697
Missing	0.1	0.0	0.0	2	2
Husband's education					
Illiterate	22.2	51.0	43.9	1,769	1,749
Literate, < primary school complete	5.3	8.2	7.4	300	299
Primary school complete	17.8	18.0	17.9	723	723
Middle school complete	7.9	6.2	6.6	267	268
High school complete	17.8	9.6	11.7	470	476
Higher secondary complete and above	28.8	6.9	12.3	497	512
Missing	0.2	0.1	0.1	5	5
Total percent	100.0	100.0	100.0	NA	NA
Number of women					
Weighted	1,002	3,030	4,032	4,032	NA
Unweighted	1,068	2,964	4,032	NA	4,032
NA: Not applicable					

For Andhra Pradesh as a whole, 87 percent of all respondents are Hindu, 7 percent are Muslim, and 6 percent are Christian. While one-fifth of women belong to scheduled castes, the percentage who belong to scheduled castes in rural areas (22 percent) is almost twice the percentage in urban areas (12 percent). Scheduled-tribe women constitute 5 percent of all women, 6 percent of rural women, and less than 1 percent of urban women. The largest proportion of women (44 percent) belong to other backward classes (OBC).

The educational levels of respondents and their husbands have an important influence on demographic behaviour. Sixty-four percent of ever-married women age 15–49 in Andhra Pradesh are illiterate, down from 69 percent at the time of NFHS-1. This decline is due to a fall in illiteracy of rural women from 79 percent in NFHS-1 to 72 percent in NFHS-2. The illiteracy of urban women has remained constant at about 40 percent. Notably, however, the urban-rural difference in illiteracy remains high. Only 11 percent of all respondents have completed at least high school, almost the same percentage as in NFHS-1. Twenty-seven percent of urban respondents have attained this educational level compared with 5 percent of rural respondents. Among the respondents who are literate, the largest proportion have completed primary school (but not middle school). Twenty-two percent of women in urban areas have completed primary school (but not middle school) compared with only 13 percent in rural areas.

Forty-four percent of all women age 15–49 have illiterate husbands, down from 48 percent in NFHS-1. The proportion of respondents with illiterate husbands is more than twice as high in rural areas (51 percent) as in urban areas (22 percent). However, as with women's education, it is only in rural areas that the proportion of women with illiterate husbands has declined since NFHS-1 (when the proportion was 58 percent). At the other educational extreme, nearly one-fourth of women (24 percent) have husbands who have at least completed high school, and the percentage in urban areas (47 percent) is much higher than in rural areas (17 percent). By contrast, there are only negligible differences by residence in the proportion of women with husbands who have completed primary or middle school.

Two-fifths (41 percent) of respondents in Andhra Pradesh did not participate in work other than their regular housework during the 12 months preceding the NFHS-2 survey. Less than one-third (31 percent) of rural respondents fall into this category compared with almost three-fourths (74 percent) of urban respondents. The highest proportion of working women in both urban and rural areas are employed by someone else (43 percent of all rural women and 15 percent of all urban women). Twenty-two percent of rural women worked on their own family farm or in a family business compared with only 6 percent of urban women. The proportion of women who were self-employed is about the same in urban and rural areas (5–6 percent).

3.2 Educational Level

Table 3.2 presents the percent distribution of ever-married women age 15–49 by the highest level of education attained, according to age, religion, caste/tribe, and husband's education. The educational distribution of women in different age groups illustrates the progress in the spread of education over a period of about three decades. As expected, illiteracy declines with declining age. A far larger proportion of women age 40–49 (74 percent) are illiterate than women age 15–24 (54 percent). At the other end of the educational spectrum, the proportion of respondents who have at least completed high school, although still very low, is almost three times as high for women age 20–24 (17 percent) as for women age 40–49 (6 percent). The proportions of

Table 3.2. Respondent's level of education by background characteristics

Percent distribution of ever-married women age 15–49 by highest level of education attained, according to selected background characteristics, Andhra Pradesh, 1998–99

Background characteristic	Respondent's level of education						Total percent	Number of women
	Illiterate	Literate, < primary school complete	Primary school complete	Middle school complete	High school complete	Higher secondary complete and above		
Age								
15–19	57.1	6.8	21.5	7.9	5.2	1.4	100.0	425
20–24	52.7	4.9	18.0	7.7	10.3	6.4	100.0	773
25–29	60.2	4.8	14.3	6.1	8.9	5.6	100.0	807
30–34	68.7	3.5	14.6	2.9	5.3	4.9	100.0	603
35–39	68.6	5.2	14.7	2.6	6.0	2.9	100.0	578
40–44	73.9	7.2	10.2	2.6	3.6	2.5	100.0	446
45–49	74.5	5.0	13.6	1.7	4.3	0.9	100.0	399
Religion								
Hindu	64.6	4.9	14.9	5.1	6.6	3.9	100.0	3,522
Muslim	51.4	7.3	21.7	1.8	11.9	5.9	100.0	268
Christian	66.8	7.2	15.0	4.1	2.9	4.0	100.0	238
Caste/tribe								
Scheduled caste	76.0	4.7	11.5	3.6	3.5	0.7	100.0	798
Scheduled tribe	88.6	2.6	7.8	0.5	0.0	0.5	100.0	194
Other backward class	70.1	5.1	13.1	4.1	4.7	2.9	100.0	1,783
Other	43.3	6.0	22.3	7.3	12.7	8.3	100.0	1,248
Husband's education								
Illiterate	89.5	2.9	6.1	0.9	0.4	0.2	100.0	1,769
Literate, < primary school complete	75.0	11.2	11.2	1.3	1.3	0.0	100.0	300
Primary school complete	59.0	8.5	22.4	4.3	5.3	0.5	100.0	723
Middle school complete	46.6	9.0	22.8	12.6	7.4	1.8	100.0	267
High school complete	33.6	6.1	29.5	12.4	15.7	2.6	100.0	470
Higher secondary complete and above	10.9	2.0	23.4	10.0	26.1	27.6	100.0	497
Total	63.8	5.2	15.4	4.8	6.8	4.0	100.0	4,032

Note: Total includes 1 woman with no religion and 3, 9, and 5 women with missing information on religion, caste/tribe, and husband's education, respectively, who are not shown separately.

respondents who have completed primary school and middle school also increase with decreasing age.

A lower proportion of Muslim women are illiterate (51 percent) than Hindu women (65 percent) or Christian women (67 percent). Muslim women are also more likely to have completed at least high school (18 percent) than Hindu women (11 percent) or Christian women (7 percent). Women's educational attainment also varies widely by their caste/tribe. While 43 percent of women not belonging to any scheduled caste, scheduled tribe, or other backward class are illiterate, much larger proportions are illiterate among women belonging to scheduled tribes (89 percent), scheduled castes (76 percent), and other backward classes (70 percent). Scheduled-tribe women, followed by scheduled-caste women, are less likely than other women to have completed primary school, middle school, or high school.

Ninety percent of women with illiterate husbands are themselves illiterate. Notably, 34 percent of women whose husbands have completed high school (but not higher secondary

school) and 11 percent of women whose husbands have completed higher secondary school are also illiterate. These results suggest that husbands at each level of education are more likely to have wives with a lower level of education than an equal or a higher level of education. Specifically, the proportion of women who have lower education than their husbands is 75 percent for women whose husbands are literate but have not completed primary school, 68 percent for women whose husbands have completed primary school, 78 percent for women whose husbands have completed middle school, 82 percent for women whose husbands have completed high school, and 72 percent for women whose husbands have completed higher secondary school. Among women with literate husbands, women whose husbands have completed primary school are most likely to have equal or higher education than their husbands (33 percent).

3.3 Age at First Marriage

Table 3.3 gives information on age at first marriage. The table shows the percentage of all women (ever-married and never-married) who first married by specified exact ages, and the median age at first marriage and first cohabitation by current age and residence. The median age at first marriage/cohabitation for a cohort of women is the age by which 50 percent of the cohort marries/cohabits.

There is strong evidence of a rising age at first marriage in Andhra Pradesh. The proportion married by age 15 falls steadily from the oldest to the youngest age group, but even more remarkable is the fact that the proportion falls from 31 percent for women age 20–24 to 18 percent for women age 15–19 who are only five years younger, on average. This decline in the proportion of women married by age 15 is evident in both rural and urban areas. In rural areas, the proportion of women married by age 15 declines from 37 percent among women age 20–24 to 22 percent among women age 15–19; the corresponding decline in urban areas is from 15 percent to 6 percent. The median age at first marriage has also risen over the past three decades. In urban areas, the median age at first marriage is three years higher for women age 20–24 than for women age 45–49; in rural areas, the corresponding increase in the median age at first marriage is two years.

Despite this evidence of a rising age at marriage, the table shows that most women age 20–49 in Andhra Pradesh were married before they had reached the legal minimum age at marriage of 18 years, as set by the Child Marriage Restraint Act of 1978. Specifically, 76 percent of all women, 83 percent of rural women, and 58 percent of urban women age 20–49 married before age 18. Although the median age at first marriage for women age 20–49 in urban areas (17.0) is two years higher than in rural areas (14.9), both are less than 18 years. The median age at first marriage only reaches 18 years for urban women age 20–29. Although this is encouraging, it also indicates that almost half of even the younger urban women marry before reaching the legal minimum age at marriage. The difference between median age at first marriage and median age at first cohabitation is almost negligible among women less than 40 years of age. This suggests that *gauna* or similar cultural practices that introduce a lag between marriage and cohabitation are no longer observed in Andhra Pradesh.

Table 3.3 Age at first marriage

Percentage of women married by specific exact ages, median age at first marriage, and median age at first cohabitation with husband, according to current age and residence, Andhra Pradesh, 1998–99

Current age ¹	Percentage ever married by exact age						Number of women	Median age at first marriage	Median age at first cohabitation with husband
	13	15	18	20	22	25			
URBAN									
15–19	1.5	5.8	NA	NA	NA	NA	257	NC	NC
20–24	3.7	14.9	42.8	63.3	NA	NA	252	18.5	18.6
25–29	5.7	20.3	48.2	71.7	84.3	93.6	212	18.1	18.0
30–34	8.7	27.9	59.8	76.2	87.7	93.2	171	16.6	16.8
35–39	10.8	29.8	71.6	82.4	88.4	95.6	157	16.3	16.4
40–44	12.5	33.3	68.3	80.7	89.8	92.3	113	16.3	16.4
45–49	23.3	45.7	77.0	84.3	92.3	96.2	117	15.4	15.7
20–49	9.3	26.0	57.9	74.5	84.4	90.1	1,022	17.0	17.1
25–49	11.1	29.7	62.9	78.1	87.9	94.1	770	16.6	16.7
RURAL									
15–19	5.1	22.1	NA	NA	NA	NA	666	NC	NC
20–24	11.7	37.0	73.1	88.8	NA	NA	623	15.9	16.0
25–29	18.1	46.3	79.4	91.0	95.2	96.5	620	15.2	15.4
30–34	24.9	55.8	87.3	95.1	97.4	98.1	444	14.5	14.8
35–39	25.1	55.4	85.9	94.5	97.1	98.1	427	14.6	14.9
40–44	33.0	64.5	90.4	95.2	98.0	98.2	341	13.9	14.7
45–49	38.7	67.5	92.8	96.8	99.0	99.3	285	13.9	14.6
20–49	22.8	51.6	83.1	92.9	95.8	96.6	2,741	14.9	15.1
25–49	26.1	55.9	86.0	94.0	97.0	97.8	2,118	14.5	14.9
TOTAL									
15–19	4.1	17.6	NA	NA	NA	NA	921	NC	NC
20–24	9.4	30.6	64.3	81.3	NA	NA	876	16.6	16.6
25–29	14.9	39.7	71.4	86.0	92.3	95.7	833	15.7	15.9
30–34	20.4	48.1	79.8	89.9	94.8	96.8	614	15.1	15.2
35–39	21.2	48.4	81.9	91.1	94.6	97.2	585	15.1	15.3
40–44	27.9	56.8	85.0	91.7	96.0	96.9	454	14.4	15.1
45–49	34.2	61.1	88.2	93.1	96.9	98.3	402	14.3	14.9
20–49	19.1	44.7	76.2	87.8	92.6	94.8	3,765	15.4	15.6
25–49	22.1	48.9	79.8	89.8	94.5	96.8	2,889	15.1	15.3

NA: Not applicable
 NC: Not calculated because less than 50 percent of women in the age group 15–19 have married or started living with their husband by age 15
¹The current age groups include both never-married and ever-married women.

3.4 Exposure to Mass Media

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

In Andhra Pradesh nearly one-fourth (24 percent) of women are not regularly exposed to any mass media. Regular exposure to media is higher among younger women (below age 35) than older women (age 35 and above), but varies more widely by education and standard of

Table 3.4 Exposure to mass media

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

Background characteristic	Exposure to mass media					Number of women
	Reads a newspaper or a magazine at least once a week	Watches television at least once a week	Listens to the radio at least once a week	Visits the cinema/theatre at least once a month	Not regularly exposed to any media	
Age						
15–19	20.5	57.3	40.4	52.4	20.2	425
20–24	26.9	61.1	39.2	45.9	19.4	773
25–29	19.8	58.5	39.9	38.9	22.1	807
30–34	19.4	59.3	38.5	33.4	22.9	603
35–39	17.0	56.9	38.2	26.5	26.2	578
40–44	13.9	55.9	39.3	21.2	29.2	446
45–49	13.9	55.3	38.5	18.6	30.3	399
Residence						
Urban	39.4	84.6	38.2	45.9	6.9	1,002
Rural	13.0	49.4	39.5	31.5	29.2	3,030
Education						
Illiterate	0.0	44.2	33.0	30.0	34.1	2,574
Literate, < middle school complete	41.6	78.6	48.9	39.8	7.5	829
Middle school complete	53.2	83.5	48.7	44.0	4.2	194
High school complete and above	78.1	90.9	52.8	52.3	1.6	435
Religion						
Hindu	19.1	57.5	39.4	35.5	24.6	3,522
Muslim	29.1	76.3	33.5	31.3	12.3	268
Christian	15.3	46.8	41.5	33.0	24.1	238
Caste/tribe						
Scheduled caste	11.1	45.8	37.9	37.4	29.7	798
Scheduled tribe	4.6	35.6	34.2	34.7	38.1	194
Other backward class	15.2	54.3	36.9	34.8	26.8	1,783
Other	33.6	75.2	44.0	33.9	13.3	1,248
Standard of living index						
Low	5.1	36.6	30.9	34.3	38.2	1,485
Medium	18.8	62.2	42.0	33.1	20.1	1,862
High	53.6	94.6	49.5	41.7	1.5	667
Total	19.5	58.2	39.2	35.1	23.7	4,032

Note: Total includes 1 woman with no religion and 3, 9, and 18 women with missing information on religion, caste/tribe, and the standard of living index, respectively, who are not shown separately.

living. As expected, the percentage not regularly exposed to the media is higher among illiterate women (34 percent) than among the various categories of literate women (2–8 percent). Regular exposure to media also increases with the standard of living. While the percentage not regularly exposed to any mass media is 38 percent among women with a low standard of living and 20 percent among women with a medium standard of living, it is almost negligible (2 percent) among women with a high standard of living.

Twenty-nine percent of rural women are not regularly exposed to any media compared with only 7 percent of urban women. The proportion of Muslim women not regularly exposed to any media (12 percent) is about half that of Hindu women (25 percent) and Christian women (24

percent). Thirty-eight percent of scheduled-tribe women are not regularly exposed to any media compared with 30 percent of scheduled-caste women, 27 percent of women from other backward classes, and only 13 percent of other women.

Among the different types of mass media, television has the greatest reach across all categories of women including illiterate and poor women. Overall, 58 percent of respondents watch television at least once a week compared with less than 40 percent regularly exposed to any other single medium. The proportion of women who watch television at least once a week has risen sharply since the time of NFHS-1, when it was 39 percent. By contrast, regular exposure to the radio has declined over the same period from 62 percent in NFHS-1 to 39 percent in NFHS-2. The cinema is an important source of media exposure, although less important than the radio. Notably, women who completed at least middle school are more likely to be regularly exposed to printed media than to radio or cinema. Exposure to each of these media increases sharply with education and with standard of living. Exposure to cinema or theatre and to newspapers or magazines decreases with age, but exposure to other types of media varies little by age.

3.5 Women's Employment

Labor force participation not only gives women an opportunity to earn income, but also exposes them to the outside world and to authority structures and networks other than kin-based ones (Dixon-Mueller, 1993). However, in a developing country such as India where women's workforce participation is often motivated by poverty, these benefits are likely to be mediated by the social context of women's work and their total work burden (Bardhan, 1985; Desai and Jain, 1994). In addition, the empowering effects of employment for women are likely to depend on their occupation, the continuity of their workforce participation, and whether they earn income. It is expected that women who work at a regular job, who earn cash, and who perceive that their contribution is a substantial part of total family earnings are more likely to be empowered than other employed and unemployed women (Youssef, 1982; Sen, 1990; Mahmud and Johnston, 1994). Table 3.5 provides information on these aspects of women's employment for ever-married women age 15–49 according to residence.

In Andhra Pradesh, 59 percent of ever-married women age 15–49 were either currently employed at the time of NFHS-2 or were employed during the 12 months preceding the survey. Sixty-nine percent of rural respondents but only 26 percent of urban respondents worked at any time during the year preceding the survey. The majority of women who worked during the 12 months before the survey worked throughout the year in both urban areas (71 percent) and rural areas (64 percent). The majority of both urban and rural women who worked during the year before the survey earned cash for their work, but the proportion earning cash was higher in urban areas (89 percent) than in rural areas (75 percent). Nearly one in four (23 percent) working women in rural areas and 1 in 10 (11 percent) in urban areas were unpaid workers.

The majority (70 percent) of women who work in Andhra Pradesh are farm workers. Farm workers account for almost four out of five working women in rural areas. In urban areas, by contrast, there is greater occupational diversity. Sixteen percent of urban women who work are farm workers, 30 percent are production workers, 16 percent are in sales and services, and 13 percent are professionals.

Table 3.5 Employment			
Percent distribution of ever-married women age 15–49 by employment characteristics, according to residence, Andhra Pradesh, 1998–99			
Employment characteristic	Urban	Rural	Total
Employment status			
Currently working	25.3	68.6	57.9
Worked in past 12 months (not currently working)	0.9	0.8	0.9
Not worked in past 12 months	73.7	30.5	41.3
Continuity of employment¹			
Throughout the year	71.2	63.9	64.7
Seasonally/part of the year	24.5	31.9	31.1
Once in a while	3.9	4.2	4.1
Missing	0.4	0.0	0.0
Type of earning¹			
Cash only	83.5	67.4	69.2
Cash and kind	5.0	8.0	7.6
Kind only	0.4	1.6	1.5
Not paid	10.9	23.0	21.7
Missing	0.4	0.0	0.0
Occupation¹			
Professional	12.8	1.4	2.6
Sales worker	10.0	2.2	3.0
Service worker	5.6	0.3	0.9
Production worker	30.4	7.0	9.6
Farm worker	15.5	77.2	70.3
Other worker	25.6	11.6	13.2
Missing	0.0	0.3	0.3
Earnings contribution to total family earnings²			
Almost none	6.5	8.8	8.5
Less than half	36.5	37.2	37.1
About half	15.6	12.1	12.5
More than half	6.9	5.1	5.3
All	34.5	36.7	36.4
Missing	0.0	0.1	0.1
Total percent	100.0	100.0	100.0
Number of women	1,002	3,030	4,032
Number of employed women ¹	263	2,104	2,368
Number of women earning cash	233	1,586	1,819

¹For currently working women and women who have worked in the past 12 months
²For women earning cash

A significant feature of women's work participation in Andhra Pradesh is their substantial contribution to family earnings. In both urban and rural areas, more than one-third of women who worked and earned cash in the past 12 months report that the family is entirely dependent on their earnings. Another 23 percent in urban areas and 17 percent in rural areas report that they contribute at least half of the total family earnings. Only 7 percent in urban areas and 9 percent in rural areas report that they contribute almost nothing to total family earnings.

3.6 Women's Autonomy

Education, work participation, and exposure to mass media are some of the means by which women gain status and autonomy, both important aspects of their empowerment. To measure women's autonomy and empowerment more directly, NFHS-2 asked about women's participation

Table 3.6 Household decisionmaking							
Percent distribution of ever-married women by person who makes specific household decisions, according to residence, Andhra Pradesh, 1998–99							
Household decision	Respondent only	Husband only	Respondent with husband	Others in household only	Respondent with others in household	Missing	Total percent
URBAN							
What items to cook	76.6	4.2	2.5	10.0	6.7	0.0	100.0
Obtaining health care for herself	28.6	39.1	23.3	4.0	4.9	0.0	100.0
Purchasing jewellery or other major household items	15.3	26.7	42.6	8.3	7.1	0.0	100.0
Going and staying with her parents or siblings	21.1	34.1	33.8	6.4	4.5	0.0	100.0
How the money she earns will be used ¹	50.8	17.1	28.4	2.4	0.8	0.4	100.0
RURAL							
What items to cook	76.5	3.7	3.6	9.9	6.3	0.0	100.0
Obtaining health care for herself	24.5	37.4	26.8	6.7	4.6	0.0	100.0
Purchasing jewellery or other major household items	13.2	28.9	39.7	10.8	7.3	0.0	100.0
Going and staying with her parents or siblings	18.8	34.4	32.1	8.5	6.2	0.0	100.0
How the money she earns will be used ¹	29.3	31.4	30.5	5.9	2.9	0.0	100.0
TOTAL							
What items to cook	76.5	3.8	3.3	9.9	6.4	0.0	100.0
Obtaining health care for herself	25.6	37.8	25.9	6.0	4.6	0.0	100.0
Purchasing jewellery or other major household items	13.7	28.4	40.4	10.2	7.3	0.0	100.0
Going and staying with her parents or siblings	19.4	34.3	32.5	8.0	5.8	0.0	100.0
How the money she earns will be used ¹	32.1	29.5	30.2	5.5	2.6	0.1	100.0

¹For women earning cash

in household decisionmaking, their freedom of movement, and access to money that they can spend as they wish. Women's autonomy is likely to have a significant impact on the demographic and health-seeking behaviour of couples by altering women's relative control over fertility and contraceptive use, and by influencing their attitudes (for example, attitudes towards the sex composition of children) and abilities (for example, the ability to obtain health services for themselves and their children) (Sen and Batliwala, 1997).

In order to measure women's participation in household decisionmaking, NFHS-2 asked women to report who in their households makes decisions about the following: what items to cook, obtaining health care for the respondent, purchasing jewellery or other major household items, and the respondent going and staying with parents or siblings. The survey also asked women who earn cash who decides how the money they earn is spent. Table 3.6 gives the percent distribution of ever-married women age 15–49 by the person (or persons) who makes each of the specified household decisions according to residence.

As expected, women in Andhra Pradesh are most likely to participate in the decision about what to cook: 77 percent of women make this decision on their own and another 10 percent make this decision jointly with their husband or someone else in the household (see Figure 3.1). However, 14 percent of women are not involved in the decision regarding what to cook. In addition, about two of every five women are not involved at all in decisions about seeking health care for themselves (44 percent), purchasing jewellery or other major household items (39 percent), and going and staying with parents or siblings (42 percent). From among these three types of decisions, the decision that women are most likely to take on their own is the one about their own health care (26 percent), and the decision that they are least likely to take on their own is about the purchase of jewellery or other major household items (14 percent). Surprisingly, there are no sharp differences by residence in the proportion of women participating in the different types of decisions.

One-third of women who earn cash report that only their husbands or only others in the household make the decision on how the money they earn will be used, another one-third report that they make the decision on their own, and the remaining one-third report that they make the decision together with their husbands or someone else in their households. The proportion of women who do not participate in the decision about how the money they earn should be used is higher in rural areas (37 percent) than in urban areas (20 percent), and the proportion who make this decision alone is higher in urban areas (51 percent) than in rural areas (29 percent).

Women's participation in household decisionmaking, alone or jointly with others in the household, increases with age, suggesting that autonomy increases with age (Table 3.7). Specifically, for women age 30 and above, only 2–4 percent in each five-year age group do not participate in any decisionmaking compared with 19 percent of women age 15–19. Participation in each of the four specified decisions increases more or less steadily with age. Urban women are somewhat more likely to participate in decisions about purchasing jewellery or other major household items (65 percent) than are rural women (60 percent), but decisionmaking about other matters does not vary much by residence. The proportion of women not involved in any decisionmaking varies little by education, religion, caste/tribe, cash employment, or standard of living. Interestingly, however, illiterate women are more likely than literate women to be involved in decisions about what to cook and about their own health care. Women with middle school complete are least likely to participate in any decisionmaking and in each of the separate decisions. Although the differences are not large, women who worked for cash during the past year are more likely than women in other employment categories to participate in each of the different decisions.

Table 3.7 also gives information on two other dimensions of women's autonomy measured in NFHS-2, namely, women's freedom of movement and their access to money that they can spend as they wish. With regard to freedom of movement, respondents were asked whether they need permission to go to the market or to visit friends or relatives. Women's access to spending money was measured by asking respondents, 'Are you allowed to have some money set aside that you can use as you wish?'

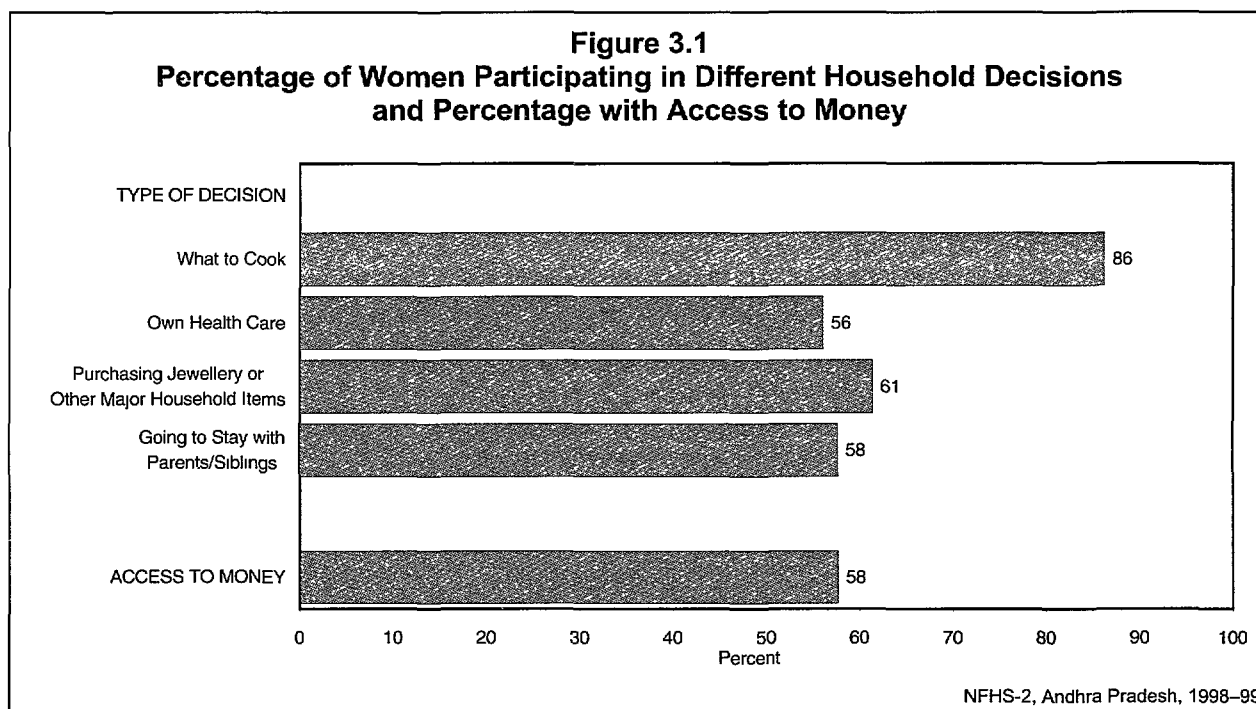
Table 3.7 Women's autonomy

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

Background characteristic	Percentage not involved in any decision-making	Percentage involved in decisionmaking on:				Percentage who do not need permission to:		Percentage with access to money	Number of women
		What to cook	Own health care	Purchasing jewellery, etc.	Staying with her parents/siblings	Go to the market	Visit friends/relatives		
Age									
15–19	18.7	66.3	48.5	47.9	43.3	11.1	7.5	45.7	425
20–24	12.0	79.2	48.8	53.4	51.9	18.0	12.1	52.3	773
25–29	7.8	86.7	51.4	61.2	53.6	19.4	13.1	57.1	807
30–34	3.8	90.7	59.9	65.7	62.1	20.9	14.8	61.0	603
35–39	2.6	94.2	59.7	67.6	64.3	22.6	17.6	62.5	578
40–44	3.4	92.5	66.3	70.0	66.2	27.3	22.7	61.6	446
45–49	2.2	94.8	65.7	66.8	66.5	22.9	16.0	65.8	399
Residence									
Urban	6.7	85.8	56.8	65.0	59.5	24.7	15.7	65.3	1,002
Rural	7.6	86.4	55.9	60.3	57.1	18.6	14.2	55.1	3,030
Education									
Illiterate	6.7	87.9	57.2	61.6	58.2	20.1	14.9	54.5	2,574
Literate, < middle school complete	7.5	84.6	55.9	61.8	56.4	16.8	11.8	59.0	829
Middle school complete	13.0	81.2	47.2	56.7	53.8	21.7	15.5	58.3	194
High school complete and above	8.3	81.7	54.3	62.0	58.8	25.9	17.6	73.8	435
Religion									
Hindu	7.1	86.5	56.7	61.8	58.2	21.1	15.2	58.0	3,522
Muslim	8.2	82.8	51.5	56.5	55.0	11.1	9.4	53.9	268
Christian	10.0	85.4	51.5	60.3	52.5	16.3	12.1	55.9	238
Caste/tribe									
Scheduled caste	8.1	85.7	57.3	59.2	55.9	19.1	14.1	53.5	798
Scheduled tribe	5.2	90.6	52.6	59.0	54.2	19.9	18.2	58.2	194
Other backward class	7.2	86.4	56.4	62.6	57.9	20.3	15.0	56.4	1,783
Other	7.4	85.7	55.2	61.4	58.8	20.5	13.7	61.9	1,248
Cash employment									
Working for cash	6.4	88.3	59.5	63.9	59.2	21.9	16.5	57.6	1,819
Working but not for cash	7.3	87.2	53.6	56.0	55.5	15.2	10.1	47.1	548
Not worked in past 12 months	8.5	83.7	53.2	60.5	56.7	19.8	14.0	61.3	1,664
Standard of living index									
Low	6.6	87.5	58.6	62.9	59.7	20.2	15.2	53.2	1,485
Medium	7.8	86.1	55.4	60.4	56.2	19.1	14.1	57.3	1,862
High	8.0	83.5	52.4	61.0	56.9	22.6	14.2	68.8	667
Total	7.4	86.2	56.1	61.4	57.7	20.1	14.6	57.7	4,032

Note: Total includes 1 woman with no religion and 3, 9, 1, and 18 women with missing information on religion, caste/tribe, cash employment, and the standard of living index, respectively, who are not shown separately.

Most women say that they need permission to go to the market or to visit friends or relatives. Only 20 percent say that they do not need permission to go to the market, and 15 percent say that they do not need permission to visit friends or relatives. Freedom of movement increases with age. Muslim women have much less freedom of movement than women of other religions, especially Hindu women. As expected, women who earn cash have more freedom of



movement than other women. What is most remarkable about women's freedom of movement in Andhra Pradesh, however, is how little it varies by background characteristics. The proportion of women who do not need permission to go to the market is never greater than 27 percent for any category, and the proportion who do not need permission to go to visit friends and relatives is never greater than 23 percent.

In contrast to freedom of movement, there is great variation in women's access to money by background characteristics. Overall, 58 percent of women say that they are allowed to have some money set aside that they can spend as they wish, but this proportion varies widely by age, residence, education, employment status, and household standard of living. Specifically, access to money increases with age, and is greater for urban women than for rural women. Women who have completed high school are much more likely to have access to money than are women in other educational categories (74 percent compared with 55-59 percent). Access increases with standard of living: 53 percent of women with a low standard of living have access to money compared with 69 percent of women with a high standard of living. Women who worked during the year but did not earn cash are much less likely than women in other employment categories to have access to money. Interestingly, however, women who did not work at all are most likely to have access to money (61 percent), even compared with women who worked for cash during the past year (58 percent).

3.7 Women's Educational Aspirations for their Children

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

Table 3.8 Perceived educational needs of girls and boys			
Percent distribution of ever-married women by their opinion on how much education should be given to girls and boys, according to residence, Andhra Pradesh, 1998–99			
Educational level	Urban	Rural	Total
Education for girls			
No education	0.3	3.0	2.3
Less than primary school	0.3	0.3	0.3
Primary school	0.9	3.2	2.7
Middle school	3.4	7.3	6.3
High school	18.5	30.7	27.7
Higher secondary school	6.4	8.1	7.7
Graduate and above	12.2	6.5	7.9
Professional degree	9.3	3.2	4.7
As much as she desires	36.6	23.6	26.8
Depends	10.4	9.5	9.7
Don't know	1.8	4.8	4.0
Total percent	100.0	100.0	100.0
Education for boys			
No education	0.1	0.8	0.6
Less than primary school	0.0	0.1	0.1
Primary school	0.0	0.6	0.5
Middle school	1.0	2.0	1.7
High school	6.9	14.2	12.4
Higher secondary school	3.2	8.1	6.9
Graduate and above	12.4	11.0	11.3
Professional degree	14.1	6.0	8.1
As much as he desires	50.5	41.7	43.9
Depends	9.9	11.6	11.2
Don't know	2.0	3.8	3.4
Total percent	100.0	100.0	100.0

As shown in Table 3.8, 44 percent of women believe that a boy should be given as much education as he wants compared with only 27 percent who believe that a girl should be given as much education as she wants. Twenty-six percent of women believe that an education above high school (higher secondary school, graduate and above, or professional degree) is appropriate for boys compared with 20 percent who feel that it is appropriate for girls. Notably, only 2 percent of women feel that girls should not be given any education, and only 9 percent feel that girls should be given an education but not beyond middle school. The corresponding proportions for boys are negligible. Fourteen percent of women did not specify a level of education appropriate for girls, and 15 percent did not specify an appropriate level for boys.

Table 3.8 indicates that there are sharp urban-rural differences in women's educational aspirations for both girls and boys. Rural respondents have lower educational aspirations than urban respondents, particularly for girls.

3.8 Domestic Violence: Attitudes and Experience

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

1998; Rao and Bloch, 1993). In patriarchal societies such as India, women are not only socialized into being silent about their experience of violence but traditional norms teach them to accept, tolerate, and even rationalize domestic violence (Jaisingh, 1995; Hegde, 1996; Prasad, 1999). Both tolerance of and experience of domestic violence are significant barriers to the empowerment of women, with consequences for women's health, their health-seeking behaviour, their adoption of a small family norm, and the health of their children. In NFHS-2 an attempt was made to assess whether women view wife-beating as justified and to measure the prevalence of violence against women including, but not limited to, violence committed by a woman's husband.

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

Four out of five women in Andhra Pradesh accept at least one reason as justification for wife-beating. Women are most likely to agree that 'neglecting the house or children' (69 percent) justifies wife-beating and least likely to agree that 'her natal family not giving expected money, jewellery, or other items' (25 percent) or 'not cooking food properly' (26 percent) justifies wife-beating. About half of the women agree that each of the remaining reasons justifies wife-beating.

Table 3.9 indicates that there are no sharp differences by age or marital duration in women's attitudes towards wife-beating but that there are notable urban-rural differences. Not only do a higher proportion of rural women (82 percent) than urban women (72 percent) agree with at least one reason justifying wife-beating, but rural women are also more likely than urban women to agree with each specific reason. Agreement with at least one reason and with each of the different reasons for wife-beating tends to decline with education. Eighty-three percent of illiterate women agree with at least one reason justifying wife-beating, compared with 78–80 percent of literate women who have not completed high school and 62 percent of women who have completed high school.

Muslim women (70 percent) are less likely to agree with at least one reason justifying wife-beating than are Christian women (85 percent) or Hindu women (80 percent). Muslim women are also least likely to agree with most of the reasons for wife-beating. One possible explanation for this difference may be that Muslim women in Andhra Pradesh are more likely to be urban and educated than are Hindu or Christian women (Tables 3.1 and 3.2). Table 3.9 also shows that women belonging to scheduled castes, scheduled tribes, or other backward classes are more tolerant of wife-beating than are other women.

Table 3.9 Reasons given for justifying a husband beating his wife

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

Background characteristic	Percentage who agree with specific reasons							Number of women
	Percentage who agree with at least one reason	Husband suspects wife is unfaithful	Natal family does not give expected money or other items	Wife shows disrespect for in-laws	Wife goes out without telling husband	Wife neglects house or children	Wife does not cook food properly	
Age								
15–19	81.3	51.7	26.1	57.0	57.7	69.2	29.1	425
20–29	79.2	55.6	25.5	54.6	55.2	68.7	26.5	1,580
30–39	80.4	56.5	24.8	51.3	55.3	69.5	26.3	1,182
40–49	78.9	55.3	25.1	53.1	54.6	68.8	24.0	846
Marital duration (in years)								
< 5	77.1	53.0	24.7	53.7	55.5	65.8	26.5	810
5–9	78.7	54.2	25.1	52.5	51.4	69.2	24.7	575
10 or more	80.6	56.3	25.2	53.7	56.1	69.6	26.5	2,310
Not currently married	81.8	57.2	27.9	54.3	57.3	72.1	25.4	337
Residence								
Urban	71.7	48.7	17.2	46.9	47.0	61.8	17.2	1,002
Rural	82.4	57.6	28.0	55.7	58.2	71.4	29.1	3,030
Education								
Illiterate	83.4	59.6	29.4	57.4	59.8	72.8	30.8	2,574
Literate, < middle school complete	77.6	51.4	19.8	51.9	52.5	66.6	21.8	829
Middle school complete	79.8	54.9	19.9	47.8	52.9	66.0	14.1	194
High school complete and above	61.6	38.6	14.0	36.6	36.1	52.3	12.7	435
Religion								
Hindu	80.0	55.0	25.9	53.5	55.1	69.0	26.6	3,522
Muslim	70.3	57.5	21.3	48.4	51.8	62.6	21.9	268
Christian	85.4	58.2	20.9	59.5	62.9	75.1	24.2	238
Caste/tribe								
Scheduled caste	85.1	60.5	27.2	59.4	60.3	73.4	28.5	798
Scheduled tribe	87.3	65.3	39.6	61.1	62.7	78.5	36.9	194
Other backward class	80.6	56.2	27.3	55.4	57.2	69.5	29.1	1,783
Other	73.7	49.5	19.0	45.7	48.4	63.8	18.8	1,248
Cash employment								
Working for cash	83.2	58.1	28.3	57.0	58.7	72.2	30.8	1,819
Working but not for cash	81.2	62.8	34.0	57.2	61.2	70.0	30.1	548
Not worked in past 12 months	75.4	50.0	19.2	48.6	49.8	65.1	19.9	1,664
Standard of living index								
Low	84.1	57.6	28.6	58.7	59.9	73.3	30.7	1,485
Medium	80.4	57.5	26.3	53.4	55.9	69.3	26.0	1,862
High	68.3	45.8	15.6	42.7	44.1	58.7	16.8	667
Total	79.7	55.4	25.3	53.6	55.4	69.0	26.2	4,032

Note: Total includes 1 woman with no religion and 3, 9, 1, and 18 women with missing information on religion, caste/tribe, cash employment, and the standard of living index, respectively, who are not shown separately.

As expected, the proportion of women who agree that wife-beating is justified declines as the standard of living increases. The difference is greatest between women with low and medium standards of living (80–84 percent) and women with a high standard of living (68 percent). However, the expectation that women who work, especially those who work for cash, would be less likely than other women to justify wife-beating is not borne out for Andhra Pradesh. Women who have not worked in the past 12 months are less likely than women who have worked to justify wife-beating for each reason given in Table 3.9. This finding can be partly explained by the fact that the majority of working women in Andhra Pradesh are farm workers, who are likely to have relatively low educational attainment. Overall, there is no category of women in which the majority does not agree with at least one reason for wife-beating. This finding attests to the widespread socialization of women in norms that give husbands the right to use force to discipline wives who are perceived to be violating traditional gender norms.

In order to assess the prevalence of domestic violence, NFHS-2 also asked women if they had ever been beaten or mistreated physically since age 15¹. Women who reported being beaten or physically mistreated were asked who beat or physically mistreated them. Interviewers recorded all the persons mentioned by the respondent. As mentioned earlier, there is a culture of silence around the topic of domestic violence that makes the collection of data on this sensitive topic particularly difficult. Even women who want to speak about their experience of domestic violence may find it difficult because of feelings of shame or fear. This may be more true if violence occurred recently (for example, in the preceding 12 months) rather than in the more distant past. In addition, depending on the varied cultural meanings ascribed to different acts, there may be women who do not report their experience of domestic violence because they do not view it as violence or physical mistreatment. For these reasons, NFHS-2 results on the prevalence of domestic violence need to be interpreted with caution.

Table 3.10 presents results on the prevalence of beatings or physical mistreatment since age 15 by women's background characteristics. Prevalence is also shown according to the person(s) who beat or physically mistreated them—their husbands, their in-laws, or other persons. Twenty-three percent of women in Andhra Pradesh have experienced violence, and 21 percent have been beaten or physically mistreated by their husbands. Three percent have been beaten or physically mistreated by in-laws and 2 percent by other persons. This implies that among women who report beatings, more than 9 out of 10 (91 percent) have been beaten by their husbands and one out of eight have been beaten by their in-laws.

Women age 15–19 are less likely than older women to have been beaten, but because of their young age they have had less time to be exposed to the risk of being beaten since age 15. Similarly, women who have been married for less than five years are less likely to have been beaten (15 percent) than women who have been married longer (23–26 percent). Urban women (17 percent) are less likely than rural women (25 percent) to experience violence and illiterate women (27 percent) are three times as likely to experience violence as women who have completed high school (9 percent).

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

Table 3.10 Women's experience with beatings or physical mistreatment

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

Background characteristic	Percentage beaten or physically mistreated since age 15	Percentage beaten or physically mistreated since age 15 by:			Number of women
		Husband	In-laws	Other persons	
Age					
15–19	17.6	15.3	2.9	1.2	425
20–29	24.0	22.4	2.4	2.0	1,580
30–39	24.6	22.4	3.0	2.1	1,182
40–49	22.6	20.4	3.1	2.5	846
Marital duration (in years)					
< 5	15.1	13.3	2.1	1.7	810
5–9	22.5	20.6	2.3	2.0	575
10 or more	25.8	23.8	2.9	2.0	2,310
Not currently married	26.2	23.8	4.2	3.0	337
Residence					
Urban	16.7	14.5	2.2	2.0	1,002
Rural	25.4	23.5	2.9	2.1	3,030
Education					
Illiterate	27.3	25.4	3.3	2.2	2,574
Literate, < middle school complete	19.6	17.1	2.5	2.0	829
Middle school complete	16.8	14.3	1.4	2.5	194
High school complete and above	8.8	7.2	0.9	1.1	435
Religion					
Hindu	22.8	20.9	2.7	1.9	3,522
Muslim	21.2	20.1	1.8	1.4	268
Christian	31.8	27.4	5.1	4.5	238
Caste/tribe					
Scheduled caste	31.0	28.2	3.4	2.6	798
Scheduled tribe	43.2	41.1	6.3	3.2	194
Other backward class	22.0	20.1	2.4	2.0	1,783
Other	16.7	15.3	2.3	1.5	1,248
Household composition					
Nuclear household	24.9	22.8	2.8	2.5	1,916
Non-nuclear household	21.6	19.7	2.7	1.7	2,114
Cash employment					
Working for cash	29.5	27.2	3.2	2.5	1,819
Working but not for cash	25.4	23.4	4.7	2.0	548
Not worked in past 12 months	15.6	14.0	1.7	1.6	1,664
Standard of living index					
Low	30.6	28.6	2.7	2.3	1,485
Medium	21.5	19.4	3.1	2.1	1,862
High	11.7	9.6	1.8	1.3	667
Living children					
No living children	19.7	16.7	3.0	2.1	513
Only daughters	23.8	21.7	2.4	1.8	636
Only sons	22.7	20.9	2.6	2.4	820
Both daughters and sons	24.1	22.3	2.9	1.9	2,063
Total	23.2	21.2	2.8	2.0	4,032

Note: Total includes 1 woman with no religion, 2 women from households with no usual residents, and 3, 9, 1, and 18 women with missing information on religion, caste/tribe, cash employment, and the standard of living index, respectively, who are not shown separately.

The prevalence of domestic violence decreases substantially as the standard of living increases. Specifically, 31 percent of women with a low standard of living have experienced violence compared with 22 percent of women with a medium standard of living and 12 percent of women with a high standard of living.

Christian women are more likely to experience violence (32 percent) than are Hindu women (23 percent) or Muslim women (21 percent). Women from non-nuclear households are less likely than women from nuclear households to experience domestic violence, although the difference is small. This result is consistent with the findings of Visaria (1999) among women in rural Gujarat. The prevalence of violence varies greatly by the caste/tribe of women. Forty-three percent of scheduled-tribe women have been beaten, compared with 31 percent of scheduled-caste women, 22 percent of women belonging to the other backward classes, and 17 percent of other women. Working women, who are mostly farm workers, are more likely than nonworking women to experience violence. Women who worked for cash in the past 12 months are about twice as likely as women who did not work to have ever been beaten (30 percent compared with 16 percent).

It is generally believed that not bearing children and not bearing a son are important reasons for wife-beating. However, in Andhra Pradesh women with no living children are somewhat less likely than women with living children to have experienced violence (20 percent compared with 23–24 percent). This may be due in part to the fact that childless women tend to be younger women, and younger women have a lower prevalence of domestic violence than do older women. There does not appear to be variation in the prevalence of domestic violence by whether women do or do not have a son.

The proportions of women who have been beaten or physically mistreated by their husbands according to various background characteristics are similar to the proportions of all women who have experienced domestic violence. This is not surprising since, as already noted, most women who report beatings are beaten by their husbands. The proportion of women who have been beaten or physically mistreated by their in-laws or by other persons is too small to allow a meaningful discussion of differentials by women's background characteristics. Nonetheless, it is notable that women who are not currently married (divorced, separated, deserted, or widowed women) are more likely than currently married women to have been beaten by their in-laws. Women who worked during the past 12 months but did not earn cash are more likely to have been beaten by their in-laws than are other women. Christian women and scheduled-tribe women are more likely than any other group of women to have been beaten by in-laws.

NFHS-2 asked women who experienced violence how often they were beaten or physically mistreated in the 12 months preceding the survey: many times, a few times, once, or not at all. Table 3.11 shows the frequency of beatings in the past 12 months for women who report beatings or physical mistreatment. More than half of women (55 percent) who experienced violence were beaten at least once during the 12 months preceding the survey and more than one-third (36 percent) were beaten more than once in this period.

Table 3.11 Frequency of beatings or physical mistreatment

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

Background characteristic	Beaten or physically mistreated in the past 12 months				Total percent	Number of women
	Many times	A few times	Once	Not beaten		
Age						
15–19	20.6	29.5	26.6	23.3	100.0	75
20–29	11.3	27.3	24.1	37.3	100.0	379
30–39	8.7	24.0	15.9	51.4	100.0	291
40–49	10.7	17.3	14.5	57.5	100.0	191
Marital duration (in years)						
< 5	16.6	28.6	28.5	26.3	100.0	122
5–9	12.0	32.9	27.0	28.0	100.0	129
10 or more	10.6	23.1	18.7	47.6	100.0	596
Not currently married	5.5	14.8	4.6	75.1	100.0	88
Residence						
Urban	5.0	22.9	24.0	48.1	100.0	167
Rural	12.4	24.8	18.9	44.0	100.0	768
Education						
Illiterate	12.2	25.1	20.5	42.2	100.0	703
Literate, < middle school complete	6.2	22.7	17.1	54.0	100.0	162
Middle school complete	(12.6)	(20.8)	(9.1)	(57.5)	100.0	33
High school complete and above	(10.0)	(23.1)	(27.1)	(39.8)	100.0	38
Religion						
Hindu	11.0	24.2	19.1	45.7	100.0	803
Muslim	8.6	28.4	28.7	34.3	100.0	57
Christian	14.6	23.7	19.7	42.0	100.0	76
Caste/tribe						
Scheduled caste	11.6	25.2	17.1	46.1	100.0	247
Scheduled tribe	20.8	29.2	19.4	30.6	100.0	84
Other backward class	9.3	22.5	22.0	46.2	100.0	393
Other	10.2	25.1	19.2	45.6	100.0	209
Household composition						
Nuclear household	12.4	25.4	19.0	43.2	100.0	478
Non-nuclear household	9.8	23.3	20.7	46.2	100.0	456
Cash employment						
Working for cash	13.7	22.8	18.8	44.8	100.0	537
Working but not for cash	8.2	29.5	23.5	38.8	100.0	139
Not worked in past 12 months	7.4	25.1	19.9	47.7	100.0	259
Standard of living index						
Low	14.4	26.4	19.1	40.1	100.0	454
Medium	8.9	23.3	20.0	47.8	100.0	400
High	2.4	18.9	22.2	56.5	100.0	78
Living children						
No living children	16.1	26.3	23.5	34.1	100.0	101
Only daughters	9.4	24.3	19.1	47.3	100.0	151
Only sons	9.9	28.0	23.2	38.9	100.0	186
Both daughters and sons	11.1	22.8	17.9	48.2	100.0	498
Total	11.1	24.4	19.8	44.7	100.0	936

Note: Total includes 2 women from households with no usual residents and 3 and 4 women with missing information on caste/tribe and the standard of living index, respectively, who are not shown separately.

() Based on 25–49 unweighted cases

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

Among women who have been beaten, women in the following groups are more likely than other women to have been beaten in the past 12 months: younger women, women married less than 10 years, rural women, illiterate women, Muslims, scheduled-tribe women, women with no living children, unpaid family workers, and women who live in households with a low standard of living. Multiple beatings among ever-beaten women are particularly common for teenage women, scheduled-tribe women, and women with no living children.

CHAPTER 4

FERTILITY AND FERTILITY PREFERENCES

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

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

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

4.1 Age at First Cohabitation

The number of children that a woman will have in her lifetime is strongly influenced by the age at which she marries. In many parts of India, however, formal marriage is not always immediately followed by cohabitation. Rather, the husband and the wife only begin to cohabit after the *gauna* ceremony. Even in states where *gauna* is not practised, a marriage may not be consummated immediately if it occurs at a very young age. In such instances, there is a difference between age at marriage and age at consummation of marriage. Age at consummation of marriage is, of course, what is relevant for fertility. NFHS-2 measured age at first cohabitation as a proxy for age at consummation of marriage. Accordingly, Table 4.1 presents information on the median age at first cohabitation to supplement the information on the median age at first marriage presented in Chapter 3. In Table 4.1, the median age at first cohabitation for a group of women is defined as the age by which half of the entire group began to cohabit, rather than the age by which half of all ever-cohabiting women in the group began to cohabit. Among younger women in Andhra Pradesh, the median age at first cohabitation is almost the same as the median age at first marriage, but among older women it is somewhat higher than the median age at first marriage, as revealed by comparing Table 4.1 with Table 3.3.

Table 4.1 Age at first cohabitation with husband							
Median age at first cohabitation with husband among women age 20–49 years by current age and selected background characteristics, Andhra Pradesh, 1998–99							
Background characteristic	Current age						
	20–24	25–29	30–34	35–39	40–49	20–49	25–49
Residence							
Urban	18.6	18.0	16.8	16.4	16.0	17.1	16.7
Rural	16.0	15.4	14.8	14.9	14.7	15.1	14.9
Education							
Illiterate	15.3	14.8	14.7	14.9	14.6	14.8	14.7
Literate, < middle school complete	16.2	16.5	15.7	15.5	15.8	16.0	16.0
Middle school complete	18.1	18.2	*	*	*	18.1	18.0
High school complete and above	NC	19.2	20.2	18.9	20.0	19.9	19.5
Religion							
Hindu	16.5	15.8	15.2	15.3	15.1	15.6	15.3
Muslim	18.6	16.7	(16.0)	(16.4)	14.9	16.7	16.0
Christian	15.5	(14.9)	(15.2)	(14.0)	14.3	14.8	14.6
Caste/tribe							
Scheduled caste	15.6	14.8	14.7	14.2	14.3	14.7	14.5
Scheduled tribe	15.1	15.2	(15.2)	*	(14.8)	15.0	14.9
Other backward class	16.2	15.5	15.1	14.9	14.6	15.3	15.0
Other	18.1	17.3	16.3	16.3	16.0	16.7	16.4
Standard of living index							
Low	15.4	14.8	14.7	14.7	14.4	14.8	14.7
Medium	16.7	16.0	15.1	15.3	15.1	15.6	15.3
High	19.2	18.5	18.2	16.9	16.3	17.9	17.2
Total	16.6	15.9	15.2	15.3	15.0	15.6	15.3
<p>Note: Total includes one category (missing) of religion, one category (missing) of caste/tribe, and one category (missing) of standard of living index with fewer than 25 unweighted cases each. These categories are not shown separately.</p> <p>NC: Not calculated because less than 50 percent of the women have started living with their husband by age 20</p> <p>() Based on 25–49 unweighted cases</p> <p>*Median not shown; based on fewer than 25 unweighted cases</p>							

Table 4.1 shows that, in Andhra Pradesh, the median age at first cohabitation with husband is 15.6 years for women age 20–49. The lowest median age at first cohabitation is 15.0 for women age 40–49, and the highest is 16.6 for women age 20–24, suggesting a modest increase of 1.6 years in the median age at first cohabitation over a period of approximately 23 years. The value of 16.6 for the younger age group is still low, however, suggesting that the considerable decline in fertility that has occurred in Andhra Pradesh has resulted almost entirely from family limitation within marriage rather than from an increase in age at first cohabitation.

Table 4.1 also shows that the median age at first cohabitation is 2.0 years higher for urban women than for rural women. Over time, the median age at first cohabitation has risen in both urban and rural areas, but the rise has been greater in urban areas. Differentials by education in the median age at first cohabitation are even larger than differentials by residence. For example, for women age 20–49, the median age at first cohabitation ranges from 14.8 for illiterate women to 19.9 for women who have at least completed high school. Within education categories, the median age has increased over time among illiterate women and women who have not completed

middle school, but it has not increased among women who have at least completed high school. By religion, the median age at first cohabitation for women age 20–49 ranges from 14.8 for Christians to 16.7 for Muslims. By caste/tribe, it ranges from 14.7 for scheduled-caste women to 16.7 for women in the ‘other’ category. The median age of first cohabitation increases steadily with the standard of living, from 14.8 for women living in households with a low standard of living to 17.9 for women living in households with a high standard of living.

4.2 Current Fertility Levels

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

Based on estimates for the three-year period before NFHS-2, the CBR was 21.4 births per 1,000 population and the TFR was 2.25 births per woman, as shown in Table 4.2. There is no urban-rural difference in the CBR but the TFR is somewhat higher for rural areas (2.32) than for urban areas (2.07). This difference in pattern occurs because urban and rural populations have different age distributions. The CBR is affected by the population age distribution and the TFR is not. While fertility in urban areas (TFR=2.07) has reached the replacement level of just over two children per woman, fertility in rural areas is still about 10 percent above the replacement level.

Table 4.2 and Figure 4.1 show that the TFR is slightly lower in urban areas than in rural areas mainly because the ASFR for the 15–19 age group is lower in urban areas. Urban-rural differences in ASFRs for the other age groups are negligible. Sixty-eight percent of urban total fertility and 59 percent of rural total fertility is concentrated in the prime childbearing ages of 20–29. There is also a substantial amount of early childbearing. Fertility at age 15–19 accounts for 24 percent of total fertility in urban areas, 31 percent in rural areas, and 29 percent overall. Fertility at ages 35 and older accounts for only 2 percent of total fertility in urban areas, 4 percent in rural areas, and 3 percent overall.

Based on estimates for the three-year period preceding NFHS-1 and NFHS-2, the CBR fell from 24.2 to 21.4 between the two surveys, a decline of 12 percent in approximately seven years. Over the same period, the TFR fell from 2.59 to 2.25, a decline of 13 percent. Fertility fell for all age groups except for age 45–49 for which fertility was already negligible at the time of NFHS-1 (Figure 4.2). Although fertility fell for age group 40–44, the fertility for this age group too was already very low in NFHS-1, so that the fertility decline above age 40 had a negligible impact on the CBR and the TFR during the six and one-half years between the two surveys.

Table 4.2 Current fertility

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

Age	NFHS-1 (1989-91)	NFHS-2 (1996-98)		SRS (1997)			
	Total	Urban	Rural	Total	Urban	Rural	Total
15-19	0.144	0.099	0.144	0.132	0.067	0.135	0.116
20-24	0.202	0.189	0.186	0.186	0.192	0.219	0.212
25-29	0.101	0.093	0.085	0.087	0.109	0.111	0.110
30-34	0.047	0.026	0.031	0.029	0.032	0.040	0.038
35-39	0.019	0.007	0.014	0.012	0.009	0.014	0.013
40-44	0.005	0.000	0.003	0.003	0.003	0.005	0.004
45-49	0.000	0.000	0.000	0.000	0.001	0.000	0.000
TFR 15-44	2.59	2.07	2.32	2.25	2.05	2.62	2.47
TFR 15-49	2.59	2.07	2.32	2.25	2.06	2.62	2.47
CBR	24.2	21.4	21.4	21.4	20.5	23.1	22.5

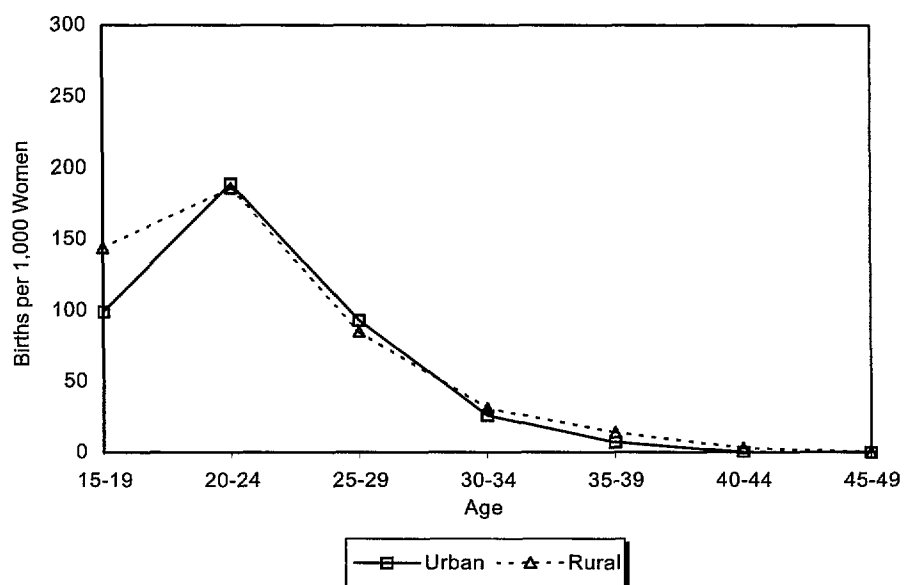
Note: Rates from NFHS-1 and NFHS-2 are for the period 1-36 months before the interview. Rates for the age group 45-49 might be slightly biased due to truncation. Rates from the SRS are for one calendar year. Age-specific and total fertility rates are expressed per woman.

TFR: Total fertility rate

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

Source for SRS: Office of the Registrar General, 1999

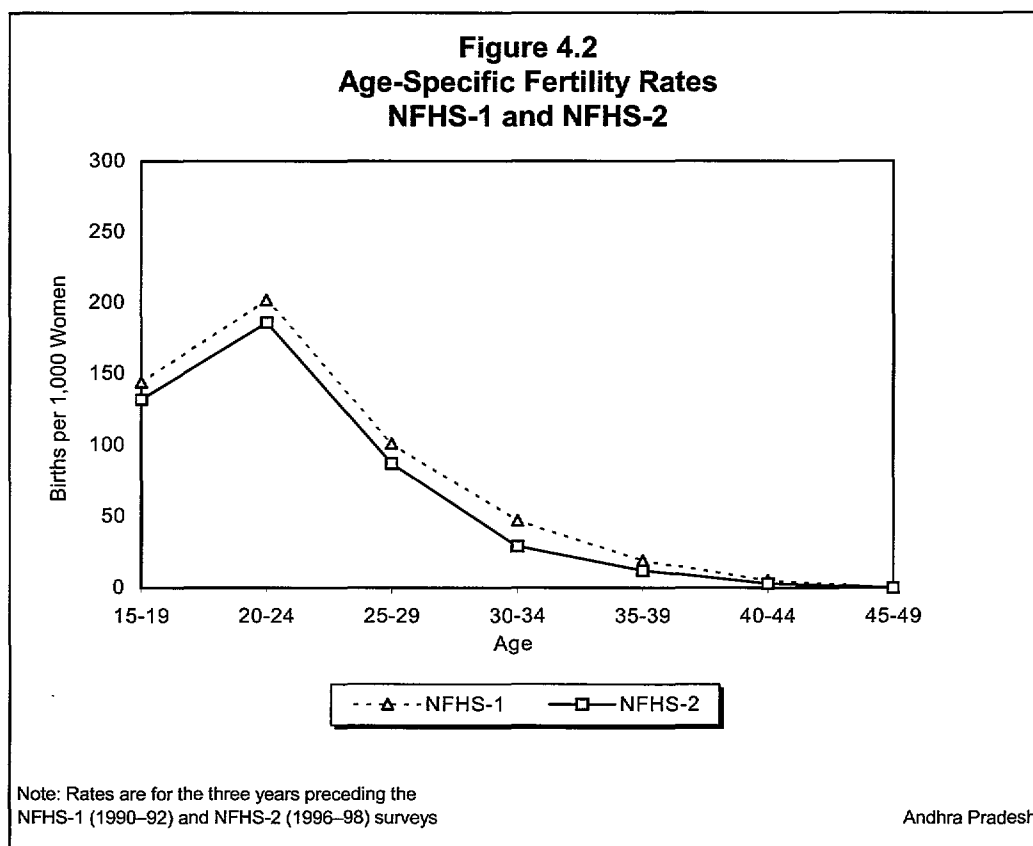
**Figure 4.1
Age-Specific Fertility Rates
by Residence**



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

NFHS-2, Andhra Pradesh, 1998-99

NFHS-2 fertility estimates can be compared with estimates from the Sample Registration System (SRS), which is maintained by the Office of the Registrar General, India. Since the NFHS-2 rates refer to 1996-98, it is appropriate to compare them with the SRS estimates for



1997, which are also shown in Table 4.2. The NFHS-2 estimate of the CBR, at 21.4, is very similar to the SRS estimate of the CBR, at 22.5. However, the NFHS-2 estimate of the TFR (2.25) is 0.22 children per woman lower than the SRS estimate (2.47). Differences between NFHS-2 and the SRS estimates are small overall, and they are smaller in urban areas than in rural areas. The larger discrepancy in rural areas may be caused by more age misreporting in rural areas, which tends to result in the displacement of births further into the past. Retrospective surveys such as NFHS-1 and NFHS-2 are subject to such displacement, whereas the SRS, in which births are recorded during the year in which they occur, is not. Narasimhan et al. (1997) compared NFHS-1 and SRS estimates of fertility and concluded that both are probably underestimates. Nonetheless, since the SRS estimates are not subject to displacement, they are likely to be closer to the true level of fertility than NFHS-1 estimates. This argument is probably equally valid for NFHS-2 estimates of fertility as compared with the corresponding SRS estimates.

4.3 Fertility Differentials and Trends

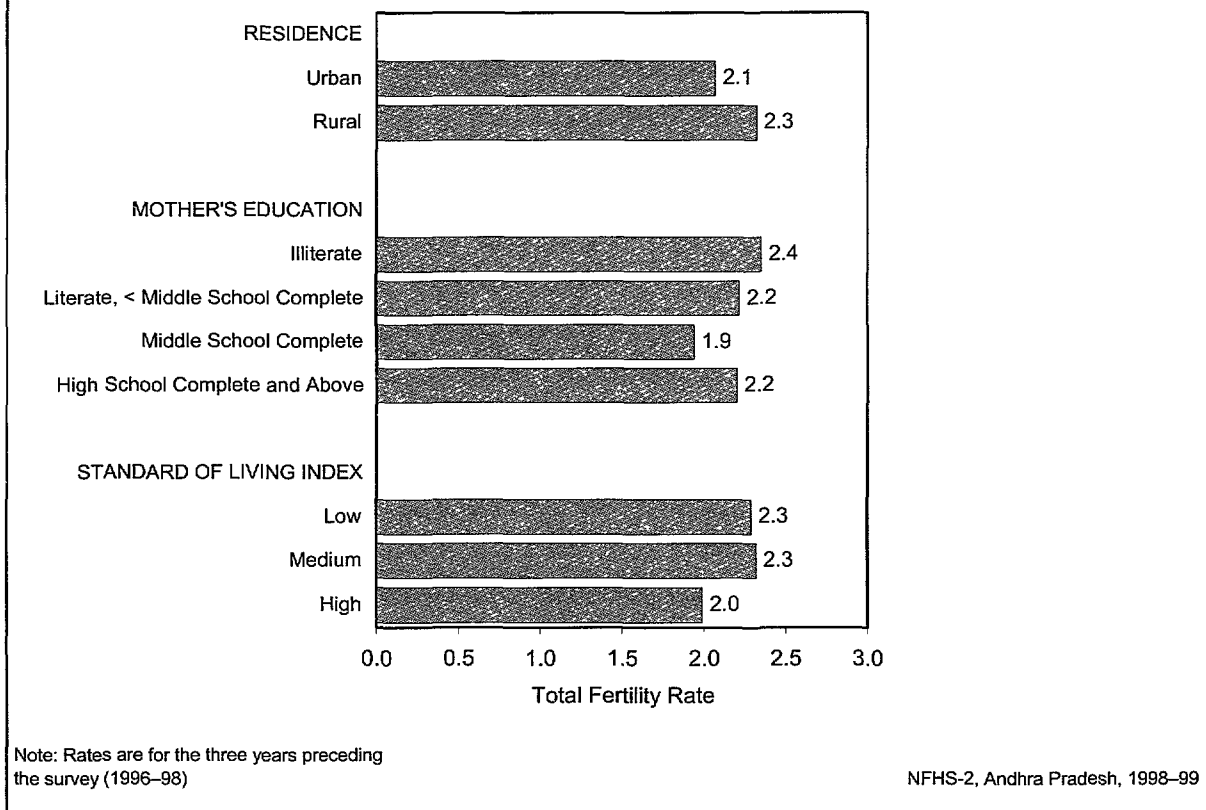
Table 4.3 and Figure 4.3 show how the TFR, the percentage currently pregnant, and the mean number of children ever born to women age 40-49 vary by selected background characteristics. The TFR is 0.41 children higher among illiterate women than among women who have completed middle school. The TFR also varies by religion, being 0.33 children higher among Muslims and Christians than among Hindus. The characteristic showing the greatest variation is caste/tribe. The TFR is 0.75 children higher among scheduled-tribe women and 0.51 children higher among scheduled-caste women than among women in the 'other' category. The TFR is 0.3 children higher among women living in households with a low or medium standard of living

Table 4.3 Fertility by background characteristics			
Total fertility rates for the three years preceding the survey, percentage of all women age 15–49 currently pregnant, and mean number of children ever born to ever-married women age 40–49 by selected background characteristics, Andhra Pradesh, 1998–99			
Background characteristic	Total fertility rate ¹	Percentage currently pregnant ²	Mean number of children ever born to ever-married women age 40–49 years
Residence			
Urban	2.07	4.3	3.72
Rural	2.32	3.8	4.14
Education			
Illiterate	2.35	3.7	4.25
Literate, < middle school complete	2.22	3.8	3.53
Middle school complete	1.94	5.8	*
High school complete and above	2.20	4.2	2.96
Religion			
Hindu	2.20	3.8	3.89
Muslim	2.53	5.3	5.79
Christian	2.53	4.0	4.02
Caste/tribe			
Scheduled caste	2.51	3.9	4.33
Scheduled tribe	2.75	6.3	(4.95)
Other backward class	2.26	4.0	4.12
Other	2.00	3.7	3.62
Standard of living index			
Low	2.29	3.6	4.26
Medium	2.32	4.5	4.05
High	1.99	3.3	3.54
Total	2.25	3.9	4.03
<p>Note: Total includes two categories (none, missing) of religion, one category (missing) of caste/tribe, and one category (missing) of the standard of living index with very small numbers of cases. These categories are not shown separately.</p> <p>() Based on 25–49 unweighted cases</p> <p>* Mean not shown; based on fewer than 25 unweighted cases</p> <p>¹Rate for women age 15–49 years</p> <p>²For this calculation, it is assumed that women who are never married, widowed, divorced, separated, or deserted are not currently pregnant.</p>			

than among women living in households with a high standard of living. Fertility transitions in other countries have shown that fertility differentials typically diverge early in the transition and reconverge (though rarely completely) towards the end of the transition as fertility approaches the replacement level. Table 4.3 and Figure 4.3 indicate that Andhra Pradesh conforms to this pattern. As the state has approached replacement fertility, fertility differentials have become small except for differentials by caste/tribe.

Differentials in the percentage of all women who are currently pregnant do not always parallel differentials in the TFR. Although the TFR is higher in rural areas than in urban areas, the reverse is true for the percentage currently pregnant. The percentage currently pregnant is also higher among women with at least a middle school education than among illiterate women, probably due to the fact that highly educated women tend to be younger because education levels

Figure 4.3
Total Fertility Rate by Selected Background Characteristics



have risen over time. Muslims and Christians have higher fertility than Hindus, and they also have higher percentages currently pregnant. The differentials by caste/tribe are also generally consistent in this regard, as are the differentials by standard of living.

The last column of Table 4.3 shows the mean number of children ever born to ever-married women age 40–49 at the time of the survey. Because only women age 40–49 are considered, age variations among the different categories of women do not affect the interpretation of differentials. In almost every case, the pattern of differentials in the mean number of children ever born parallels the pattern of differentials in the TFR. The differentials by religion are a partial exception. Muslims have by far the highest mean number of children ever born, but they have the same TFR as Christians. This occurs because the mean number of children ever born at age 40–49 reflects all fertility in the past, whereas the TFR only reflects fertility in the three years preceding the survey and fertility has fallen faster for Muslims in recent decades than for Christians.

Table 4.4 shows fertility trends for five-year time periods preceding the survey. It is not possible to show TFRs because of progressively greater age truncation as one goes back in time. In NFHS-2, birth histories were collected only for women age 15–49. This means that for the period 5–9 years before the survey it is not possible to compute an ASFR for age 45–49. Similarly, for the period 10–14 years preceding the survey, it is not possible to compute ASFRs for the oldest two age groups, and for the period 15–19 years preceding the survey, it is not

Table 4.4 Fertility trends				
Age-specific fertility rates for five-year periods preceding the survey by residence, Andhra Pradesh, 1998–99				
Age	Years preceding survey			
	0–4	5–9	10–14	15–19
URBAN				
15–19	0.096	0.152	0.165	0.199
20–24	0.199	0.207	0.221	0.266
25–29	0.093	0.125	0.147	0.172
30–34	0.028	0.061	0.076	[0.075]
35–39	0.011	0.022	[0.023]	U
40–44	0.002	[0.000]	U	U
45–49	[0.000]	U	U	U
RURAL				
15–19	0.154	0.214	0.227	0.247
20–24	0.191	0.246	0.249	0.249
25–29	0.082	0.108	0.150	0.174
30–34	0.032	0.060	0.080	[0.120]
35–39	0.016	0.031	[0.043]	U
40–44	0.003	[0.010]	U	U
45–49	[0.000]	U	U	U
TOTAL				
15–19	0.138	0.197	0.210	0.234
20–24	0.193	0.235	0.241	0.253
25–29	0.085	0.112	0.149	0.173
30–34	0.031	0.060	0.079	[0.106]
35–39	0.015	0.029	[0.037]	U
40–44	0.003	[0.007]	U	U
45–49	[0.000]	U	U	U
Note: Age-specific fertility rates are expressed per woman.				
U: Not available				
[] Truncated, censored				

possible to compute ASFRs for the oldest three age groups. Thus Table 4.4 shows only the truncated trends in ASFRs. Results are shown separately for urban and rural areas as well as for the entire state. These results show very substantial fertility declines in all age groups over a 15-year period in both urban and rural areas. In many cases, age-specific fertility declined by half or more. The proportionate decline is somewhat greater at the older reproductive ages.

For the periods 0–4 years and 5–9 years before the survey, it is possible to calculate truncated TFRs (more appropriately called cumulative fertility rates, or CFRs) for the age range 15–39, based on the ASFRs shown in Table 4.4. This is done by summing ASFRs for the age groups 15–19 through 35–39 and multiplying the sum by five. For the state as a whole, CFR(15–39) declined from 3.17 to 2.31 over the five-year period, a decline of 0.86 children. The decline was 0.70 for urban areas and 0.92 for rural areas, indicating that fertility fell slightly more rapidly in rural areas than in urban areas during the five years before the survey. This is to be expected because the practice of family limitation tends to start in urban areas and spread to rural areas. It should be noted that these estimated fertility declines may exaggerate to some degree the magnitude of the decline between these two five-year periods because there is considerable age misreporting in Andhra Pradesh which could result in displacement of births from the first five-year period into the second five-year period before the survey (Narasimhan et al., 1997).

Table 4.5 Fertility by marital duration				
Fertility rates for ever-married women by duration since first cohabitation with husband (in years) and residence for five-year periods preceding the survey, Andhra Pradesh, 1998–99				
Duration since first cohabitation	Years preceding survey			
	0–4	5–9	10–14	15–19
URBAN				
< 5	0.318	0.326	0.314	0.338
5–9	0.139	0.183	0.230	0.266
10–14	0.049	0.096	0.122	0.151
15–19	0.012	0.049	0.055	0.063
20–24	0.008	0.015	0.018	*
25–29	0.000	0.000	*	U
RURAL				
< 5	0.266	0.305	0.296	0.305
5–9	0.175	0.230	0.241	0.234
10–14	0.073	0.116	0.158	0.191
15–19	0.028	0.063	0.086	0.124
20–24	0.016	0.025	0.047	*
25–29	0.004	0.020	*	U
TOTAL				
< 5	0.280	0.310	0.300	0.313
5–9	0.165	0.219	0.238	0.241
10–14	0.067	0.111	0.149	0.182
15–19	0.024	0.060	0.079	0.109
20–24	0.014	0.023	0.040	*
25–29	0.003	0.015	*	U
Note: Duration-specific fertility rates are per woman. The duration since first cohabitation with husband is defined as the difference between the woman's age at the specific time period and her age when she began living with her husband.				
U: Not available				
*Rate not shown; based on fewer than 125 woman-years of exposure				

Another way of looking at fertility is to calculate fertility rates by years since first cohabitation. These rates are measures of marital fertility, i.e., fertility within marriage. Table 4.5 shows fertility rates by duration of cohabitation for ever-married women for four five-year periods preceding the survey¹. Fertility has declined for all durations, but more so for the longer durations. The limited fertility decline during the first 0–4 years after cohabitation is typical of populations in which contraception is initiated only after the first birth or later, as is the case in Andhra Pradesh (see Table 5.5). The large overall declines in fertility rates by duration confirm the earlier observation that fertility within marriage has declined substantially in Andhra Pradesh.

It is also evident from Table 4.5 that marital fertility is lower in urban areas than in rural areas for most durations and time periods. During the first five years after cohabitation, however, urban women have much higher fertility than rural women. This pattern is not uncommon in populations in which the age at first cohabitation is higher in urban areas than in rural areas, as is

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

the case in Andhra Pradesh (Table 4.1). Women who marry when they are older tend to have their first birth sooner after marriage and concentrate their births earlier in their marriages than women who marry when they are younger (Basu, 1993; Pandey et al., 1990). In addition, because breastfeeding is shorter in urban areas (see Table 7.8), another contributing factor may be a shorter period of postpartum amenorrhoea, which results in shorter birth intervals in the absence of birth control (which is rarely practised during the first few years of marriage in Andhra Pradesh).

4.4 Children Ever Born and Living

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

Among women age 15–49 in Andhra Pradesh, the mean number of children ever born is 2.3 for all women, irrespective of marital status, and 2.7 for currently married women. The mean number of children ever born increases steadily with age, reaching a high of 4.3 children among all women age 45–49 and 4.6 among currently married women in this age group. The table also shows that early childbearing is common in Andhra Pradesh. Twenty-three percent of all women age 15–19 have already had a child.

For women age 45–49, the number of children ever born is of particular interest because these women have virtually completed their childbearing. Among all women in this age group, the modal number of children is three. Eighteen percent of these women have reached the end of childbearing with three children ever born. By contrast, among currently married women age 45–49, the modal number of children is four. Twenty-one percent of these women have reached the end of childbearing with four children ever born. Only two percent of currently married women age 45–49 have never given birth. This suggests that primary infertility (which is the proportion of couples who are unable to have any children) is very low in Andhra Pradesh.

Among all women age 15–49, the average number of dead children per woman is 0.31. Among currently married women it is 0.34. Thirteen percent of children ever born to currently married women have died. The proportion of children ever born who have died increases with women's age. Among currently married women, for example, the proportion of children ever born who have died increases from 8 percent for women age 20–24 to 17 percent for women age 45–49.

4.5 Birth Order

The distribution of births by birth order is yet another way to view fertility. Table 4.7 shows the distribution of births during the three-year period before the survey by birth order for selected background characteristics. Overall, as would be expected, the number of births at each order is larger than the number at the next higher order. Thirty-six percent of all births are first-order births, 32 percent are second-order births, 16 percent are third-order births, and 15 percent are of order four or higher.

Table 4.6 Children ever born and living

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

Age	Children ever born											Total percent	Number of women	Mean number of CEB	Mean number of living children
	0	1	2	3	4	5	6	7	8	9	10+				
ALL WOMEN															
15-19	77.0	17.0	5.2	0.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0	100.0	921	0.30	0.27
20-24	25.7	25.4	33.3	11.8	2.8	0.9	0.0	0.0	0.0	0.0	0.0	100.0	876	1.43	1.32
25-29	9.4	8.9	34.1	28.4	13.1	4.6	1.2	0.2	0.1	0.0	0.0	100.0	833	2.47	2.22
30-34	6.2	6.7	25.1	29.5	16.4	8.0	5.8	1.5	0.5	0.5	0.0	100.0	614	3.04	2.66
35-39	4.1	4.2	20.1	27.2	21.7	11.1	6.6	2.4	1.4	0.3	0.9	100.0	585	3.48	3.04
40-44	5.6	5.9	17.2	20.8	15.6	16.6	8.2	4.9	2.9	0.9	1.3	100.0	454	3.77	3.15
45-49	5.4	4.4	10.8	18.2	17.9	15.1	11.1	7.6	4.2	3.5	1.7	100.0	402	4.32	3.54
Total	23.9	12.0	21.7	18.2	10.8	6.3	3.5	1.7	0.9	0.5	0.4	100.0	4,686	2.34	2.03
CURRENTLY MARRIED WOMEN															
15-19	49.9	36.9	11.5	1.2	0.5	0.0	0.0	0.0	0.0	0.0	0.0	100.0	417	0.65	0.60
20-24	14.9	28.4	38.3	14.0	3.3	1.1	0.0	0.0	0.0	0.0	0.0	100.0	742	1.66	1.53
25-29	5.6	8.6	35.6	30.1	13.5	4.9	1.3	0.3	0.1	0.0	0.0	100.0	765	2.59	2.33
30-34	3.8	6.8	24.0	31.0	17.2	8.5	6.2	1.6	0.4	0.5	0.0	100.0	556	3.15	2.76
35-39	2.1	3.4	19.3	28.3	22.7	11.9	7.0	2.5	1.5	0.4	1.0	100.0	523	3.62	3.18
40-44	2.6	5.9	16.6	22.4	15.9	18.8	7.6	4.8	2.7	1.1	1.6	100.0	381	3.91	3.29
45-49	2.2	3.8	9.2	17.5	20.8	16.7	12.6	7.5	3.9	3.9	1.9	100.0	310	4.56	3.77
Total	11.1	14.1	25.2	21.6	12.7	7.5	4.0	1.8	0.9	0.6	0.5	100.0	3,695	2.72	2.38

Table 4.7 Birth order

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

Background characteristic	Birth order				Total percent	Number of births
	1	2	3	4+		
Mother's current age						
15–19	74.1	21.8	3.1	0.9	100.0	224
20–29	29.8	36.8	20.1	13.3	100.0	800
30–39	5.1	20.7	18.0	56.2	100.0	100
Residence						
Urban	37.7	38.8	13.3	10.2	100.0	283
Rural	35.8	30.1	17.5	16.6	100.0	846
Mother's education						
Illiterate	29.2	28.9	19.6	22.2	100.0	610
Literate, < middle school complete	41.4	34.0	15.8	8.8	100.0	259
Middle school complete	51.6	34.6	11.5	2.3	100.0	79
High school complete and above	46.0	40.0	8.6	5.4	100.0	180
Religion						
Hindu	36.4	33.0	16.5	14.1	100.0	957
Muslim	35.1	22.0	17.7	25.2	100.0	92
Christian	37.1	33.1	14.3	15.4	100.0	78
Caste/tribe						
Scheduled caste	32.4	27.3	19.9	20.4	100.0	241
Scheduled tribe	24.3	30.1	15.4	30.2	100.0	67
Other backward class	36.7	33.1	18.0	12.2	100.0	499
Other	41.4	34.8	11.8	12.0	100.0	318
Mother's work status						
Working in family farm/business	31.8	27.0	23.1	18.1	100.0	164
Employed by someone else	31.8	29.1	18.6	20.5	100.0	323
Self-employed	(34.6)	(32.5)	(9.9)	(23.0)	100.0	40
Not worked in past 12 months	40.0	35.4	13.9	10.7	100.0	602
Standard of living index						
Low	30.4	30.3	18.0	21.3	100.0	404
Medium	39.0	31.8	16.6	12.7	100.0	552
High	42.1	37.5	12.2	8.1	100.0	167
Total	36.3	32.3	16.4	15.0	100.0	1,129

Note: Total includes 5 births to mothers age 40–49, 1 birth to a mother with no religion, and 1, 3, and 6 births with missing information on religion, caste/tribe, and the standard of living index, respectively, which are not shown separately.
() Based on 25–49 unweighted cases

The highest proportion of births to mothers age 15–19 are of order one; by contrast, the highest proportion of births to mothers age 30–39 are of order four or higher. The proportion of births that are of order four or higher is 10 percent in urban areas and 17 percent in rural areas. The proportion of births of order four or higher is relatively large for births to illiterate women, Muslim women, and scheduled-tribe women. By work status, 18–23 percent of births to women who work are of order four or higher compared with 11 percent among women who did not work in the past 12 month. This finding can be partly explained by the fact that working women come disproportionately from rural areas, where fertility is relatively high. Among women with a low

standard of living, the proportion of births of order four or higher is 21 percent, compared with 8 percent among women with a high standard of living.

4.6 Birth Intervals

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

Table 4.8 shows the percent distribution of births during the five years preceding the survey by birth interval according to selected demographic and socioeconomic background characteristics. In Andhra Pradesh, 13 percent of births occur within 18 months of a previous birth and 27 percent occur within 24 months. Thirty-eight percent of births occur after an interval of three years or more.

The median birth interval in Andhra Pradesh is 31 months. The median birth interval for women age 15–19 is 24 months, which is substantially less than the median interval of 37 months for women age 30–39. The relatively short birth interval for women age 15–19 at the time of the survey may result partly from a selection effect: Only women who have had two or more births are included in the table, and women age 15–19 with more than one birth are likely to be more fecund than average. Given the finding that the median birth interval increases with mother's age, it is surprising that it does not also increase substantially with the order of the previous birth. Perhaps this is due to the absence of the selection effect just noted in the case of age. There may also be another type of selection effect operating: Mothers of higher-order births may be more fecund, on average, than mothers of lower-order births.

The median birth interval is slightly shorter if the previous child was a girl than if it was a boy. This pattern may result from the shorter duration of breastfeeding for girls, which is indicative of son preference (see Table 7.8). Birth intervals are much shorter if the previous child died (25 months) than if the previous child survived (32 months). In part, this reflects the shortening of postpartum amenorrhoea that occurs when the preceding child dies in infancy and breastfeeding stops prematurely. Women are also less likely to use temporary methods of contraception to postpone fertility if the previous child died and they want to replace the dead child. Temporary methods of contraception are used by very few women in Andhra Pradesh, however, so that the main effect is probably through prematurely terminated breastfeeding.

Birth intervals are four months shorter among urban women than among rural women, perhaps because breastfeeding is shorter among urban women. There is also a tendency for birth intervals to decrease with education. Mothers with at least a high school education have a median birth interval that is six months shorter than the interval for illiterate mothers. Similarly, mothers living in households with a high standard of living have a median birth interval that is six months shorter than the interval for mothers who live in households with a low standard of living. Muslims have a median birth interval that is four months shorter than the interval for Hindus and eight months shorter than the interval for Christians. By caste/tribe, the 'other' category has a median birth interval that is 4–5 months shorter than the interval for scheduled castes, scheduled tribes, or other backward classes.

Table 4.8 Birth intervals

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

Demographic/ background characteristic	Months since previous birth						Total percent	Median months since previous birth	Number of births
	< 12	12–17	18–23	24–35	36–47	48+			
Mother's current age									
15–19	0.0	18.5	30.1	35.7	9.3	6.4	100.0	24.4	64
20–29	2.2	10.2	14.9	37.3	20.4	15.0	100.0	30.3	969
30–39	3.2	7.0	10.8	26.7	15.8	36.5	100.0	36.8	211
Residence									
Urban	4.4	14.3	15.6	35.2	15.9	14.6	100.0	27.9	301
Rural	1.8	8.7	14.6	34.9	20.2	19.7	100.0	32.2	959
Mother's education									
Illiterate	2.1	8.6	12.6	34.3	20.8	21.6	100.0	33.0	784
Literate, < middle school complete	2.2	10.3	21.4	38.1	14.6	13.5	100.0	28.2	259
Middle school complete	1.5	7.4	16.0	39.6	23.6	12.0	100.0	31.5	67
High school complete and above	4.6	19.0	14.9	31.2	16.3	14.0	100.0	26.7	149
Religion									
Hindu	2.0	10.1	15.1	34.7	19.4	18.6	100.0	31.3	1,076
Muslim	5.9	13.7	12.6	39.3	11.1	17.3	100.0	27.0	111
Christian	1.4	4.2	14.3	33.6	26.8	19.7	100.0	35.4	71
Caste/tribe									
Scheduled caste	1.1	8.1	15.4	36.2	20.1	19.0	100.0	32.4	270
Scheduled tribe	4.3	7.5	15.0	32.4	20.3	20.5	100.0	32.6	95
Other backward class	1.9	10.4	14.8	33.2	20.8	18.9	100.0	31.6	555
Other	3.7	12.0	14.6	38.2	14.3	17.2	100.0	28.1	336
Standard of living index									
Low	2.7	7.8	13.4	36.0	19.9	20.1	100.0	31.9	514
Medium	1.5	9.3	15.8	34.9	19.6	18.9	100.0	31.7	568
High	4.5	19.2	16.3	31.8	15.2	12.9	100.0	25.9	172
Order of previous birth									
1	2.5	11.1	14.1	33.7	19.9	18.7	100.0	31.1	627
2	1.8	9.1	14.9	36.1	18.4	19.7	100.0	32.4	318
3	0.7	7.3	21.0	36.5	19.3	15.2	100.0	29.5	152
4+	4.7	10.5	11.8	36.8	17.4	18.7	100.0	31.0	162
Sex of previous birth									
Male	2.5	8.4	14.3	36.8	20.8	17.1	100.0	31.7	661
Female	2.3	11.9	15.4	33.0	17.3	20.1	100.0	30.4	599
Survival of previous birth									
Living	1.8	9.0	14.5	36.1	19.6	19.1	100.0	31.7	1,139
Dead	8.2	19.8	18.3	25.2	15.1	13.3	100.0	24.7	122
Total	2.4	10.1	14.8	35.0	19.1	18.5	100.0	31.1	1,260

Note: Table includes only second- and higher-order births. The interval for multiple births is the number of months since the preceding pregnancy that ended in a live birth. Total includes 16 births whose mothers belong to the age group 40–49, 1 birth whose mother has no religion, and 1, 4, and 6 births with missing information on religion, caste/tribe, and the standard of living index, respectively. These births are not shown separately.

4.7 Age at First and Last Birth

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

As shown in the last row of the table, the median age at first birth in the state as a whole has been rising steadily over the past 10 years. This is shown by the fact that the median increases from 17.8 years for women age 30–34 to 19.2 years for women age 20–24. The increase is especially large between the 25–29 age cohort and the 20–24 age cohort.

Among all women age 20–49, the median age at first birth is 1.6 years higher in urban areas than in rural areas. The median increases especially sharply between the 30–34 and 25–29 age cohorts in urban areas and between the 25–29 and 20–24 age cohorts in rural areas. Among women age 20–49, Muslims have a median age at first birth (19.3 years) which is one year higher than the age at first birth for Hindus (18.3 years) and almost 2 years higher than the age at first birth for Christians (17.6 years). By caste/tribe, the ‘other’ category has a median of 19.3, which is 1.9 years higher than the median for scheduled-caste women, 1.4 years higher than the median for scheduled-tribe women, and 1.3 years higher than the median for women from other backward classes. Women living in households with a high standard of living have a median age at first birth of 19.8, which is 2.2 years higher than the median for women living in households with a low standard of living. The differentials by education are also substantial. Among women age 25–49, the median age at first birth is 17.5 years among illiterate women compared with 21.5 years among women who have at least completed high school.

For older women the age at last childbirth is an indicator of cessation of childbearing. Table 4.10 presents the distribution of ever-married women in the age group 40–49 by age at last birth, as well as the median age at last birth. Although a few of these women may have another birth later on, the very low fertility rates for women in this age group suggest that childbearing is virtually complete by these ages. Sixty-seven percent of women had their last birth by age 30, and 86 percent by age 35. The median age at last birth in Andhra Pradesh for women age 40–49 is 27.3 years. It is 26.5 for women age 40–44 and 28.4 for women age 45–49. The difference between the median age at first birth and the median age at last birth provides an estimate of the typical reproductive age span. Among women age 45–49, this estimated reproductive age span is the difference between 18.0 and 28.4, or 10.4 years. Thus, reproduction in Andhra Pradesh begins at an early age and is highly concentrated in a short span of about 10 years.

Table 4.9 Median age at first birth

Median age at first birth among women age 20–49 years by current age and selected background characteristics, Andhra Pradesh, 1998–99

Background characteristic	Current age							
	20–24	25–29	30–34	35–39	40–44	45–49	20–49	25–49
Residence								
Urban	NC	19.9	19.1	18.9	18.6	18.9	19.5	19.2
Rural	18.7	17.8	17.5	17.7	17.7	17.7	17.9	17.7
Education								
Illiterate	18.0	17.4	17.2	17.8	17.6	17.6	17.6	17.5
Literate, < middle school complete	18.5	18.2	18.5	17.7	18.2	18.5	18.3	18.2
Middle school complete	19.7	19.4	*	*	*	*	19.6	19.5
High school complete and above	NC	21.1	22.5	20.5	(22.5)	*	NC	21.5
Religion								
Hindu	19.2	18.3	17.7	18.0	17.9	18.0	18.3	18.0
Muslim	NC	18.7	(18.9)	(19.6)	(18.0)	(18.9)	19.3	18.9
Christian	18.1	(17.9)	(17.5)	(17.8)	(18.2)	*	17.6	17.4
Caste/tribe								
Scheduled caste	18.2	17.7	16.7	17.3	16.9	16.9	17.4	17.1
Scheduled tribe	18.5	(17.4)	*	*	*	*	17.9	17.8
Other backward class	19.0	17.9	17.6	17.9	17.5	17.8	18.0	17.8
Other	NC	19.4	19.0	18.8	18.6	18.8	19.3	19.0
Standard of living index								
Low	17.9	17.4	17.1	17.9	17.5	17.5	17.6	17.5
Medium	19.2	18.2	17.7	17.9	17.9	18.1	18.3	18.0
High	NC	20.0	19.9	19.3	18.6	18.5	19.8	19.4
Total	19.2	18.3	17.8	18.1	17.9	18.0	18.3	18.0

Note: Total includes one category (missing) of religion, caste/tribe, and the standard of living index with fewer than 25 unweighted cases each. These categories are not shown separately.
 NC: Not calculated because less than 50 percent of women had their first birth by age 20
 () Based on 25–49 unweighted cases
 *Median not shown; based on fewer than 25 unweighted cases

Table 4.10 Age at last birth

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

Current age	No birth	Age at last birth							Total percent	Median age at last birth	Number of women
		< 20	20–24	25–29	30–34	35–39	40–44	45–49			
40–44	4.0	9.1	29.4	36.2	14.8	5.8	0.7	NA	100.0	26.5	446
45–49	4.7	8.2	21.7	28.2	23.9	11.3	2.0	0.0	100.0	28.4	399
40–49	4.3	8.7	25.8	32.4	19.1	8.4	1.3	0.0	100.0	27.3	846

NA: Not applicable

Table 4.11 Postpartum amenorrhoea, abstinence, and insusceptibility				
Percentage of births during the three years preceding the survey whose mothers are postpartum amenorrhoeic, abstaining, or insusceptible by number of months since birth and median and mean durations, Andhra Pradesh, 1998–99				
Months since birth	Percentage of births whose mothers are:			Number of births
	Amenorrhoeic	Abstaining	Insusceptible	
< 2	(98.0)	(98.1)	(100.0)	48
2–3	89.9	77.4	94.9	79
4–5	83.6	49.2	88.3	84
6–7	69.2	39.8	75.4	64
8–9	55.0	16.7	59.4	66
10–11	43.3	14.3	50.6	55
12–13	33.2	18.7	44.6	70
14–15	14.2	2.5	14.2	78
16–17	18.5	7.3	23.3	83
18–19	7.5	3.0	10.5	68
20–21	3.8	5.5	7.5	54
22–23	7.5	9.4	13.0	54
24–25	(5.4)	(2.8)	(8.2)	35
26–27	1.6	5.2	6.8	60
28–29	3.2	3.0	6.1	65
30–31	0.0	0.0	0.0	55
32–33	3.6	1.8	5.4	56
34–35	0.0	0.0	0.0	54
Median	9.5	5.1	10.7	NA
Mean	11.0	7.4	12.4	NA
Prevalence/incidence mean	11.3	7.3	12.8	NA

Note: Median and mean durations are based on current status. Insusceptible is defined as amenorrhoeic, abstaining, or both.
NA: Not applicable
() Based on 25–49 unweighted cases

4.8 Postpartum Amenorrhoea, Abstinence, Insusceptibility, and Menopause

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

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

the table. The prevalence/incidence mean is obtained by dividing the number of mothers who are amenorrhoeic, abstaining, or unsusceptible by the average number of births per month over the 36-month period.

Ninety-eight percent of all women who had a birth in the two months before the survey are still amenorrhoeic, and 90 percent of women who had a birth 2–3 months before the survey are still amenorrhoeic. The proportion amenorrhoeic gradually decreases as the number of months since the last birth increases. More than one-half of all women who had births 8–11 months before the survey are still amenorrhoeic, but the proportion amenorrhoeic drops off rapidly thereafter. The proportion of mothers abstaining from sexual intercourse within two months after the birth of a child is the same as the proportion amenorrhoeic, but the proportion abstaining at most durations of 2–3 months or longer is substantially lower than the proportion amenorrhoeic. Forty percent of women still abstain from sexual intercourse 6–7 months after a birth, but this percentage drops off rapidly at longer durations. Overall, when amenorrhoea and abstinence are considered together, half of women become susceptible to pregnancy by 10–11 months after giving birth, and about four-fifths become susceptible by 14–17 months.

The median and mean durations of unsusceptibility are 10.7 and 12.4 months, respectively. Because the mean is affected by extreme values and the median is not, and because the distribution is skewed towards the higher durations, the mean is somewhat higher than the median. The median duration of amenorrhoea (9.5 months) is almost twice as high as the median duration of abstinence (5.1 months). The results indicate that women in Andhra Pradesh remain unsusceptible to conception for about one year after a birth, primarily due to the effect of postpartum amenorrhoea.

Menopause is a primary limiting factor of fertility. It is the culmination of a gradual decline in fecundity with increasing age. After age 30, the risk of pregnancy declines with age as increasing proportions of women become infecund. In NFHS-2, menopause is defined as the absence of menstruation for six or more months preceding the survey among currently married women. Women who report that they are menopausal or that they have had a hysterectomy are also included in this category. Women who are pregnant or postpartum amenorrhoeic are assumed not to be menopausal. Table 4.12 presents data on menopause for women age 30–49. In Andhra Pradesh, more than one-fifth of women age 35–39 have already reached menopause, and the incidence of menopause increases rapidly after age 40. By age 40–41, 38 percent of women are in menopause. By age 46–47, almost two-thirds of women are in menopause, and the proportion rises to more than four-fifths for women age 48–49. The onset of menopause appears to be later in urban areas, but this observation is based on a fairly small number of women in some of the age groups.

4.9 Desire for More Children

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

Table 4.12 Menopause						
Percentage of currently married women age 30–49 years who are in menopause by age and residence, Andhra Pradesh, 1998–99						
Age	Urban		Rural		Total	
	Percentage	Number	Percentage	Number	Percentage	Number
30–34	7.1	158	15.0	399	12.8	556
35–39	15.6	138	24.5	385	22.1	523
40–41	(17.4)	38	43.0	140	37.6	178
42–43	(27.0)	35	38.5	117	35.9	151
44–45	(44.0)	38	60.5	77	55.0	116
46–47	*	20	68.3	87	65.4	107
48–49	(87.8)	46	79.5	95	82.2	141
30–49	24.6	472	33.9	1,300	31.4	1,771

Note: Percentage menopausal is defined as the percentage of currently married women who are not pregnant and not postpartum amenorrhoeic and who reported that their last menstrual period occurred six or more months preceding the survey or that they are menopausal or have had a hysterectomy.
 () Based on 25–49 unweighted cases
 *Percentage not shown; based on fewer than 25 unweighted cases

Table 4.13 and Figure 4.4 show future fertility preferences of currently married women, classified by their number of living children. Overall, 11 percent of currently married women say that they do not want any more children, an additional 57 percent cannot have another child because either the wife or the husband has been sterilized, and 5 percent of women say that they cannot get pregnant (that is, they are 'declared infecund'). One-quarter of the women say they would like to have another child. Seventeen percent want a child within two years, and 8 percent want to wait at least two years before the birth of the next child. The desire to stop childbearing increases rapidly with the number of living children. Only 2 percent of women with no living children do not want any children (the woman or her husband is sterilized or the woman says she wants no more children) compared with 84 percent of women with two living children and 90 percent or more of women with three or more living children. Less than 1 percent of the women say that the decision about having any (more) children is up to God. Overall, 75 percent of women want to either space their next birth or do not want any more children. This proportion is 79 percent in urban areas and 74 percent in rural areas.

The desire to have a child within two years drops rapidly with the number of living children, from 76 percent for women without any living children to 6 percent or less for women with two or more living children. Thirty-one percent of women with one living child (34 percent in urban areas and 30 percent in rural areas) would like to wait at least two years before having the next child. And yet, as will be seen in the next chapter, very few women in Andhra Pradesh use any temporary method of contraception. These findings suggest that encouraging the use of temporary methods would lower overall fertility and population growth, as well as provide health benefits to mothers and their children through increased birth spacing.

Table 4.13 Fertility preferences

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

Desire for children	Number of living children ¹					Total
	0	1	2	3	4+	
URBAN						
Desire for additional child						
Wants another soon ²	70.9	33.4	3.5	1.3	1.6	13.7
Wants another later ³	13.5	33.5	2.5	0.9	0.0	7.7
Wants another, undecided when	1.1	3.1	1.3	0.4	0.5	1.2
Undecided	0.0	1.3	1.3	0.0	0.5	0.7
Up to God	2.2	1.9	0.3	0.9	0.5	0.9
Wants no more	2.2	11.3	20.3	9.6	17.4	14.2
Sterilized	0.0	11.2	68.3	85.5	71.5	57.4
Declared infecund	8.8	4.4	2.5	1.3	7.9	4.2
Missing	1.2	0.0	0.0	0.0	0.0	0.1
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	85	149	298	212	176	920
Preferred sex of additional child⁴						
Boy	16.6	22.8	*	*	*	23.6
Girl	1.3	29.3	*	*	*	17.6
Doesn't matter	75.7	45.6	*	*	*	54.3
Up to God	6.4	2.2	*	*	*	4.5
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women wanting more ⁴	73	87	22	4	2	187
RURAL						
Desire for additional child						
Wants another soon ²	78.0	42.5	7.2	3.3	1.3	18.2
Wants another later ³	8.8	29.8	4.2	1.1	0.2	7.5
Wants another, undecided when	2.2	5.9	1.4	0.3	0.4	1.8
Undecided	0.0	1.3	0.3	0.2	0.4	0.4
Up to God	1.1	0.9	0.8	0.0	0.9	0.7
Wants no more	0.0	4.4	11.1	8.8	15.7	9.2
Sterilized	1.5	10.0	70.7	82.4	74.1	56.9
Declared infecund	8.5	5.2	4.4	3.9	7.2	5.4
Missing	0.0	0.0	0.0	0.2	0.0	0.0
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	280	470	799	656	570	2,775
Preferred sex of additional child⁴						
Boy	28.4	32.1	54.0	(78.1)	*	36.1
Girl	3.3	18.8	21.4	(3.8)	*	12.8
Doesn't matter	59.0	43.7	20.3	(14.5)	*	44.3
Up to God	9.3	5.4	4.3	(3.6)	*	6.8
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women wanting more ⁴	251	305	95	29	8	688

Table 4.13 Fertility preferences (contd.)

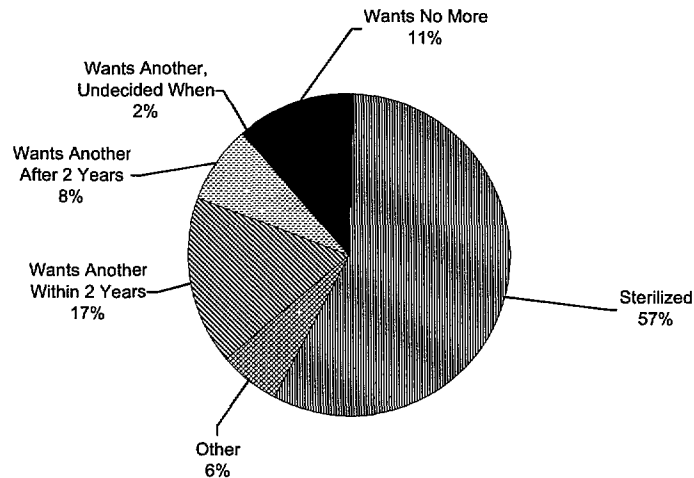
Percent distribution of currently married women by desire for children and preferred sex of additional child, according to number of living children and residence, Andhra Pradesh, 1998–99

Desire for children	Number of living children ¹					Total
	0	1	2	3	4+	
TOTAL						
Desire for additional child						
Wants another soon ²	76.3	40.3	6.2	2.8	1.3	17.0
Wants another later ³	9.9	30.7	3.8	1.1	0.1	7.5
Wants another, undecided when	1.9	5.2	1.4	0.3	0.4	1.6
Undecided	0.0	1.3	0.5	0.1	0.4	0.5
Up to God	1.4	1.1	0.6	0.2	0.8	0.7
Wants no more	0.5	6.0	13.6	9.0	16.1	10.5
Sterilized	1.1	10.3	70.0	83.2	73.4	57.0
Declared infecund	8.5	5.0	3.9	3.2	7.4	5.1
Missing	0.3	0.0	0.0	0.1	0.0	0.1
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	365	619	1,097	868	746	3,695
Preferred sex of additional child⁴						
Boy	25.7	30.1	53.6	(72.0)	*	33.4
Girl	2.8	21.2	22.2	(6.2)	*	13.8
Doesn't matter	62.8	44.1	19.8	(15.7)	*	46.4
Up to God	8.6	4.7	4.3	(6.0)	*	6.3
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women wanting more ⁴	324	392	117	32	10	875
() Based on 25–49 unweighted cases						
*Percentage not shown; based on fewer than 25 unweighted cases						
¹ Includes current pregnancy, if any						
² Wants next birth within 2 years						
³ Wants to delay next birth for 2 or more years						
⁴ Excludes currently pregnant women						

Thirty-three percent of women who want another child say they want the next child to be a boy, 14 percent say they want the child to be a girl, and the rest say that the sex of the child does not matter (46 percent) or that it is up to God (6 percent). Irrespective of their number of living children, women are much more likely to express a desire for a son than for a daughter. In addition, the proportion of women expressing a desire specifically for a son increases with the number of living children. Among women who have no living children, only a few women express a specific desire for a daughter (3 percent), but 63 percent say it does not matter whether they have a son or a daughter. Even among this group, one in four say they would like their first child to be a boy.

Table 4.14 provides information about differentials in the desire to limit family size by selected background characteristics. Women who are sterilized (or whose husbands are sterilized) are included among those who say they want no more children. As expected, older women are much more likely than younger women to want no more children. Already by age 25–34, 80 percent of women want no more children. The proportion who want no more children is

Figure 4.4
Fertility Preferences Among Currently
Married Women Age 15-49



Note: Percents add to more than 100 due to rounding

NFHS-2, Andhra Pradesh, 1998-99

somewhat higher among urban women (72 percent) than among rural women (66 percent). The proportion who want no more children is higher among Hindus (69 percent) than among Christians (62 percent) or Muslims (58 percent). By caste/tribe, the proportion who want no more children is highest for women in the 'other' category (72 percent) and lowest for scheduled-caste women (62 percent). The proportion who want no more increases with the standard of living from 62 percent for women with a low standard of living to 75 percent for women with a high standard of living. The proportion who want no more children is highest for women with two living sons (92 percent) and lowest for women with no living sons (28 percent). Differences associated with the number of living daughters are also large but not as large as differences associated with the number of living sons, again indicating a certain amount of son preference. The proportion who want no more children is highest for women with two living daughters (86 percent) and lowest for women with no living daughters (41 percent). Despite the existence of son preference, it is interesting to note that 70 percent of women with two daughters and no sons do not want to have a third child. Overall, the table shows that an overwhelming majority of women in every subgroup with two or more living children want no more children. It also shows that within each subgroup, the proportion who want no more children rises sharply with the number of living children.

Table 4.14 Desire to have no more children by background characteristics

Percentage of currently married women who want no more children by number of living children and selected background characteristics, Andhra Pradesh, 1998–99

Background characteristic	Number of living children ¹					Total
	0	1	2	3	4+	
Age						
15–24	0.4	4.6	79.8	85.5	89.3	35.9
25–34	1.6	36.9	85.5	94.0	93.1	80.2
35–49	(10.8)	44.1	85.7	91.9	87.9	83.7
Residence						
Urban	2.2	22.5	88.6	95.2	88.9	71.5
Rural	1.5	14.4	81.8	91.2	89.7	66.1
Education						
Illiterate	2.0	16.4	75.1	90.0	89.0	67.1
Literate, < middle school complete	2.6	9.9	92.1	96.8	94.4	72.2
Middle school complete	(0.0)	(14.9)	95.6	*	*	64.7
High school complete and above	0.0	23.7	90.7	96.6	(91.8)	61.9
Religion						
Hindu	1.6	18.0	84.5	93.3	91.5	68.5
Muslim	(0.0)	(2.6)	(71.5)	(77.5)	77.9	58.0
Christian	*	(5.3)	78.9	86.8	(87.1)	62.4
Caste/tribe						
Scheduled caste	1.3	8.1	70.4	91.5	90.5	62.3
Scheduled tribe	*	(13.8)	(76.1)	(84.8)	92.5	63.5
Other backward class	0.6	14.6	82.3	92.3	89.9	67.0
Other	4.4	24.0	91.2	93.4	87.7	72.0
Standard of living index						
Low	1.4	12.8	75.2	91.2	85.8	61.7
Medium	1.9	16.1	84.5	91.7	90.9	69.1
High	1.7	25.9	92.8	95.3	95.2	75.0
Number of living sons²						
0	1.7	19.8	70.3	70.2	(77.7)	28.3
1	NA	16.4	87.8	91.8	95.4	74.8
2	NA	NA	85.0	96.6	91.1	91.5
3+	NA	NA	NA	92.2	87.1	88.7
Number of living daughters²						
0	1.7	16.4	85.0	92.2	(97.0)	41.0
1	NA	19.8	87.8	96.6	90.4	77.0
2	NA	NA	70.3	91.8	92.4	86.0
3+	NA	NA	NA	70.2	87.9	85.2
Total	1.7	16.4	83.7	92.1	89.5	67.5

Note: Women who have been sterilized or whose husbands have been sterilized are considered to want no more children. Total includes two categories (none, missing) of religion, one category (missing) of caste/tribe, and one category (missing) of the standard of living index with fewer than 25 unweighted cases each. These categories are not shown separately.
 NA: Not applicable
 () Based on 25–49 unweighted cases
 *Percentage not shown; based on fewer than 25 unweighted cases
¹Includes current pregnancy, if any
²Excludes pregnant women

Table 4.15 Ideal and actual number of children						
Percent distribution of ever-married women by ideal number of children, and mean ideal number of children, by number of living children, Andhra Pradesh, 1998–99						
Ideal number of children	Number of living children ¹					Total
	0	1	2	3	4+	
0	0.2	0.0	0.1	0.1	0.2	0.1
1	5.2	5.8	2.7	0.5	0.4	2.5
2	65.2	69.0	68.7	43.9	22.1	53.3
3	11.3	9.0	10.5	26.3	17.2	15.3
4	2.1	2.1	2.9	5.0	16.0	5.8
5	0.5	0.1	0.5	0.7	2.2	0.8
6+	0.0	0.2	0.1	1.5	3.4	1.1
Non-numeric response	15.4	13.8	14.5	22.1	38.5	21.1
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	426	681	1,186	922	816	4,032
Mean ideal number ²	2.1	2.1	2.2	2.6	3.2	2.4
Number of women giving numeric response	361	587	1,014	719	502	3,183

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

4.10 Ideal Number of Children

To assess women's ideal number of children, NFHS-2 asked each woman the number of children she would like to have if she could start over again. Women with no children were asked, 'If you could choose exactly the number of children to have in your whole life, how many would that be?' Women who already had children were asked, 'If you could go back to the time you did not have any children and could choose exactly the number of children to have in your whole life, how many would that be?' Some women had difficulty in answering these hypothetical questions, and hence the question often had to be repeated to ensure that the meaning was understood. Seventy-nine percent of respondents were able to give a numerical response when asked for their ideal number of children.

Table 4.15 shows that more than half of women in Andhra Pradesh consider two to be the ideal number of children and 69 percent consider two or three to be ideal. Only 10 percent have an ideal number which is different from 2 or 3 children, and 21 percent were unable to give a numeric response to the question. Among all women who gave a numeric response, the average number of children considered ideal is 2.4, ranging from 2.1 for women who have no children or only one child to 3.2 for women who already have four or more children.

Asking a question on ideal family size is sometimes criticized on the grounds that women tend to adjust their ideal family size upward as the number of their living children increases, in a process of rationalizing previously unwanted children as wanted. It is argued that the question on ideal family size prompts many women to state the actual number of children they already have as their ideal. It is evident from Table 4.15, however, that this is not so for many women in Andhra Pradesh. Among women with four or more living children, for example, 40 percent state

that fewer than four children would be ideal. Similarly, among women with three living children, 45 percent state that their ideal family size is smaller than three children. It is evident that a large proportion of women already have more children than they now consider ideal. This proportion may be taken as another indicator of surplus or unwanted fertility.

Table 4.16 shows the mean ideal number of children for ever-married women by age according to selected background characteristics. Differentials in the ideal number of children are generally small. The mean ideal number increases steadily from 2.1 children for women age 20–24 to 3.0 children for women age 45–49. The mean ideal number is almost the same in urban and rural areas. It ranges from 2.6 for illiterate women down to 2.1 for women with at least a middle school education. There is little difference in the mean ideal family size by education among literate women. The mean ideal number of children is 0.4 children higher for Muslim women than for Hindu women or Christian women. Among the castes/tribes, scheduled-tribe women have the highest ideal number of children (2.6) and women in the 'other' category have the lowest ideal (2.3), but the caste/tribe differences are not large. For women who have not worked in the past 12 months, the mean ideal number of children (2.3) is slightly lower than the ideal for women in the other work status categories. Women who live in households with a low standard of living have a mean ideal family size that is 0.2 children higher than the ideal for women who live in households with a high standard of living. For women whose husbands are illiterate or who have not completed primary school, the mean ideal number of children is 0.2 to 0.5 children higher than for women whose husbands are in the four other educational categories.

4.11 Sex Preference for Children

In NFHS-2, women who gave a numerical response to the question on ideal number of children were also asked how many of these children they would like to be boys, how many they would like to be girls, and for how many the sex would not matter. Table 4.17 shows the mean ideal number of sons and daughters, the percentage who desire more sons than daughters, the percentage who desire more daughters than sons, the percentage who desire at least one son, and the percentage who desire at least one daughter, according to selected background characteristics. The table shows a consistent, moderate preference for sons over daughters. Overall, the average ideal family size of 2.4 children consists of 1.0 sons, 0.8 daughters, and 0.5 children of either sex. Twenty percent of women want more sons than daughters but only 3 percent want more daughters than sons. Three-quarters of women (76 percent) say they want at least one son among their children and a slightly smaller percentage (71 percent) wants at least one daughter. One reason that a substantial proportion of women want to have at least one daughter is to fulfil the Hindu religious obligation of *kanyadan* (giving a daughter away at the time of her marriage), which is one of the acts that enable the parents to acquire the highest level of merit (*punya*).

Son preference is relatively weak in urban areas, among literate women, and among women whose husbands have at least completed high school. Son preference does not vary much by religion, but scheduled-caste and scheduled-tribe women show more son preference than women from other backward classes and women in the 'other' category. Women who have not worked in the past 12 months show somewhat less preference for sons than do working women. Women living in households with a high standard of living also show less preference for sons than do women living in households with a medium or low standard of living.

Table 4.16 Ideal number of children by background characteristics

Mean ideal number of children reported by ever-married women, according to women's age and selected background characteristics, Andhra Pradesh, 1998–99

Background characteristic	Current age							Total
	15–19	20–24	25–29	30–34	35–39	40–44	45–49	
Residence								
Urban	2.2	2.1	2.1	2.3	2.5	2.8	2.8	2.3
Rural	2.2	2.2	2.3	2.4	2.7	2.8	3.1	2.4
Education								
Illiterate	2.3	2.3	2.4	2.5	2.8	3.0	3.1	2.6
Literate, < middle school complete	2.1	2.0	2.1	2.3	2.4	2.5	(2.7)	2.2
Middle school complete	(2.0)	2.0	(2.0)	*	*	*	*	2.1
High school complete and above	(2.0)	2.0	2.0	2.1	(2.3)	*	*	2.1
Religion								
Hindu	2.2	2.1	2.3	2.4	2.6	2.8	2.9	2.4
Muslim	*	2.4	(2.5)	*	(3.0)	*	*	2.8
Christian	(2.2)	(2.2)	(2.3)	(2.3)	*	*	*	2.4
Caste/tribe								
Scheduled caste	2.2	2.2	2.4	2.6	3.0	2.9	(3.2)	2.5
Scheduled tribe	*	(2.3)	(2.7)	*	*	*	*	2.6
Other backward class	2.2	2.2	2.3	2.4	2.6	3.0	3.1	2.4
Other	2.2	2.1	2.1	2.3	2.4	2.6	2.7	2.3
Work status								
Working in family farm/business	2.3	2.2	2.3	2.4	2.7	2.9	(3.2)	2.5
Employed by someone else	2.3	2.2	2.4	2.5	2.7	2.9	3.0	2.5
Self-employed	*	(2.0)	(2.4)	(2.2)	(2.7)	*	*	2.4
Not worked in past 12 months	2.1	2.1	2.1	2.3	2.5	2.8	2.7	2.3
Standard of living index								
Low	2.2	2.2	2.4	2.5	2.8	2.9	3.3	2.5
Medium	2.2	2.1	2.3	2.4	2.6	2.8	3.0	2.4
High	(2.1)	2.0	2.1	2.2	2.5	2.7	2.6	2.3
Husband's education								
Illiterate	2.3	2.3	2.4	2.5	2.8	3.0	3.1	2.6
Literate, < primary school complete	(2.4)	(2.3)	2.5	(2.4)	(2.6)	*	*	2.5
Primary school complete	2.1	2.1	2.3	2.4	2.5	(2.6)	(3.2)	2.3
Middle school complete	(2.2)	2.1	(2.2)	(2.4)	*	*	*	2.3
High school complete	2.2	2.1	2.1	(2.3)	2.6	(2.5)	*	2.3
Higher secondary complete and above	(2.1)	2.0	2.1	2.1	2.3	(2.6)	*	2.1
Total	2.2	2.1	2.3	2.4	2.6	2.8	3.0	2.4

Note: Means are calculated excluding women who gave non-numeric responses. Total includes two categories (none, missing) of religion, one category (missing) of caste/tribe, the standard of living index, and husband's education with fewer than 25 unweighted cases each. These categories are not shown separately.

() Based on 25–49 unweighted cases

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

Table 4.17 Indicators of sex preference

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

Background characteristic	Mean ideal number of:			Percentage who want more sons than daughters	Percentage who want more daughters than sons	Percentage who want at least one son	Percentage who want at least one daughter	Number of women
	Sons	Daughters	Either sex					
Residence								
Urban	0.9	0.8	0.6	14.5	3.3	71.7	68.2	787
Rural	1.1	0.8	0.5	21.5	2.5	77.5	72.3	2,393
Education								
Illiterate	1.2	0.9	0.5	25.0	2.7	80.7	74.8	1,930
Literate, < middle school complete	0.9	0.8	0.6	13.3	2.2	71.6	68.0	682
Middle school complete	0.8	0.6	0.7	11.4	1.1	64.3	61.3	176
High school complete and above	0.8	0.7	0.6	9.1	4.2	66.1	63.9	392
Religion								
Hindu	1.0	0.8	0.5	19.5	2.6	75.8	71.1	2,828
Muslim	1.2	1.1	0.5	20.0	4.2	78.8	75.0	182
Christian	1.1	0.8	0.5	23.8	3.1	78.6	71.6	167
Caste/tribe								
Scheduled caste	1.1	0.8	0.5	27.4	2.6	77.2	70.6	619
Scheduled tribe	1.2	0.9	0.5	27.7	2.2	80.2	75.9	140
Other backward class	1.1	0.9	0.5	18.8	2.4	79.1	74.8	1,420
Other	0.9	0.8	0.6	15.3	3.3	70.7	66.4	994
Work status								
Working in family farm/business	1.1	0.9	0.5	22.5	2.9	79.2	74.2	581
Employed by someone else	1.1	0.9	0.5	24.6	2.8	78.9	72.7	1,078
Self-employed	1.0	0.8	0.6	20.2	4.2	72.0	70.2	166
Not worked in past 12 months	0.9	0.8	0.6	14.7	2.4	72.9	69.0	1,354
Standard of living index								
Low	1.1	0.9	0.5	22.4	3.3	79.1	73.2	1,114
Medium	1.1	0.8	0.5	20.1	1.8	76.9	72.1	1,505
High	0.9	0.8	0.6	14.0	4.1	68.2	65.6	548
Husband's education								
Illiterate	1.1	0.9	0.5	22.8	2.8	78.7	73.9	1,309
Literate, < primary school complete	1.1	0.9	0.5	25.0	3.4	78.0	73.3	237
Primary school complete	1.1	0.8	0.5	21.3	1.9	78.4	71.5	572
Middle school complete	1.1	0.8	0.5	21.5	0.9	77.3	70.4	221
High school complete	0.9	0.8	0.6	14.6	3.5	73.3	69.5	393
Higher secondary complete and above	0.8	0.7	0.6	9.7	3.3	65.8	64.3	443
Total	1.0	0.8	0.5	19.8	2.7	76.0	71.3	3,180

Note: Table excludes women who gave non-numeric responses to the questions on ideal number of children or ideal number of sons and daughters. Total includes 1 woman with no religion and 2, 7, 13, and 5 women with missing information on religion, caste/tribe, the standard of living index, and husband's education, respectively. These women are not shown separately.

4.12 Fertility Planning

For each child born in the three years before the survey and for each current pregnancy, NFHS-2 asked women whether the pregnancy was wanted at that time (planned), wanted at a later time (mistimed), or not wanted at all. Because a woman may retrospectively describe an unplanned pregnancy as one that was wanted at that time, responses to these questions may lead to an underestimation of unplanned childbearing. Nevertheless, this information provides a potentially

powerful indicator of the degree to which couples successfully control childbearing. It should be noted that the proportion unplanned is influenced not only by whether, and how effectively, couples use contraception, but also by the couple's ideal family size.

Table 4.18 shows the percent distribution of births during the three years preceding the survey and current pregnancies according to fertility planning status. Nineteen percent of all pregnancies that resulted in live births in the three years preceding the survey (including current pregnancies) were unplanned, that is, unwanted at the time the woman became pregnant (13 percent were wanted later and 7 percent were not wanted at all). The proportion of births that were unplanned is highest for women age 35–39 (32 percent) and lowest for women below age 20 (15 percent). Within the unplanned category, the proportion of births that were wanted later goes down and the proportion that were not wanted at all goes up with the age of the mother. The proportion of births that were unplanned is slightly higher in rural areas (20 percent) than in urban areas (18 percent). The proportion unplanned is highest for births to women who have completed middle school (24 percent) and lowest for births to illiterate women (18 percent). A lower proportion of births to Muslims (14 percent) were unplanned than births to Christians or Hindus (20 percent). By caste/tribe, scheduled-tribe women were most likely to have unplanned births (30 percent), and 'other' women were least likely (17 percent). The proportion unplanned is higher for births to women living in households with a high standard of living (24 percent) than for births to women living in households with a low (19 percent) or medium (18 percent) standard of living. Not surprisingly, births of higher order are more likely to be unplanned. Specifically, the proportion unplanned increases from 15 percent among first-order births to 35 percent among births of order four or higher.

The impact of unwanted fertility can be measured by comparing the total wanted fertility rate with the total fertility rate (TFR). The total wanted fertility rate represents the level of fertility that theoretically would result if all unwanted births were prevented. A comparison of the TFR with the total wanted fertility rate indicates the potential demographic impact of the elimination of all unwanted births. The total wanted fertility rates presented in Table 4.19 are calculated in the same way as the TFR except that unwanted births are excluded from the numerator. In this case, a birth is considered unwanted if the number of living children at the time of conception was greater than or equal to the ideal number of children reported by the respondent. (Women who did not give a numeric response to the question on ideal number of children are assumed to have wanted all the births they had.)

Overall the total wanted fertility rate of 1.88 is lower by 0.37 children (i.e., 16 percent) than the total fertility rate of 2.25. This means that if unwanted births could be eliminated, the TFR would drop to 1.9 children per woman. Almost every group of women (including illiterate women and women living in households with a low standard of living) would want to have fewer than two children, on average, under these circumstances. The difference between the total fertility rate and the total wanted fertility rate is somewhat larger for rural women (0.40 children) than for urban women (0.29 children). The difference is larger for illiterate women (0.40 children) than for women with at least high school complete (0.24 children). It is larger for Muslims (0.52 children) than for Hindus (0.35 children) or Christians (0.29 children). It is also larger for scheduled-tribe women (0.70 children) than for scheduled-caste women (0.54 children), women from other backward classes (0.35 children), or women in the 'other' category (0.26 children). The difference is larger for women living in households with a medium standard of living (0.41 children) or a low standard of living (0.39 children) than for women living in

Table 4.18 Fertility planning

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

Background characteristic	Planning status of pregnancy ¹			Total percent	Number of births and current pregnancies
	Wanted then	Wanted later	Not wanted at all		
Mother's age at birth²					
< 20	85.0	13.6	1.4	100.0	448
20–24	80.7	14.2	5.1	100.0	551
25–29	76.6	9.2	14.2	100.0	225
30–34	74.1	6.4	19.5	100.0	62
35–39	(68.0)	(4.0)	(27.9)	100.0	25
Residence					
Urban	81.9	14.2	3.9	100.0	338
Rural	80.4	12.1	7.5	100.0	976
Education					
Illiterate	82.5	8.9	8.6	100.0	712
Literate, < middle school complete	80.1	14.5	5.4	100.0	298
Middle school complete	76.5	20.5	3.1	100.0	96
High school complete and above	78.1	19.2	2.7	100.0	207
Religion					
Hindu	80.4	12.9	6.7	100.0	1,113
Muslim	85.8	9.7	4.5	100.0	110
Christian	80.0	13.2	6.8	100.0	89
Caste/tribe					
Scheduled caste	82.6	10.2	7.2	100.0	277
Scheduled tribe	69.7	15.1	15.2	100.0	81
Other backward class	79.7	13.5	6.9	100.0	580
Other	83.5	12.8	3.7	100.0	374
Standard of living index					
Low	81.2	10.8	8.0	100.0	464
Medium	81.7	12.2	6.1	100.0	650
High	76.5	19.0	4.6	100.0	194
Birth order¹					
1	85.3	13.5	1.2	100.0	500
2	81.8	15.1	3.1	100.0	415
3	82.2	10.3	7.5	100.0	213
4+	65.0	7.5	27.5	100.0	186
Total	80.8	12.6	6.5	100.0	1,314

Note: Table includes only the two most recent births in the three years preceding the survey. Total includes 3 births to women age 40–44, 1 birth to a woman with no religion, and 1, 3, and 6 births with missing information on religion, caste/tribe, and the standard of living index, respectively. These births are not shown separately.

() Based on 25–49 unweighted cases

¹ Includes current pregnancy, if any

² For current pregnancy, estimated maternal age at birth

households with a high standard of living (0.19 children). Overall, the TFR exceeds the wanted TFR most for scheduled-tribe women, scheduled-caste women, and Muslim women.

Table 4.19 Wanted fertility rates		
Total wanted fertility rates and total fertility rates for the three years preceding the survey by selected background characteristics, Andhra Pradesh, 1998–99		
Background characteristic	Total wanted fertility rate	Total fertility rate
Residence		
Urban	1.78	2.07
Rural	1.92	2.32
Education		
Illiterate	1.95	2.35
Literate, < middle school complete	1.81	2.22
Middle school complete	1.70	1.94
High school complete and above	1.96	2.20
Religion		
Hindu	1.85	2.20
Muslim	2.01	2.53
Christian	2.24	2.53
Caste/tribe		
Scheduled caste	1.97	2.51
Scheduled tribe	2.05	2.75
Other backward class	1.91	2.26
Other	1.74	2.00
Standard of living index		
Low	1.90	2.29
Medium	1.91	2.32
High	1.80	1.99
Total	1.88	2.25
<p>Note: Rates are based on births in the period 1–36 months before the interview to women age 15–49. The total fertility rates are the same as those presented in Table 4.3. Total includes two categories (no religion, missing) of religion, one category (missing) of caste/tribe, and one category (missing) of the standard of living index with fewer than 125 women-years of exposure. These categories are not shown separately.</p>		

CHAPTER 5

FAMILY PLANNING

The National Family Welfare Programme in India has traditionally sought 'to promote responsible and planned parenthood through voluntary and free choice of family planning methods best suited to individual acceptors (Ministry of Health and Family Welfare, 1998a). In April 1996, the programme was renamed the Reproductive and Child Health Programme and given a new orientation to meet the health needs of women and children more completely. The Reproductive and Child Health Programme aims to cover all aspects of women's reproductive health throughout their lives. With regard to family planning, this new approach emphasizes the target-free promotion of contraceptive use among eligible couples, the provision to couples of a choice of various contraceptive methods (including condoms, oral pills, IUDs, and male and female sterilization), and the assurance of high-quality care. In addition, the programme encourages the spacing of births with at least three years between births (Department of Family Welfare, n.d.). Information about the knowledge and use of contraceptive methods provided in this chapter is designed to be of practical relevance to programme administrators and policymakers responsible for monitoring existing programmes and formulating new strategies to meet the health and family planning needs of the population. The chapter begins with an appraisal of women's knowledge of contraceptive methods and then discusses women's past and present use of contraception before moving on to the sources of supply of modern contraceptive methods. Special attention is focused on reasons for discontinuation and nonuse of contraception and on intentions to use family planning methods in the future. The chapter also contains information on exposure to family planning messages through the media and on discussions about family planning with relatives and friends. It concludes with an assessment of the extent to which the need for family planning services in Andhra Pradesh is being met effectively.

5.1 Knowledge of Family Planning Methods

Lack of knowledge of contraceptive methods is a major obstacle to their use. In NFHS-2, interviewers obtained information on knowledge and ever use of contraceptive methods by asking each respondent the following question: 'Now I would like to talk about family planning – the various ways or methods that a couple can use to delay or avoid a pregnancy. For each method I mention, please tell me if you have ever heard of the method and whether you have ever used the method at any time in your life?' If a respondent did not recognize the name of a method, a short description was read. In this way, the survey assesses women's knowledge and ever use of seven contraceptive methods, namely the pill, condom, IUD, female sterilization, male sterilization, rhythm or safe period method, and withdrawal. In addition, the survey collected information on respondents' knowledge and ever use of any other contraceptive method (modern, traditional or folkloric).

Table 5.1 shows the extent of knowledge of contraceptive methods among currently married women by specific method and residence. Knowledge of contraceptive methods is nearly universal in Andhra Pradesh, with 99 percent of currently married women recognizing at least one method of contraception and at least one modern method of contraception.

Table 5.1 Knowledge of contraceptive methods			
Percentage of currently married women who know any contraceptive method by specific method and residence, Andhra Pradesh, 1998–99			
Method	Urban	Rural	Total
Any method	99.8	98.7	98.9
Any modern method	99.8	98.7	98.9
Pill	78.4	54.0	60.1
IUD	73.7	43.0	50.7
Condom	74.6	39.5	48.3
Female sterilization	99.6	98.2	98.5
Male sterilization	96.0	89.2	90.9
Any traditional method	27.5	11.3	15.3
Rhythm/safe period	26.6	10.4	14.4
Withdrawal	14.2	5.1	7.4
Other method ¹	1.4	1.2	1.2
Number of women	920	2,775	3,695
¹ Includes both modern and traditional methods that are not listed separately			

Female sterilization is the most widely known method of contraception in Andhra Pradesh, followed by male sterilization. Overall, 99 percent of currently married women know about female sterilization and 91 percent know about male sterilization. There is little difference by residence in knowledge of female sterilization, but 96 percent of urban women know about male sterilization compared with 89 percent of rural women. Knowledge of the officially-sponsored spacing methods (the pill, IUD, and condom) is much less widespread. The best known spacing method is the pill, which is known by 60 percent of currently married women, followed by the IUD (51 percent), and then the condom (48 percent). There are large differences in knowledge of spacing methods by residence. For example, only 54 percent of rural women know about pills, compared with 78 percent of urban women. Although knowledge of these spacing methods is lower than knowledge of sterilization, these results suggest that knowledge of spacing methods has grown since NFHS-1. At the time of NFHS-1, only 54 percent of currently married women knew about pills, 44 percent knew about IUDs, and 42 percent knew about condoms.

In Andhra Pradesh, traditional methods of contraception are less well known than modern methods. Only 15 percent of currently married women report knowledge of a traditional method, with the rhythm/safe period method being better known (14 percent) than withdrawal (7 percent). Knowledge of traditional methods is much higher in urban areas (28 percent) than in rural areas (11 percent).

Table 5.2 Ever use of contraception

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

Age	Any method	Any modern method	Pill	IUD	Condom	Female sterilization	Male sterilization	Any traditional method	Rhythm/safe period	Withdrawal	Other method ¹	Number of women
URBAN												
15–19	15.5	15.5	4.6	3.1	0.0	9.3	1.5	0.0	0.0	0.0	0.0	61
20–24	44.5	44.5	4.4	4.5	7.4	32.1	2.0	1.5	1.5	0.5	0.0	189
25–29	76.7	75.2	9.1	11.9	8.7	63.3	2.8	2.9	2.4	1.4	1.0	198
30–34	76.2	75.0	1.8	6.0	7.7	65.0	2.4	3.5	3.5	1.8	0.6	158
35–39	87.1	86.4	8.8	7.6	5.4	68.8	8.1	2.1	2.1	0.7	1.3	138
40–44	78.5	76.4	4.1	0.0	2.0	56.8	16.5	2.1	2.1	0.0	1.0	91
45–49	61.6	60.5	2.2	0.0	3.3	48.5	9.7	1.1	0.0	1.1	0.0	85
Total	66.2	65.3	5.4	5.9	6.0	52.4	5.3	2.1	1.9	0.9	0.6	920
RURAL												
15–19	7.1	6.3	1.1	0.6	0.3	5.1	0.0	0.8	0.0	0.8	0.0	356
20–24	42.3	41.5	2.0	1.9	0.7	38.4	0.9	1.3	1.1	0.4	0.0	552
25–29	70.6	70.6	2.9	1.6	0.9	67.6	2.1	0.4	0.4	0.2	0.2	567
30–34	75.8	75.8	2.5	2.1	1.0	70.8	2.7	1.0	0.8	0.3	0.0	399
35–39	81.1	80.8	2.7	0.8	0.8	71.7	7.0	1.1	0.5	0.5	1.3	385
40–44	75.4	75.4	1.7	1.1	0.0	62.1	11.6	0.0	0.0	0.0	0.7	290
45–49	65.4	65.4	2.8	0.5	0.0	49.5	14.5	0.0	0.0	0.0	1.4	225
Total	59.1	58.8	2.3	1.3	0.6	52.8	4.4	0.7	0.5	0.3	0.4	2,775
TOTAL												
15–19	8.3	7.6	1.6	1.0	0.2	5.7	0.2	0.7	0.0	0.7	0.0	417
20–24	42.8	42.3	2.6	2.5	2.5	36.8	1.2	1.3	1.2	0.4	0.0	742
25–29	72.2	71.8	4.5	4.3	2.9	66.5	2.3	1.0	0.9	0.5	0.4	765
30–34	75.9	75.6	2.3	3.2	2.9	69.1	2.6	1.7	1.6	0.7	0.2	556
35–39	82.7	82.3	4.3	2.6	2.0	70.9	7.3	1.3	0.9	0.6	1.3	523
40–44	76.1	75.6	2.3	0.8	0.5	60.8	12.7	0.5	0.5	0.0	0.8	381
45–49	64.4	64.1	2.6	0.3	0.9	49.3	13.2	0.3	0.0	0.3	1.0	310
Total	60.9	60.4	3.1	2.5	2.0	52.7	4.6	1.1	0.8	0.5	0.5	3,695

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

5.2 Contraceptive Use

Ever Use of Family Planning Methods

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

Although nearly all currently married women know at least one method of contraception, only 61 percent have ever used a method, which is a substantial increase from 49 percent at the time of NFHS-1. Sixty percent of currently married women have ever used modern methods, but only 1 percent have ever used traditional methods. Ever use of any method is higher in urban

areas (66 percent) than in rural areas (59 percent). Ever use of both modern methods and traditional methods is also higher in urban areas. The most commonly used method is female sterilization, which has been adopted by 53 percent of currently married women. Five percent have adopted male sterilization, and only 2–3 percent have ever used each of the modern spacing methods (the pill, IUD, or condom). Ever use of every method of family planning except female sterilization is higher in urban than in rural areas. Ever use of female sterilization shows no variation by place of residence.

Ever use of any modern method increases with women's age up to age 35–39 (peaking at 82 percent) and declines at older ages. This increase in contraceptive use with age likely reflects a life-cycle effect, with women adopting contraception as their fertility goals are met. On the other hand, the lower level of ever use of modern methods by older women reflects, at least in part, the lower acceptability and availability of modern contraceptive methods at the time when these women were having their children. The pattern of ever use by age is the same for urban and rural areas, although urban women are more likely to have used contraception than rural women at every age except age 45–49.

Current Use of Family Planning Methods

Table 5.3 provides information on current use of family planning methods for currently married women in Andhra Pradesh by age and residence. Current contraceptive prevalence in Andhra Pradesh is moderately high, with 60 percent of currently married women using some method of contraception. Current use of any method is slightly higher in urban areas (63 percent) than in rural areas (58 percent). Almost all current users are using a modern method, and almost all currently married women who have ever used contraception are current users. This is because in Andhra Pradesh, as in most of the states of India, sterilization dominates the contraceptive method mix. Fifty-three percent of currently married women are sterilized, and female sterilization accounts for 88 percent of the total current contraceptive prevalence. Another 4 percent of currently married women reported that their husbands are sterilized. Female sterilization and male sterilization together account for 96 percent of current contraceptive prevalence. No other individual method of family planning is used by more than 1 percent of currently married women. By residence, female and male sterilization together account for 91 percent of contraceptive prevalence in urban areas and 98 percent in rural areas. Less than 2 percent of women are currently using a modern spacing method. Although current use of female sterilization does not vary by residence, current use of all other modern methods is higher in urban areas than in rural areas. By age, current contraceptive use increases from 7 percent for women age 15–19 to a peak of 82 percent for women age 35–39, and decreases for older women. The pattern of variation by age is similar in urban areas (peaking at 86 percent) and rural areas (peaking at 81 percent).

A comparison of NFHS-2 results for current contraceptive use with those from NFHS-1 reveals a 26 percent increase in contraceptive prevalence since NFHS-1, when prevalence was 47 percent (Figure 5.1). The share of female sterilization in contraceptive prevalence has increased by 9 percent over the period. Since the share of male sterilization has declined, however, the share in total contraceptive prevalence of female and male sterilization together did not change

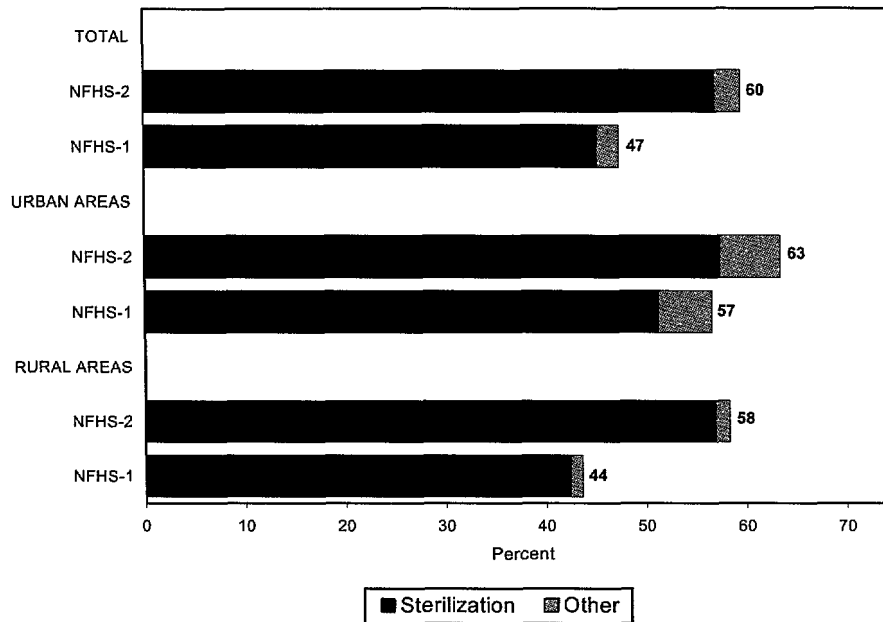
Table 5.3 Current use of contraception

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

Age	Any method	Any modern method	Pill	IUD	Condom	Female sterilization	Male sterilization	Any traditional method	Rhythm/safe period	Withdrawal	Other method ¹	Not using any method	Total percent	Number of women
URBAN														
15–19	13.9	13.9	3.1	0.0	0.0	9.3	1.5	0.0	0.0	0.0	0.0	86.1	100.0	61
20–24	40.5	40.5	1.0	2.5	3.5	32.1	1.5	0.0	0.0	0.0	0.0	59.5	100.0	189
25–29	72.8	71.9	2.4	2.8	1.5	63.3	1.9	0.9	0.9	0.0	0.0	27.2	100.0	198
30–34	74.4	72.7	0.6	1.2	3.5	65.0	2.4	1.8	1.8	0.0	0.0	25.6	100.0	158
35–39	85.7	83.0	2.7	2.1	1.3	68.8	8.1	2.1	2.1	0.0	0.7	14.3	100.0	138
40–44	75.4	73.3	0.0	0.0	0.0	56.8	16.5	2.1	2.1	0.0	0.0	24.6	100.0	91
45–49	58.3	58.3	0.0	0.0	0.0	48.5	9.7	0.0	0.0	0.0	0.0	41.7	100.0	85
Total	63.4	62.3	1.4	1.6	1.8	52.4	5.0	1.0	1.0	0.0	0.1	36.6	100.0	920
RURAL														
15–19	6.3	6.3	0.6	0.3	0.3	5.1	0.0	0.0	0.0	0.0	0.0	93.7	100.0	356
20–24	41.0	40.2	0.4	0.4	0.2	38.4	0.9	0.7	0.4	0.4	0.0	59.0	100.0	552
25–29	70.3	70.1	0.0	0.2	0.4	67.6	1.9	0.2	0.2	0.0	0.0	29.7	100.0	567
30–34	74.8	74.3	0.3	0.3	1.0	70.8	2.0	0.5	0.5	0.0	0.0	25.2	100.0	399
35–39	80.6	79.2	0.3	0.3	0.3	71.7	6.8	0.5	0.0	0.5	0.8	19.4	100.0	385
40–44	74.7	74.0	0.0	0.7	0.0	62.1	11.2	0.0	0.0	0.0	0.7	25.3	100.0	290
45–49	65.0	64.0	0.5	0.0	0.0	49.5	14.0	0.0	0.0	0.0	0.9	35.0	100.0	225
Total	58.3	57.8	0.3	0.3	0.3	52.8	4.1	0.3	0.2	0.1	0.3	41.7	100.0	2,775
TOTAL														
15–19	7.4	7.4	0.9	0.3	0.2	5.7	0.2	0.0	0.0	0.0	0.0	92.6	100.0	417
20–24	40.9	40.3	0.5	0.9	1.0	36.8	1.1	0.6	0.3	0.3	0.0	59.1	100.0	742
25–29	70.9	70.6	0.6	0.9	0.6	66.5	1.9	0.4	0.4	0.0	0.0	29.1	100.0	765
30–34	74.7	73.8	0.4	0.5	1.7	69.1	2.1	0.9	0.9	0.0	0.0	25.3	100.0	556
35–39	81.9	80.2	0.9	0.7	0.6	70.9	7.1	0.9	0.5	0.4	0.8	18.1	100.0	523
40–44	74.9	73.8	0.0	0.5	0.0	60.8	12.5	0.5	0.5	0.0	0.5	25.1	100.0	381
45–49	63.1	62.5	0.3	0.0	0.0	49.3	12.9	0.0	0.0	0.0	0.7	36.9	100.0	310
Total	59.6	58.9	0.5	0.6	0.7	52.7	4.3	0.5	0.4	0.1	0.2	40.4	100.0	3,695

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

Figure 5.1
Current Use of Family Planning by Residence
NFHS-1 and NFHS-2



Andhra Pradesh

between NFHS-1 and NFHS-2. By contrast, the proportion of currently married women using the officially-sponsored spacing methods remained unchanged, at 2 percent, in NFHS-1 and NFHS-2, implying that the share of spacing methods in the contraceptive prevalence rate actually declined over the period. These results suggest that despite the increased emphasis on contraceptive choice and on spacing methods in the Reproductive and Child Health Programme, female sterilization continues to dominate the method mix in Andhra Pradesh, and spacing methods still account for only a negligible amount of contraceptive use.

Socioeconomic Differentials in Current Use of Family Planning Methods

Table 5.4 shows differences in current contraceptive use by background characteristics. Current use of contraceptive methods is slightly higher among illiterate women and women who have not completed middle school than among women who have completed middle school or higher education. These differences by education are largely the result of two factors: the predominance of sterilization in the method mix and the fact that more-educated women tend to be younger women who may not yet have reached their desired level of fertility. The use of spacing methods (which are particularly appropriate for women who have not yet reached their desired family size) generally rises with education, whereas among literate women, the use of sterilization declines with education. Modern spacing methods are used by 1 percent of illiterate women and 17 percent of women who have completed at least high school. Female and male sterilization account for 98 percent of contraceptive use by illiterate women and only 79 percent of

Table 5.4 Current use by background characteristics

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

Background characteristic	Any method	Any modern method	Pill	IUD	Condom	Female sterilization	Male sterilization	Any traditional method	Rhythm/safe period	Withdrawal	Other method ¹	Not using any method	Total percent	Number of women
Residence														
Urban	63.4	62.3	1.4	1.6	1.8	52.4	5.0	1.0	1.0	0.0	0.1	36.6	100.0	920
Rural	58.3	57.8	0.3	0.3	0.3	52.8	4.1	0.3	0.2	0.1	0.3	41.7	100.0	2,775
Education														
Illiterate	58.8	58.2	0.1	0.3	0.2	52.9	4.7	0.2	0.1	0.1	0.4	41.2	100.0	2,311
Literate, < middle school complete	64.4	63.7	0.6	0.1	0.4	59.2	3.4	0.7	0.5	0.1	0.0	35.6	100.0	774
Middle school complete	57.4	57.4	3.1	0.5	0.5	52.2	1.0	0.0	0.0	0.0	0.0	42.6	100.0	189
High school complete and above	56.3	54.0	1.6	3.6	4.3	39.4	5.2	2.3	2.0	0.2	0.0	43.7	100.0	420
Religion														
Hindu	61.1	60.4	0.5	0.6	0.7	54.1	4.5	0.5	0.3	0.1	0.2	38.9	100.0	3,233
Muslim	46.7	44.4	2.3	1.2	1.5	38.6	0.8	1.5	1.5	0.0	0.8	53.3	100.0	247
Christian	52.0	52.0	0.0	0.4	0.0	46.3	5.3	0.0	0.0	0.0	0.0	48.0	100.0	210
Caste/tribe														
Scheduled caste	52.2	51.3	0.1	0.0	0.7	47.2	3.3	0.4	0.1	0.3	0.4	47.8	100.0	726
Scheduled tribe	48.5	47.9	0.6	0.0	0.0	39.4	8.0	0.6	0.0	0.6	0.0	51.5	100.0	177
Other backward class	61.3	61.0	0.5	0.8	0.4	54.7	4.6	0.2	0.2	0.1	0.1	38.7	100.0	1,628
Other	63.6	62.4	0.9	0.9	1.2	55.4	4.0	0.9	0.9	0.0	0.3	36.4	100.0	1,156
Standard of living index														
Low	52.9	52.6	0.2	0.1	0.2	48.8	3.4	0.1	0.0	0.1	0.2	47.1	100.0	1,307
Medium	61.2	60.4	0.3	0.4	0.6	54.9	4.0	0.5	0.3	0.2	0.3	38.8	100.0	1,732
High	69.0	67.7	1.8	2.3	2.1	54.6	7.0	1.3	1.3	0.0	0.0	31.0	100.0	639

Contd...

Table 5.4 Current use by background characteristics (contd.)

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

Background characteristic	Any method	Any modern method	Pill	IUD	Condom	Female sterilization	Male sterilization	Any traditional method	Rhythm/safe period	Withdrawal	Other method ¹	Not using any method	Total percent	Number of women
Number and sex of living children														
No children	1.8	1.5	0.2	0.0	0.4	0.7	0.2	0.2	0.2	0.0	0.0	98.2	100.0	452
1 child	16.3	15.1	0.8	1.9	1.5	9.5	1.3	1.2	1.0	0.2	0.0	83.7	100.0	589
1 son	14.2	13.3	0.6	1.6	1.0	9.4	0.6	0.9	0.9	0.0	0.0	85.8	100.0	298
No sons	18.3	17.0	1.1	2.3	2.0	9.7	2.0	1.4	1.0	0.4	0.0	81.7	100.0	290
2 children	75.1	74.3	0.7	0.6	0.9	67.5	4.6	0.5	0.3	0.2	0.3	24.9	100.0	1,066
2 sons	78.4	77.3	1.0	0.7	0.0	71.4	4.3	0.4	0.0	0.4	0.7	21.6	100.0	290
1 son	79.1	78.2	0.8	0.4	0.8	70.9	5.2	0.7	0.5	0.2	0.2	20.9	100.0	577
No sons	58.8	58.8	0.0	1.4	2.4	52.0	2.9	0.0	0.0	0.0	0.0	41.2	100.0	199
3 children	86.1	85.6	0.2	0.1	0.4	78.8	6.0	0.3	0.3	0.0	0.1	13.9	100.0	851
3 sons	84.6	82.2	0.0	0.0	0.7	77.7	3.8	1.6	1.6	0.0	0.8	15.4	100.0	130
2 sons	92.1	91.9	0.3	0.3	0.2	84.6	6.5	0.2	0.2	0.0	0.0	7.9	100.0	381
1 son	84.4	84.4	0.0	0.0	0.3	76.9	7.2	0.0	0.0	0.0	0.0	15.6	100.0	274
No sons	60.9	60.9	1.5	0.0	1.5	54.8	3.0	0.0	0.0	0.0	0.0	39.1	100.0	66
4+ children	76.7	75.8	0.6	0.5	0.3	67.4	6.9	0.4	0.3	0.1	0.5	23.3	100.0	737
2+ sons	75.2	74.1	0.5	0.2	0.2	66.5	6.7	0.6	0.4	0.2	0.6	24.8	100.0	528
1 son	81.6	81.6	1.0	1.6	0.5	71.2	7.2	0.0	0.0	0.0	0.0	18.4	100.0	181
No sons	(73.7)	(69.8)	(0.0)	(0.0)	(0.0)	(59.2)	(10.6)	(0.0)	(0.0)	(0.0)	(3.9)	(26.3)	100.0	27
Total	59.6	58.9	0.5	0.6	0.7	52.7	4.3	0.5	0.4	0.1	0.2	40.4	100.0	3,695

Note: Total includes 1 woman with no religion and 3, 8, and 16 women with missing information on religion, caste/tribe, and the standard of living index, respectively, who are not shown separately.

() Based on 25–49 unweighted cases

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

contraceptive use by women who have completed at least high school. Contraceptive use has increased since NFHS-1 among women in every educational category. The increase, however, has been much more rapid among illiterate women (35 percent) than among women who have completed at least high school (8 percent).

Contraceptive prevalence is higher among Hindus (61 percent) than among Christians (52 percent) and Muslims (47 percent). Spacing-method use, however, is highest among Muslims and lowest among Christians. Male sterilization is rare among Muslims, and the use of female sterilization is much lower among Muslims than among Hindus or Christians.

Contraceptive prevalence is highest among women who do not belong to a scheduled caste, scheduled tribe, or other backward class (64 percent), followed by women belonging to other backward classes (61 percent) and scheduled castes (52 percent). Contraceptive use is lowest among women belonging to scheduled tribes (49 percent). The use of male sterilization, however, is higher for husbands of women from scheduled tribes (8 percent) than for husbands of women from any other caste/tribe group (less than 5 percent).

The use of any contraception as well as the use of almost every specific contraceptive method is positively related to the standard of living index (SLI). Whereas contraceptive prevalence is 53 percent among the poorest women (low SLI), it is 69 percent among women with a high SLI. The use of officially-sponsored spacing methods is higher among women with a high SLI (6 percent) than among women with a medium or low SLI (1 percent).

Table 5.4 also shows differences in current use by the number and sex of living children. Contraceptive use increases sharply from only 2 percent for women with no living children to 86 percent for women with three children and then falls to 77 percent for women with four or more living children. The same pattern is evident for female sterilization, although the use of male sterilization increases steadily with the number of living children. Prevalence rates by sex composition of living children indicate the existence of some son preference. At each parity above one, current use of family planning is lower among women with no sons than among women with one or more sons. Son preference does not completely outweigh parity in determining contraceptive use, however, as is evident from the fact that a substantial proportion of higher-parity women with no sons use family planning, including permanent methods.

Number of Living Children at First Use of Contraception

In order to examine the timing of initial family planning use, NFHS-2 included a question on how many living children women had when they first used a method. Table 5.5 shows the distribution of ever-married women by the number of living children at the time of first contraceptive use, according to current age and residence. Only 1 percent of ever-married women (2 percent of women who have ever used contraception) began using contraception when they did not have any children and another 4 percent (6 percent of ever users) began using when they had one living child. Although early use of contraception is rare, 43 percent of ever-married women (almost three-quarters of ever users) began when they had three or fewer living children. This pattern of first acceptance at low parities means that family planning has a larger demographic impact than it would if contraceptive use were initiated later. A similar age pattern is observed among women in urban and rural areas, but urban women are more likely to begin using when they have fewer than two living children. Given the near-exclusive emphasis on

Table 5.5 Number of living children at first use								
Percent distribution of ever-married women by number of living children at the time of first use of contraception, according to current age and residence, Andhra Pradesh, 1998–99								
Current age	Never used	Number of living children at the time of first use					Total percent	Number of women
		0	1	2	3	4+		
URBAN								
15–19	84.8	1.5	6.2	6.1	0.0	1.5	100.0	62
20–24	56.0	3.3	8.6	24.8	6.7	0.5	100.0	196
25–29	23.3	4.2	10.7	33.4	22.4	6.0	100.0	202
30–34	25.7	1.1	6.8	22.2	27.5	16.6	100.0	164
35–39	18.3	1.9	4.9	20.6	29.3	25.0	100.0	154
40–44	24.9	0.9	6.0	13.7	23.3	31.2	100.0	109
45–49	42.2	0.8	2.5	7.3	15.4	31.8	100.0	115
Total	35.5	2.3	7.0	21.1	19.1	15.0	100.0	1,002
RURAL								
15–19	93.0	0.8	1.7	3.7	0.8	0.0	100.0	363
20–24	58.3	0.9	3.9	25.2	9.9	1.8	100.0	577
25–29	31.7	0.2	2.7	29.1	25.1	11.2	100.0	605
30–34	25.6	0.9	3.2	22.9	26.3	20.9	100.0	439
35–39	22.7	0.0	1.7	20.0	27.1	28.5	100.0	424
40–44	28.5	0.0	1.6	13.8	23.9	32.3	100.0	337
45–49	39.4	0.4	1.5	9.7	16.0	33.0	100.0	284
Total	42.3	0.5	2.5	19.6	18.8	16.3	100.0	3,030
TOTAL								
15–19	91.8	0.9	2.3	4.0	0.7	0.2	100.0	425
20–24	57.7	1.5	5.1	25.1	9.1	1.5	100.0	773
25–29	29.6	1.2	4.7	30.2	24.4	9.9	100.0	807
30–34	25.7	1.0	4.2	22.7	26.6	19.8	100.0	603
35–39	21.5	0.5	2.5	20.2	27.7	27.5	100.0	578
40–44	27.6	0.2	2.6	13.8	23.8	32.0	100.0	446
45–49	40.2	0.5	1.8	9.0	15.9	32.7	100.0	399
Total	40.6	0.9	3.6	20.0	18.9	16.0	100.0	4,032

sterilization in the contraceptive mix, women usually begin contraceptive use only after achieving their desired family size. Clearly, spacing methods need to be promoted if further reductions are sought in the parity at which women first accept contraception.

Problems with Current Method

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

Table 5.6 Problems with current method				
Percentage of current users of specific contraceptive methods who have had problems in using the method, Andhra Pradesh, 1998–99				
Problem	Contraceptive method			Total
	Condom	Female sterilization	Male sterilization	
No problem	(88.7)	63.5	81.2	65.7
Weight gain	(0.0)	0.9	0.0	0.8
Weight loss	(0.0)	1.0	1.2	1.0
Too much bleeding	(0.0)	3.4	1.3	3.2
Hypertension	(0.0)	0.4	0.0	0.4
Headache/bodyache/backache	(0.0)	22.9	12.5	21.4
Nausea/vomiting	(0.0)	0.5	0.6	0.4
No menstruation	(0.0)	0.3	0.0	0.3
Weakness/tiredness	(4.0)	13.6	10.1	13.0
Dizziness	(0.0)	1.3	0.7	1.2
Fever	(0.0)	4.7	0.7	4.3
Cramps	(0.0)	0.6	0.0	0.5
Spotting	(0.0)	0.2	0.0	0.2
Inconvenient to use	(3.7)	0.2	0.0	0.2
Abdominal pain	(0.0)	14.7	2.6	13.3
White discharge	(0.0)	12.2	0.0	10.9
Irregular periods	(0.0)	3.0	0.0	2.8
Breast tenderness	(0.0)	0.4	0.0	0.3
Allergy	(3.6)	0.6	0.6	0.6
Reduced sexual satisfaction	(0.0)	0.2	0.0	0.1
Other	(0.0)	1.4	0.7	1.2
Number of users	26	1,946	160	2,202

Note: Total includes 20 users of the pill, 23 users of the IUD, 15 users of the rhythm/safe period method, 4 users of withdrawal, and 8 users of other contraceptive methods, who are not shown separately. Percentages may sum to more than 100.0 because multiple problems could be recorded.
() Based on 25–49 unweighted cases

The analysis of method-specific problems reveals that 64 percent of sterilized women and 81 percent of women whose husbands are sterilized report having no problem with their method. The most common problems experienced by sterilized women are headache, bodyache or backache (23 percent), abdominal pain (15 percent), weakness or tiredness (14 percent), white discharge (12 percent), and fever (5 percent). Among women whose husbands are sterilized and who report problems with this method, the two most common complaints are headache, bodyache or backache and weakness or tiredness. These results point to a continuing need to strengthen post-operative care and counselling for sterilization acceptors. It is not possible to assess the problems experienced by women using spacing methods because the number of women using these methods is too small.

5.3 Timing of Sterilization

Table 5.7 shows how many years before the survey women or their husbands were sterilized and how old the women were when the sterilization took place. Of 2,106 sterilizations reported, 92 percent are female sterilizations. Forty percent of female sterilizations took place less than 6 years before the survey, another 22 percent took place 6–9 years before the survey, and the remaining 38 percent took place 10 or more years before the survey. By contrast, 66 percent of

Table 5.7 Timing of sterilization

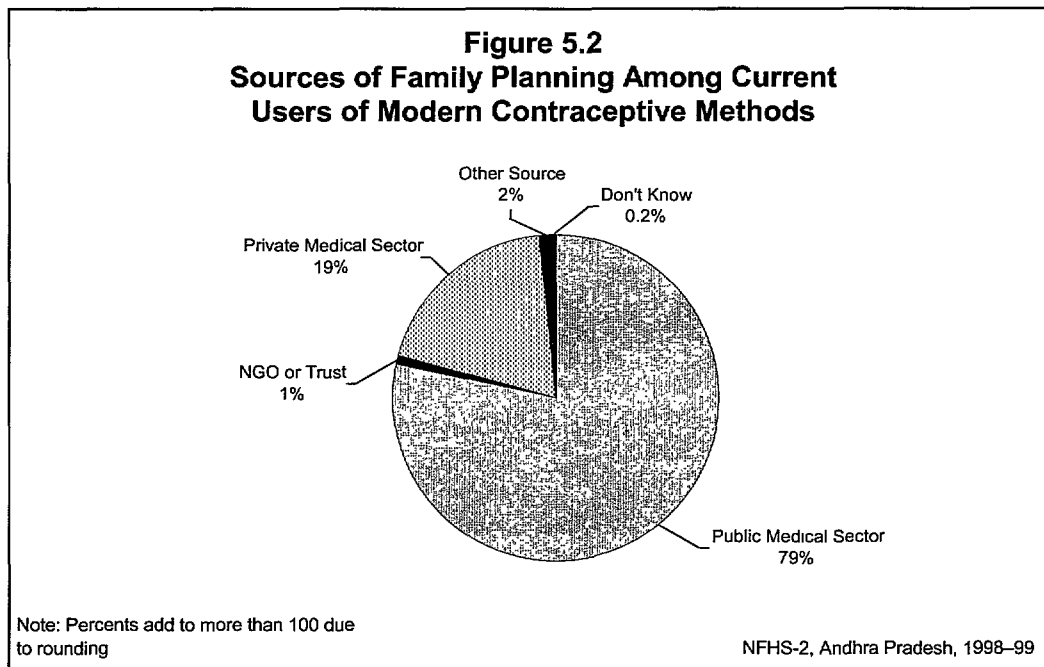
Percent distribution of currently married, sterilized women and wives of sterilized men by age at the time of sterilization, according to the number of years since sterilization, Andhra Pradesh, 1998–99

Years since sterilization	Woman's age at the time of sterilization							Total percent	Number sterilized	Median age ¹
	< 20	20–24	25–29	30–34	35–39	40–44	45–49			
STERILIZED WOMEN										
< 2	14.2	49.0	26.2	6.4	2.8	1.4	0.0	100.0	288	23.4
2–3	14.8	57.2	20.0	6.4	1.0	0.5	0.0	100.0	190	22.9
4–5	15.7	53.9	17.7	8.5	3.5	0.7	0.0	100.0	295	23.1
6–7	19.9	44.6	22.0	12.6	0.9	0.0	U	100.0	212	23.2
8–9	17.6	40.2	30.2	9.2	2.8	0.0	U	100.0	218	24.0
10+	17.9	43.3	29.1	8.5	1.2	U	U	100.0	743	NC
Total	16.9	46.9	25.4	8.5	1.9	0.4	0.0	100.0	1,946	23.5
WIVES OF STERILIZED MEN										
< 10	7.0	30.2	24.7	21.8	16.3	0.0	U	100.0	55	26.4
10+	13.1	37.8	38.8	9.3	1.0	U	U	100.0	105	NC
Total	11.0	35.2	34.0	13.6	6.2	0.0	0.0	100.0	160	25.3
STERILIZED WOMEN AND WIVES OF STERILIZED MEN										
< 2	14.4	47.5	26.6	6.3	3.9	1.3	0.0	100.0	306	23.5
2–3	14.2	56.4	20.2	6.6	2.0	0.5	0.0	100.0	197	22.9
4–5	15.4	53.6	18.0	8.7	3.7	0.7	0.0	100.0	301	23.2
6–7	19.5	43.7	21.5	13.9	1.3	0.0	U	100.0	221	23.3
8–9	16.5	40.2	29.6	10.7	3.0	0.0	U	100.0	233	24.2
10+	17.3	42.6	30.3	8.6	1.2	U	U	100.0	848	NC
Total	16.5	46.0	26.1	8.9	2.2	0.3	0.0	100.0	2,106	23.6
NC: Not calculated due to censoring U: Not available ¹ To avoid censoring, median age is calculated only for sterilizations that took place when the woman was less than 40 years old.										

male sterilizations took place 10 or more years before the survey. The median age of the wife at the time of sterilization was only 23.6 years, with 63 percent of sterilized couples undergoing sterilization before the wife was age 25. Nearly 90 percent of sterilizations took place before the wife was age 30 and less than 1 percent took place when the wife was in her forties.

Male sterilization is not as common as it was 10 or more years ago. Only 4 percent of sterilizations during the 10 years preceding the survey were male sterilizations, compared with 12 percent of sterilizations 10 or more years before the survey.

The median age of women at the time of sterilization has declined by more than one year from age 24 during the period 8–9 years before the survey to age 23 in more recent years. A comparison of NFHS-1 and NFHS-2 data suggests that women's age at sterilization declined by more than two years from 1983–84 (about 8–9 years before NFHS-1) to the mid- to late-1990s.



5.4 Sources of Contraceptive Methods

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

In order to assess the relative importance of various sources of contraceptive methods, NFHS-2 included a question on where current contraceptive users obtained their methods. Table 5.8 and Figure 5.2 show the percent distribution of current modern contraceptive users by the most recent source, according to specific method and residence. The public medical sector, consisting of government/municipal hospitals, government dispensaries, Primary Health Centres, and other governmental health infrastructure, is the source of contraception for over three-fourths (79 percent) of current users of modern methods. The private medical sector, including private hospitals or clinics, private doctors, private mobile clinics, private paramedics, *vaidyas*, *hakims*, homeopaths, traditional healers, and pharmacies or drugstores, is the source for only 19 percent of current users. Two percent of current users obtain their methods from other sources such as shops, friends, and relatives, and less than 1 percent from NGOs. Government/municipal hospitals are the main source (53 percent) for female sterilization, followed by community health centres, rural hospitals, or Primary Health Centres (20 percent) and private hospitals or clinics (19 percent). Similar sources are used for male sterilizations. By contrast, private shops are the main source for condoms (55 percent).

Table 5.8 Source of modern contraceptive methods

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

Source	Contraceptive method			
	Condom	Female sterilization	Male sterilization	All modern methods
URBAN				
Public medical sector	*	68.7	(69.5)	64.9
Government/municipal hospital	*	49.1	(47.0)	46.2
UHC/UHP/UFWC	*	1.0	(2.1)	1.0
CHC/rural hospital/PHC	*	12.6	(12.3)	11.9
Sub-centre	*	0.0	(0.0)	0.0
Government mobile clinic	*	0.0	(2.0)	0.2
Camp	*	1.9	(4.0)	2.0
Other public medical sector	*	4.1	(2.1)	3.6
NGO or trust	*	1.2	(0.0)	1.1
Hospital/clinic	*	1.2	(0.0)	1.1
Private medical sector	*	30.1	(30.5)	29.8
Private hospital/clinic	*	30.1	(30.5)	28.8
Private doctor	*	0.0	(0.0)	0.8
Pharmacy/drugstore	*	0.0	(0.0)	0.2
Other private medical sector	*	0.0	(0.0)	0.0
Other source	*	0.0	(0.0)	3.6
Shop	*	0.0	(0.0)	3.4
Other	*	0.0	(0.0)	0.2
Don't know ¹	*	0.0	(0.0)	0.7
Total percent	100.0	100.0	100.0	100.0
Number of users	17	482	46	573
RURAL				
Public medical sector	*	83.5	89.5	83.4
Government/municipal hospital	*	54.5	49.7	53.6
UHC/UHP/UFWC	*	1.6	3.5	1.7
CHC/rural hospital/PHC	*	22.2	21.4	22.1
Sub-centre	*	0.0	0.0	0.2
Government mobile clinic	*	0.8	3.4	0.9
Camp	*	3.9	8.8	4.2
Other public medical sector	*	0.4	2.6	0.6
NGO or trust	*	0.6	0.0	0.6
Hospital/clinic	*	0.6	0.0	0.6
Private medical sector	*	15.9	8.8	15.4
Private hospital/clinic	*	15.1	7.9	14.5
Private doctor	*	0.7	0.9	0.8
Pharmacy/drugstore	*	0.0	0.0	0.1
Other private medical sector	*	0.1	0.0	0.1
Other source	*	0.0	1.7	0.7
Shop	*	0.0	0.0	0.6
Other	*	0.0	1.7	0.1
Don't know ¹	*	0.0	0.0	0.0
Total percent	100.0	100.0	100.0	100.0
Number of users	9	1,464	114	1,602

Table 5.8 Source of modern contraceptive methods (contd.)				
Percent distribution of current users of modern contraceptive methods by most recent source, according to specific method and residence, Andhra Pradesh, 1998–99				
Source	Contraceptive method			All modern methods
	Condom	Female sterilization	Male sterilization	
TOTAL				
Public medical sector	(15.3)	79.8	83.8	78.5
Government/municipal hospital	(3.7)	53.2	49.0	51.7
UHC/UHP/UFWC	(11.6)	1.4	3.1	1.5
CHC/rural hospital/PHC	(0.0)	19.9	18.8	19.4
Sub-centre	(0.0)	0.0	0.0	0.1
Government mobile clinic	(0.0)	0.6	3.0	0.7
Camp	(0.0)	3.4	7.4	3.6
Other public medical sector	(0.0)	1.3	2.5	1.4
NGO or trust	(0.0)	0.8	0.0	0.7
Hospital/clinic	(0.0)	0.8	0.0	0.7
Private medical sector	(14.8)	19.4	15.0	19.2
Private hospital/clinic	(0.0)	18.8	14.4	18.2
Private doctor	(7.4)	0.6	0.6	0.8
Pharmacy/drugstore	(7.4)	0.0	0.0	0.1
Other private medical sector	(0.0)	0.1	0.0	0.0
Other source	(55.4)	0.0	1.2	1.5
Shop	(55.4)	0.0	0.0	1.3
Other	(0.0)	0.0	1.2	0.1
Don't know ¹	(14.5)	0.0	0.0	0.2
Total percent	100.0	100.0	100.0	100.0
Number of users	26	1,946	160	2,175
Note: Total current users of all modern methods include 20 users of the pill and 23 users of the IUD, who are not shown separately. UHC: Urban health centre; UHP: Urban health post; UFWC: Urban family welfare centre; CHC: Community health centre; PHC: Primary Health Centre; NGO: Nongovernmental organization () Based on 25–49 unweighted cases *Percentage not shown; based on fewer than 25 unweighted cases ¹ For the condom, this category includes women who say their husband or a friend or other relative obtained the method, but they don't know the original source of supply.				

Eighty-three percent of rural users obtain their contraceptives from the public medical sector, compared with 65 percent of urban users. The role of the private medical sector in providing sterilization services in urban areas is especially notable. In urban areas, 30 percent of female sterilizations and 31 percent of male sterilizations are performed by the private medical sector, compared with 16 percent of female sterilizations and 9 percent of male sterilizations in rural areas.

5.5 Reasons for Discontinuation/Never Use of Contraception

All currently married, nonpregnant women who were not using a contraceptive method at the time of the survey fall into two categories with respect to their contraceptive experience: those who used contraception only in the past and those who never used contraception. NFHS-2 asked

women who had discontinued contraceptive use their main reason for discontinuing. The survey asked women who had never used contraception the main reason they had never used a method. Table 5.9 shows that only 31 nonpregnant women who ever used family planning methods have discontinued use. Because 94 percent of ever users are sterilized, only a small percentage of couples even have the option of discontinuing use. Among the small group who discontinued contraception, the most commonly mentioned reason for discontinuing is that the couple wanted to have a child (28 percent). Almost the same number of users mentioned that the method created a health problem or a menstrual problem.

Among women who never used contraception, the most commonly mentioned reason for never using a method is the desire for more children (62 percent). Another 15 percent of women say they have never used contraception because they are menopausal, have had a hysterectomy, or are infecund or subfecund. Only 5 percent mention a health-related problem (health concerns or worry about side effects), 3 percent mention any type of opposition to family planning, and 1 percent mention a lack of knowledge as reasons for never using contraception. Four percent say they have never used contraception because they are afraid of sterilization (thereby implicitly equating family planning with sterilization). There are no substantial urban-rural differences in reasons for never using contraception.

5.6 Future Intentions Regarding Contraceptive Use

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

Sixty-three percent of currently married women who are not currently using any contraceptive method express an intention to use a method in the future. Among women who intend to use contraception, only 24 percent intend to use a method within the next 12 months. The proportion of women who intend to use contraception any time in the future increases from 62 percent of women with no living children to over 70 percent of women with one or two living children, and declines to 58 percent of women with three children. By contrast, 70 percent of women with four or more living children say they have no intention of using contraception at any time in the future.

The expressed timing of future use also varies by number of living children. The proportion of women who say that they intend to use contraception after 12 or more months falls steadily with the number of living children from 60 percent among women with no living children to 10 percent among those with four or more children. The proportion expressing an intention to use contraception within the next 12 months increases from 2 percent among those with no children to 29 percent among those with two living children and then falls to 18 percent among those with four or more children. The overall proportion of women who intend to use contraception at some time in the future does not differ greatly by residence, but the timing of

Table 5.9 Reasons for discontinuation/never use

Percent distribution of nonpregnant, currently married women who stopped using contraception by main reason for stopping use and percent distribution of nonpregnant, currently married women who never used contraception by main reason for never using, according to residence, Andhra Pradesh, 1998–99

Reason	Urban	Rural	Total
REASON FOR STOPPING USE			
Method failed/got pregnant	*	*	(3.1)
Lack of sexual satisfaction	*	*	(3.0)
Created menstrual problem	*	*	(3.2)
Created health problem	*	*	(25.0)
Gained weight	*	*	(3.2)
Did not like the method	*	*	(6.4)
Wanted to have a child	*	*	(27.9)
Husband away	*	*	(9.2)
Other	*	*	(19.0)
Total percent	100.0	100.0	100.0
Number of women	16	15	31
REASON FOR NEVER USING			
Husband away	1.0	0.7	0.8
Fertility-related reasons	77.4	80.2	79.7
Not having sex	0.0	0.6	0.5
Infrequent sex	0.7	0.2	0.3
Menopausal/had hysterectomy	10.2	11.4	11.2
Subfecund/infecund	4.9	4.0	4.2
Postpartum/breastfeeding	2.5	1.5	1.7
Wants more children	59.1	62.5	61.8
Opposition to use	4.9	2.5	3.0
Opposed to family planning	0.3	0.9	0.8
Husband opposed	0.7	0.6	0.6
Other people opposed	1.1	0.9	1.0
Against religion	2.8	0.0	0.6
Lack of knowledge	0.3	1.1	0.9
Knows no method	0.0	0.6	0.5
Knows no source	0.3	0.5	0.5
Method-related reasons	12.0	11.3	11.5
Health concerns	2.8	2.9	2.9
Worry about side effects	2.5	1.3	1.6
Hard to get method	0.7	0.3	0.4
Inconvenient to use	0.7	1.0	1.0
Afraid of sterilization	2.5	4.2	3.8
Doesn't like existing methods	2.8	1.6	1.9
Other	1.4	0.7	0.9
Don't know/missing	2.9	3.5	3.3
Total percent	100.0	100.0	100.0
Number of women	266	1,011	1,276
() Based on 25–49 unweighted cases *Percentage not shown; based on fewer than 25 unweighted cases			

Table 5.10 Future use of contraception

Percent distribution of currently married women who are not currently using any contraceptive method by intention to use in the future, according to number of living children and residence, Andhra Pradesh, 1998–99

Intention to use in the future	Number of living children ¹					Total
	0	1	2	3	4+	
URBAN						
Intends to use in next 12 months	4.5	20.4	40.9	(37.2)	(15.5)	21.8
Intends to use later	55.7	51.7	29.6	(22.1)	(6.6)	39.9
Intends to use, unsure when	0.0	2.5	3.6	(0.0)	(0.0)	1.6
Unsure as to intention	9.0	5.9	1.2	(3.7)	(2.2)	5.0
Does not intend to use	30.8	19.5	24.7	(37.0)	(75.6)	31.7
Missing	0.0	0.0	0.0	(0.0)	(0.0)	0.0
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	83	111	76	25	42	337
RURAL						
Intends to use in next 12 months	1.5	10.6	24.6	22.2	19.1	13.2
Intends to use later	61.4	57.9	44.2	33.3	11.1	48.2
Intends to use, unsure when	0.0	2.9	0.5	1.9	0.7	1.4
Unsure as to intention	4.8	4.7	2.3	2.8	0.7	3.6
Does not intend to use	32.2	23.6	28.4	38.9	68.3	33.4
Missing	0.0	0.2	0.0	0.9	0.0	0.2
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	274	413	220	110	139	1,156
TOTAL						
Intends to use in next 12 months	2.2	12.7	28.8	25.0	18.3	15.2
Intends to use later	60.1	56.6	40.4	31.2	10.0	46.3
Intends to use, unsure when	0.0	2.9	1.3	1.5	0.6	1.5
Unsure as to intention	5.8	5.0	2.0	3.0	1.1	3.9
Does not intend to use	31.9	22.7	27.5	38.5	70.0	33.0
Missing	0.0	0.2	0.0	0.8	0.0	0.1
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	357	523	296	135	180	1,493
() Based on 25–49 unweighted cases ¹ Includes current pregnancy, if any						

intended future use is quite different for women in rural and urban areas. Thirteen percent of women in rural areas intend to use contraception in the next 12 months, compared with 22 percent in urban areas. By contrast, 48 percent of women in rural areas intend to use contraception at some time after 12 months, compared with 40 percent in urban areas. The proportion intending to use contraception after 12 months is higher for women in rural than in urban areas at each parity.

The survey asked currently married women who were not using any method of contraception and who said that they did not intend to use a method at any time in the future why they did not intend to use contraception. This type of information is crucial for understanding the

Table 5.11 Reasons for not intending to use contraception

Percent distribution of currently married women who are not using any contraceptive method and who do not intend to use any method in the future by main reason for not intending to use contraception, according to age, Andhra Pradesh, 1998–99

Reason	Current age		Total
	15–29	30–49	
Fertility-related reasons	74.0	75.0	74.6
Not having sex	0.0	2.0	1.2
Infrequent sex	0.5	0.6	0.6
Menopausal/had hysterectomy	3.8	51.7	33.7
Subfecund/infecund	2.2	12.1	8.4
Wants as many children as possible	67.5	8.5	30.7
Opposition to use	4.4	3.9	4.1
Opposed to family planning	1.1	0.7	0.8
Husband opposed	1.6	0.7	1.0
Other people opposed	0.6	1.0	0.9
Against religion	1.1	1.5	1.4
Lack of knowledge	3.9	0.7	1.9
Knows no method	3.9	0.7	1.9
Method-related reasons	12.1	17.1	15.3
Health concerns	2.8	2.0	2.3
Worry about side effects	3.3	2.9	3.0
Hard to get method	0.0	0.3	0.2
Inconvenient	0.0	0.6	0.4
Afraid of sterilization	2.2	7.9	5.7
Doesn't like existing methods	3.8	3.5	3.6
Other	0.0	2.3	1.4
Don't know/missing	5.6	1.0	2.7
Total percent	100.0	100.0	100.0
Number of women	185	307	493

obstacles to further increases in contraceptive use and for designing effective information programmes. Table 5.11 shows that 75 percent of women mention a fertility-related reason for not intending to use contraception in the future, 15 percent mention a method-related reason, and 6 percent mention a reason related to opposition to use or lack of knowledge. The major single reason given for not intending to use contraception is that the woman is menopausal or she has undergone a hysterectomy (34 percent). Other important reasons are that the woman wants as many children as possible (31 percent) or that the couple is subfecund or infecund (8 percent). Sixty-eight percent of young women (age 15–29) mention the desire to have as many children as possible as the main reason for not intending to use contraception, compared with 9 percent of women age 30–49. By contrast, 64 percent of older women mention reasons related to menopause, hysterectomy, infecundity or subfecundity, compared with only 6 percent of younger women.

Since younger women (age 15–29) account for 90 percent of total current fertility in Andhra Pradesh, the reasons they give for not intending to use contraception are extremely important from a policy perspective. Of the 20 percent of younger women who give reasons not related to fertility, 30 percent mention health concerns or concerns about side effects, and another

19 percent mention lack of knowledge. This suggests that improved quality of services and information programmes could enhance the family welfare programme in Andhra Pradesh. Nevertheless, among younger women who are not using contraception, the desire for high fertility remains the major reason for not intending to use contraception in the future.

NFHS-2 asked currently married women who were not using contraception but intended to use a method in the future which method of family planning they would prefer to use. Table 5.12 shows the results according to the timing of intended use. A large majority of women who intend to use contraception (87 percent) say they intend to use female sterilization. The next most preferred method is the pill, which is the preference of 4 percent of women. Less than 2 percent of women prefer that their husbands get sterilized, and 1 percent each prefer to use the condom or IUD.

There are important differences in the choice of preferred methods by timing of intended use. Women who intend to use within the next 12 months show a much greater preference for spacing methods, whereas women who plan to use contraception later intend to rely almost exclusively on female sterilization. Among the spacing methods mentioned by women intending to use contraception within the next 12 months, the pill is mentioned most often (16 percent), followed by the IUD (4 percent), and the condom (3 percent). Very few women mention male sterilization as the preferred method, but a larger proportion mention this method among women planning to use contraception within the next 12 months than among women planning to use contraception later. Results are similar for urban and rural areas with some exceptions. Among women who intend to use a method within the next 12 months, a higher proportion of rural women (17 percent) than urban women (13 percent) prefer the pill, whereas a higher proportion of urban women (8 percent) than rural women (1 percent) prefer the condom.

Overall, the mix of contraceptive methods that intended future users say they would prefer to use is not very different from the methods currently being used, with a heavy reliance on female sterilization. Yet, the fact that almost one-quarter of the women intending to use contraception within the next year plan to use a spacing method suggests that there is a significant short-term potential demand for spacing methods that will need to be met.

5.7 Exposure to Family Planning Messages

For many years, the family planning programme has been using electronic and other mass media to promote family planning. In order to explore the reach of family planning messages through various mass media, NFHS-2 asked women whether they had heard or seen any message about family planning in the past few months. Table 5.13 shows the proportions of currently married women who report having heard or seen a family planning message in the past few months, according to various background characteristics. Results indicate that messages disseminated through the mass media have reached 76 percent of ever-married women in Andhra Pradesh. The most common source of exposure to family planning messages is television. Fifty-eight percent of ever-married women report having seen a family planning message on television, followed by the radio (46 percent), wall paintings or hoardings (37 percent), cinema/film shows (30 percent), and newspapers or magazines (18 percent). Only 7 percent were exposed to a message through a drama, folk dance, or street play.

Table 5.12 Preferred method			
Percent distribution of currently married women who are not currently using a contraceptive method but who intend to use a method in the future by preferred method, timing of intended use, and residence, Andhra Pradesh, 1998–99			
Preferred method	Timing of intended use		All women ¹
	Next 12 months	Later	
URBAN			
Pill	12.9	0.0	4.4
IUD	5.1	0.7	2.2
Condom	7.7	0.0	2.7
Female sterilization	62.9	89.6	80.2
Male sterilization	2.5	1.4	2.2
Other	0.0	0.7	0.4
Unsure	8.9	7.7	7.9
Total percent	100.0	100.0	100.0
Number	73	134	213
RURAL			
Pill	17.2	0.0	3.6
IUD	4.0	0.0	0.9
Condom	1.3	0.0	0.3
Female sterilization	67.0	95.1	89.0
Male sterilization	3.9	0.9	1.7
Other	0.0	0.4	0.3
Unsure	6.6	3.6	4.3
Total percent	100.0	100.0	100.0
Number	153	557	726
TOTAL			
Pill	15.8	0.0	3.8
IUD	4.4	0.1	1.2
Condom	3.4	0.0	0.8
Female sterilization	65.6	94.0	87.0
Male sterilization	3.4	1.0	1.8
Other	0.0	0.4	0.3
Unsure	7.3	4.4	5.1
Total percent	100.0	100.0	100.0
Number	226	691	939
¹ Includes small number of women who are not sure about the timing of intended use, who are not shown separately			

Ever-married women below age 35 years report greater exposure to family planning messages in general and greater exposure through every form of mass media than women age 35 years and above. Overall exposure to mass media messages on family planning is much higher in urban areas than in rural areas. Ninety percent of urban ever-married women report seeing or hearing a family planning message from at least one media source, compared with only 71 percent of women in rural areas. Urban women are much more likely than rural women to have

Table 5.13 Exposure to family planning messages

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

Background characteristic	Source of family planning message						Any source	Number of women
	Radio	Television	Cinema/ film show	News-paper/ magazine	Wall painting/ hoarding	Drama/ folk dance/ street play		
Age								
15–24	47.0	58.8	38.7	21.5	39.2	7.4	77.7	1,198
25–34	48.0	58.9	30.7	18.3	37.7	6.6	77.4	1,410
35–49	43.4	56.4	22.3	14.9	33.2	6.3	73.0	1,424
Residence								
Urban	47.7	82.5	42.2	34.1	46.8	3.7	90.0	1,002
Rural	45.5	49.9	26.1	12.7	33.2	7.8	71.3	3,030
Education								
Illiterate	38.5	43.5	21.0	1.9	25.2	6.3	65.9	2,574
Literate, < middle school complete	56.4	77.8	39.1	33.0	49.4	7.3	91.1	829
Middle school complete	64.2	88.3	52.3	50.2	60.0	7.2	95.5	194
High school complete and above	63.4	92.5	57.2	70.8	69.0	7.9	97.8	435
Religion								
Hindu	46.7	57.5	30.7	18.0	36.7	7.1	75.7	3,522
Muslim	34.9	72.0	27.7	23.8	43.4	1.9	84.2	268
Christian	48.0	48.9	24.7	12.3	27.1	6.9	69.7	238
Caste/tribe								
Scheduled caste	42.7	46.6	24.6	10.2	27.2	6.3	68.8	798
Scheduled tribe	36.9	33.6	18.8	4.2	27.8	8.0	62.1	194
Other backward class	44.5	53.4	30.5	15.1	38.5	7.8	73.8	1,783
Other	51.8	75.5	34.7	29.5	41.3	5.4	85.7	1,248
Standard of living index								
Low	39.0	39.4	22.6	4.8	26.4	7.2	64.2	1,485
Medium	49.1	60.6	30.9	18.5	38.4	6.5	78.3	1,862
High	52.5	91.8	43.8	46.2	54.2	6.5	95.2	667
Use of contraception								
Ever used	47.7	61.1	30.3	19.2	38.5	6.8	78.2	2,394
Never used	43.7	53.4	29.9	16.4	33.7	6.7	72.7	1,638
Total	46.1	58.0	30.1	18.1	36.6	6.8	75.9	4,032

Note: Total includes 1 woman with no religion and 3, 9, and 18 women with missing information on religion, caste/tribe, and the standard of living index, respectively, who are not shown separately.

been exposed to a message through each form of mass media except dramas, folk dances, and street plays.

Exposure to family planning messages varies greatly by education. More than 90 percent of women who are literate have heard or seen a family planning message from at least one media source in the past few months, compared with 66 percent of women who are illiterate. Exposure to family planning messages through most specific media sources is even more closely linked to education than is exposure in general. For example, 93 percent of women who have completed at

least high school have heard or seen a family planning message on television, compared with only 44 percent of women who are illiterate.

Exposure to family planning messages also differs by religion. Eighty-four percent of Muslim women say they have heard or seen a family planning message through the media, followed by 76 percent of Hindu women and 70 percent of Christian women. Muslim women also report more exposure through television, newspapers or magazines, and wall paintings or hoardings than do women of other religions.

Eighty-six percent of ever-married women not belonging to scheduled castes/tribes or other backward classes have seen or heard a family planning message, followed by 74 percent of women from other backward classes, 69 percent of women from scheduled castes, and 62 percent of women from scheduled tribes. This pattern of differential exposure by caste/tribe is also observed for most specific media sources. Exposure to family planning messages rises steadily with an increasing standard of living, both for media in general and for each specific media source except dramas, folk dances, and street plays. Finally, as expected, women who have ever used contraception are somewhat more likely to report hearing or seeing a media message on family planning than are women who have never used contraception, although the differences are small. All of these differentials are likely to reflect some combination of the greater access to broadcast signals in urban areas, the greater ability of higher-income households to own radios and televisions, and variations in attentiveness to media messages associated with differing levels of education, leisure, and interest.

5.8 Discussion of Family Planning

Irrespective of whether they had ever used contraception, all currently married women were asked whether they had discussed family planning with their husband, friends, neighbours, or other relatives in the last few months. Information on whether women talk about family planning at all, and with whom they discuss it, sheds light on their level of interest in family planning and their familial and other sources of family planning information. Table 5.14 shows that only 23 percent of women in Andhra Pradesh discussed family planning with their husband, friends, neighbours, or relatives in the past few months. Only 10 percent of currently married women discussed family planning with their husbands, and the same proportion discussed family planning with friends or neighbours. Discussions of family planning with relatives other than the husband are even less common.

Women age 25–34 years are most likely to have discussed family planning with someone (27 percent), followed by women age 15–24 (22 percent) and women age 35–49 (19 percent). The youngest women (age 15–24), however, most often report discussing family planning with their husbands, mothers, and mothers-in-law. In general, the proportion of women who have discussed family planning varies predictably by most other background characteristics. Urban women are more likely than rural women to have discussed family planning. The proportion of women reporting such discussions rises with women's education, husband's education, and the standard of living index. Hindu women are more likely to have discussed family planning than Muslim or Christian women. Discussions of family planning are slightly lower for scheduled-caste and scheduled-tribe women than for other groups. Women who have ever used contraception are much more likely to have discussed family planning (27 percent) than women who have never used contraception (17 percent).

Table 5.14 Discussion of family planning

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

Background characteristic	Person with whom discussed family planning								Any of these persons	Number of women
	Husband	Mother	Sister	Daughter	Mother-in-law	Sister-in-law	Friend/ neighbour	Other relative		
Age										
15–24	13.6	5.8	2.1	0.0	3.0	1.2	8.1	0.4	21.9	1,159
25–34	11.8	3.4	4.0	0.6	2.0	2.4	12.1	0.2	26.5	1,321
35–49	4.7	0.3	2.2	6.2	0.5	1.8	8.8	0.1	19.3	1,215
Residence										
Urban	11.0	2.7	3.5	1.9	1.4	2.1	11.3	0.2	25.0	920
Rural	9.7	3.3	2.6	2.4	1.9	1.7	9.3	0.2	21.9	2,775
Education										
Illiterate	8.0	2.3	1.9	2.5	1.6	1.4	7.3	0.2	18.3	2,311
Literate, < middle school complete	11.6	4.3	3.3	2.8	1.8	2.1	11.9	0.1	27.2	774
Middle school complete	13.9	5.4	4.8	1.6	3.3	2.0	16.3	0.0	32.7	189
High school complete and above	16.6	5.1	5.9	0.5	2.1	3.5	16.7	0.7	34.5	420
Religion										
Hindu	10.1	3.3	2.9	2.4	1.9	1.9	10.2	0.2	23.3	3,233
Muslim	11.0	3.6	2.8	2.0	1.3	1.2	5.9	0.0	19.7	247
Christian	7.2	0.9	1.4	1.4	1.4	0.9	6.7	0.0	16.6	210
Caste/tribe										
Scheduled caste	9.1	2.5	2.0	2.2	2.2	0.8	7.9	0.0	20.1	726
Scheduled tribe	7.5	1.2	2.3	0.6	0.0	2.9	7.0	0.0	19.1	177
Other backward class	11.0	3.9	2.3	2.5	2.4	2.1	9.4	0.2	22.5	1,628
Other	9.6	2.8	4.1	2.3	1.0	2.0	12.0	0.3	25.1	1,156
Standard of living index										
Low	9.2	3.3	1.8	1.5	2.3	1.5	6.3	0.0	17.6	1,307
Medium	9.8	3.5	3.2	2.5	1.7	2.0	10.1	0.3	23.4	1,732
High	12.4	2.0	4.0	3.2	1.1	2.3	15.8	0.4	31.4	639
Use of contraception										
Ever used	10.6	2.9	3.4	3.1	1.9	2.5	12.3	0.1	26.6	2,250
Never used	9.1	3.6	2.0	1.0	1.7	0.9	5.8	0.4	16.6	1,445
Husband's education										
Illiterate	7.8	2.4	1.8	2.5	1.4	1.4	6.4	0.2	17.1	1,568
Literate, < middle school complete	9.6	3.6	3.4	2.2	2.3	1.8	10.6	0.1	23.4	954
Middle school complete	9.8	3.2	3.2	2.8	3.2	1.5	10.2	0.0	24.0	254
High school complete and above	14.4	4.0	3.9	1.8	1.6	2.8	14.4	0.4	31.1	914
Total	10.0	3.2	2.8	2.3	1.8	1.8	9.8	0.2	22.7	3,695

Note: Total includes 1 woman with no religion and 3, 8, 16, and 4 women with missing information on religion, caste/tribe, the standard of living index, and husband's education, respectively, who are not shown separately.

5.9 Need for Family Planning

Currently married women who are not using any method of contraception but who do not want any more children or want to wait two or more years before having another child are defined as having an unmet need for family planning. Current contraceptive users are said to have a met need for family planning. The total demand for family planning is the sum of the met need and the unmet need. Table 5.15 shows the unmet need, met need, and total demand for family planning, according to whether the need is for spacing or limiting births. The footnotes in the table provide detailed definitions of these concepts. According to these definitions, only 8 percent of currently married women in Andhra Pradesh have an unmet need for family planning. The unmet need is greater for spacing births (5 percent) than for limiting births (3 percent). If all of the women who say they want to space or limit their births were to use family planning, the contraceptive prevalence rate would increase from 60 percent to 67 percent of currently married women. This means that current programmes are meeting 89 percent of the family planning need (as shown in the last column of the Table 5.15). These results suggest that there has been a slight decline in unmet need during the period since NFHS-1 when unmet need in Andhra Pradesh was estimated to be 10 percent. The proportion of demand satisfied increased during this period from 82 percent to 89 percent.

Unmet need is highest among women below age 20; the unmet need in this age group is almost entirely for spacing rather than for limiting. Unmet need is also relatively high for women age 20–24 (15 percent), with 78 percent of the need being for spacing. Among women age 25–29, only 7 percent have an unmet need, and more than half of this need is for limiting. Only 26 percent of the total demand for family planning is being met for married women age 15–19. This proportion rises sharply to 74 percent for women age 20–24, 92 percent for women age 25–29, and 95 percent or more for women age 30–49. The met and unmet need for contraception among women age 30 years and above is almost exclusively for limiting.

Neither the unmet need for family planning nor the percentage of total demand shows much variation by residence. The unmet need for family planning is higher (12–13 percent) among women who have completed middle school or higher education than among illiterate and less educated women (7 percent). The majority of unmet need in all educational groups is for spacing. The percentage of demand satisfied is lower for women who have at least completed middle school (82 percent) than for other women (90 percent).

Hindu women have less unmet need for family planning (7 percent) than either Muslim women (10 percent) or Christian women (11 percent). The percentage of total demand satisfied is also greater for Hindu women (89 percent) than for Muslim or Christian women (83 percent). Unmet need is higher for scheduled-tribe women (13 percent) than for women in other groups (7–9 percent). Similarly, the percent of demand satisfied is lower for scheduled-tribe women (79 percent) than for women in other groups (86–90 percent). Unmet need and the percentage of demand satisfied vary little by the standard of living index.

Table 5.15 Need for family planning services

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

Background characteristic	Unmet need for FP ¹			Met need (currently using) ²			Total demand for FP			Percentage of demand satisfied
	For spacing	For limiting	Total	For spacing	For limiting	Total	For spacing	For limiting	Total	
Age										
15–19	20.1	0.7	20.8	1.2	6.2	7.4	21.2	6.9	28.2	26.2
20–24	11.4	3.2	14.6	1.8	39.0	40.9	13.3	42.2	55.5	73.6
25–29	2.4	4.1	6.5	0.9	70.0	70.9	3.3	74.1	77.4	91.6
30–34	0.7	3.2	3.9	0.2	74.5	74.7	0.9	77.7	78.6	95.1
35–39	0.2	2.3	2.5	0.2	81.8	81.9	0.4	84.0	84.4	97.1
40–44	0.0	1.0	1.0	0.0	74.9	74.9	0.0	75.9	75.9	98.7
45–49	0.3	0.6	0.9	0.0	63.1	63.1	0.3	63.8	64.1	98.5
Residence										
Urban	5.0	2.9	8.0	1.8	61.5	63.4	6.9	64.5	71.4	88.8
Rural	5.3	2.4	7.7	0.4	58.0	58.3	5.6	60.4	66.0	88.4
Education										
Illiterate	4.1	2.5	6.7	0.1	58.7	58.8	4.2	61.2	65.4	89.8
Literate, < middle school complete	5.3	2.1	7.4	0.5	63.9	64.4	5.8	66.0	71.8	89.7
Middle school complete	9.6	3.1	12.7	2.1	55.2	57.4	11.7	58.4	70.1	81.8
High school complete and above	9.1	2.9	12.0	4.1	52.3	56.3	13.2	55.2	68.4	82.4
Religion										
Hindu	4.9	2.5	7.4	0.7	60.4	61.1	5.6	62.9	68.5	89.2
Muslim	6.8	2.7	9.5	1.9	44.8	46.7	8.7	47.5	56.2	83.1
Christian	7.7	3.3	10.9	0.4	51.6	52.0	8.1	54.8	62.9	82.7
Caste/tribe										
Scheduled caste	5.6	3.0	8.6	0.1	52.0	52.2	5.7	55.0	60.7	85.9
Scheduled tribe	5.8	7.5	13.3	0.6	47.9	48.5	6.4	55.4	61.8	78.5
Other backward class	5.1	1.7	6.8	0.8	60.5	61.3	5.9	62.2	68.1	90.0
Other	5.0	2.6	7.7	1.1	62.5	63.6	6.1	65.1	71.2	89.3
Standard of living index										
Low	5.5	2.8	8.3	0.2	52.6	52.9	5.7	55.4	61.2	86.4
Medium	4.9	2.3	7.2	0.6	60.6	61.2	5.5	62.9	68.4	89.5
High	5.3	2.7	8.0	2.3	66.8	69.0	7.6	69.5	77.1	89.6
Number of living children										
0	9.3	0.0	9.3	0.9	0.9	1.8	10.2	0.9	11.1	16.0
1	17.7	1.0	18.7	3.3	12.9	16.3	21.0	13.9	34.9	46.5
2	3.4	3.7	7.1	0.4	74.7	75.1	3.7	78.4	82.2	91.4
3	0.9	2.6	3.6	0.0	86.1	86.1	0.9	88.7	89.6	96.0
4	0.0	2.6	2.6	0.0	84.5	84.5	0.0	87.1	87.1	97.0
5	0.5	2.8	3.3	0.0	75.8	75.8	0.5	78.6	79.1	95.8
6+	0.7	6.9	7.6	0.0	55.8	55.8	0.7	62.7	63.5	88.0
Total	5.2	2.5	7.7	0.7	58.9	59.6	5.9	61.4	67.3	88.5

Note: Total includes 1 woman with no religion and 3, 8, and 16 women with missing information on religion, caste/tribe, and the standard of living index, respectively, who are not shown separately.

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

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

Unmet need is much higher for women with one living child (19 percent) than for women with either no children (9 percent) or two or more children (less than 8 percent). Among women with no children or one child, unmet need is almost exclusively for spacing, whereas for women with two children 52 percent of unmet need is for limiting, and for women with three or more children unmet need is almost exclusively for limiting. For women with no living children, only 16 percent of the total demand for family planning is satisfied; for women with one child, less than half (47 percent) of the demand is satisfied. The percentage of demand satisfied rises sharply to 91 percent for women with two children and 96–97 percent for women with 3–5 children. These results show that the almost exclusive emphasis of the family planning program on sterilization fails to meet the needs of young women who are still in the process of family formation. Many of these women have an unmet need for spacing, especially before their first birth and between their first and second births.

CHAPTER 6

MORTALITY, MORBIDITY, AND IMMUNIZATION

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

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

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

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

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

6.1 Crude Death Rates and Age-Specific Death Rates

Table 6.1 shows crude death rates (CDR) and age-specific death rates by sex for the usual resident (*de jure*) population of Andhra Pradesh from NFHS-2 and the Sample Registration System (SRS). The table also presents crude death rates and age-specific death rates from NFHS-1 for the total population (both sexes combined). The SRS death rates are based on deaths to the usual resident population in 1997. The NFHS-1 and NFHS-2 death rates are based on the average annual number of deaths occurring to usual residents of the household during the two-year period preceding the survey (approximately 1990–91 for NFHS-1 and 1997–98 for NFHS-2). The denominators for the NFHS-2 death rates are obtained by projecting the number of usual residents at the time of the survey backwards to the mid-point of the time period in question on the basis of the intercensal population growth rate in the state. The intercensal growth rate is assumed to be the same for all age and sex groups.

Questions on the number of deaths occurring to usual residents in each household during a particular time period have been included in demographic surveys in many countries and have generally resulted in a substantial underreporting of deaths. The Sample Registration System (SRS), maintained by the Office of the Registrar General of India, provides the most useful comparison. The most recent report on mortality estimates by age for Andhra Pradesh is for 1997 (Office of the Registrar General, 1999).

Table 6.1 shows an estimated average annual CDR for Andhra Pradesh of 10.7 deaths per 1,000 population based on NFHS-2 data (covering roughly 1997–98) compared with 8.3 from the 1997 SRS. Thus, contrary to expectations, the CDR estimated from NFHS-2 is noticeably higher than the corresponding SRS estimate. NFHS-2 age-specific death rates are also higher than the SRS rates for most of the broad age groups. This suggests that reporting of deaths in NFHS-2 may be better than that in the SRS at most ages.

The NFHS-2 CDR estimate of 10.7 is higher than the corresponding NFHS-1 estimate of 8.7 (covering roughly 1990–91). Age-specific death rates for each of the broad age groups 15–19 and above are also considerably higher in NFHS-2 than in NFHS-1, but death rates for children less than 15 years of age are lower in NFHS-2 than in NFHS-1. This comparison suggests an increase in adult death rates and a decrease in death rates for children in Andhra Pradesh since 1990–91 if the completeness of reporting of deaths is the same in the two surveys.

In most countries, male death rates are higher than female death rates at nearly all ages. South Asia generally has been an exception in this respect, with higher death rates for females over much of the age span (Tabutin and Willems, 1995; Preston, 1989; Ghosh, 1987). In Andhra Pradesh, the male CDR is higher than the female CDR according to the NFHS-2 and SRS surveys, but the age-specific death rates in NFHS-2 are slightly higher for females than for males during early childhood (age 0–4 years) and the reproductive years (age 15–49). The SRS, however, reports higher male than female mortality in every age group.

Table 6.1 Age-specific death rates and crude death rates							
Age-specific death rates and crude death rates (CDR) by sex from NFHS-1, NFHS-2 and the SRS, Andhra Pradesh							
Age	NFHS-1 (1990–91)	NFHS-2 (1997–98)		SRS (1997)			Total
	Total	Male	Female	Male	Female	Total	
< 5	18.5	17.8	18.2	18.0	17.1	16.4	16.8
5–14	1.9	1.6	1.0	1.3	1.4	1.3	1.3
15–49	2.6	3.9	4.2	4.1	4.0	2.8	3.4
50–59	11.1	17.9	9.6	13.6	17.0	11.4	14.1
60+	51.0	70.1	68.0	69.1	60.5	41.3	50.4
CDR	8.7	11.3	10.1	10.7	9.3	7.4	8.3

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

6.2 Infant and Child Mortality

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

Neonatal mortality:	The probability of dying in the first month of life
Postneonatal mortality:	The probability of dying after the first month of life but before the first birthday
Infant mortality (${}_1q_0$):	The probability of dying before the first birthday
Child mortality (${}_4q_1$):	The probability of dying between the first and fifth birthdays
Under-five mortality (${}_5q_0$):	The probability of dying before the fifth birthday

Assessment of Data Quality

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

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

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

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

Results from Table B.5 (Appendix B) suggest that early neonatal deaths have not been seriously underreported in the Andhra Pradesh NFHS-2, since the ratios of deaths under seven days to all neonatal deaths are consistently high (between 78 and 83 percent) for the different time periods preceding the survey (a ratio of less than 25 percent is often used as a guideline to indicate underreporting of early neonatal deaths). The ratios of infant deaths that occurred during the neonatal period (Appendix Table B.6) are also consistently high (between 65 and 72 percent) for the different time periods preceding the survey.

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

In the Andhra Pradesh NFHS-2, there appears to be a very slight preference for reporting age at death at 3, 5, 7, 9, and 15 days (Table B.5 in Appendix B). An examination of the distribution of deaths under age two years during the 15 years preceding the survey by month of death (Appendix Table B.6) indicates a slight heaping of deaths at 3, 7, 12, and 18 months of age. The amount of heaping on 12 months is very minor, probably due to the strong emphasis on this problem during the training of interviewers for the NFHS-2 fieldwork². This brief assessment of the internal consistency of NFHS-2 childhood mortality data for Andhra Pradesh suggests that, although there may be some heaping of age at death at certain ages, the heaping is minimal and any resulting bias in infant and child mortality rates is negligible.

It is seldom possible to establish mortality levels with confidence for a period of more than 15 years before a survey. Even within the recent 15-year period considered here, apparent trends in mortality rates should be interpreted with caution for several reasons. First, there may

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

be differences in the completeness of death reporting related to the length of time before the survey. Second, the accuracy of reports of age at death and of date of birth may deteriorate with time. Third, sampling variability of mortality rates tends to be high, especially for groups with relatively few births. Fourth, mortality rates are truncated as they go back in time because women currently age 50 or above who were bearing children during earlier periods were not included in the survey. This truncation affects mortality trends, in particular. For example, for the period 10–14 years before the survey, the rates do not include any births for women age 40–49 since these women were over age 50 at the time of the survey and not eligible to be interviewed. Since these excluded births to older women were likely to be at a somewhat greater risk of dying than births to younger women, the mortality rates for the period may be slightly underestimated. Estimates for more recent periods are less affected by truncation bias since fewer older women are excluded. The extent of this bias depends on the proportion of births omitted. Table 4.18 (Chapter 4) shows that very few of the children born in the three years before the survey were born to women age 35 and above. Given the small proportion of births excluded, selection bias for infant and child mortality statistics as far back as 15 years before the survey should be negligible.

Levels, Trends, and Differentials in Infant and Child Mortality

Table 6.2 and Figure 6.1 present various measures of infant and child mortality by residence for the three five-year periods preceding the survey. Infant mortality in Andhra Pradesh declined from 85 deaths per 1,000 live births during 1984–88 (10–14 years before the survey) to 66 deaths per 1,000 live births during 1994–98 (0–4 years before the survey), an average rate of decline of nearly 2 infant deaths per 1,000 live births per year. A comparison of the infant mortality rate for the period 0–4 years before NFHS-2 (66) with the infant mortality rate 0–4 years before NFHS-1 (70) suggests a much slower decline of only 4 deaths per 1,000 live births over the six and one-half years between the two surveys.

All other measures of infant and child mortality presented in Table 6.2 have also declined during the past 15 years. As in the case of the infant mortality, however, a comparison with the corresponding rates derived from NFHS-1 suggests that the declines may have been slower than indicated by NFHS-2 data alone.

Despite the overall decline in infant and child mortality, 1 in every 15 children born during the five years before NFHS-2 died within the first year of life, and 1 in every 12 children died before reaching age five. Clearly, child survival programmes in Andhra Pradesh need to be intensified to achieve further reductions in infant and child mortality.

Rural mortality rates are considerably higher than urban mortality rates. Postneonatal mortality is twice as high in rural areas as in urban areas, neonatal mortality is 25 percent higher in rural areas, infant mortality is 45 percent higher in rural areas, and child mortality is 67 percent higher in rural areas. Under-five mortality is nearly 50 percent higher in rural areas than in urban areas.

All mortality rates declined steadily in rural Andhra Pradesh, except child mortality, which was slightly higher during the middle five-year period than during the earliest five-year period.

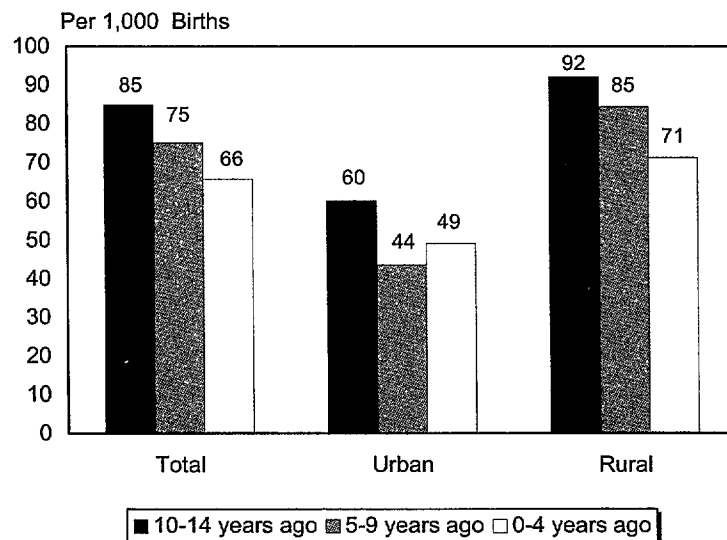
Table 6.2 Infant and child mortality

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

Years preceding the survey	Neonatal mortality (NN)	Postneonatal mortality ¹ (PNN)	Infant mortality (i _{q0})	Child mortality (c _{q1})	Under-five mortality (s _{q0})
URBAN					
0–4	36.8	12.5	49.2	14.0	62.6
5–9	29.7	14.0	43.7	7.9	51.3
10–14	47.9	12.3	60.2	(12.3)	71.8
RURAL					
0–4	46.1	25.3	71.4	23.4	93.1
5–9	56.9	27.6	84.5	27.3	109.5
10–14	60.3	31.9	92.2	26.8	116.5
TOTAL					
0–4	43.8	22.1	65.8	21.0	85.5
5–9	50.6	24.5	75.1	22.8	96.2
10–14	57.5	27.5	85.0	23.3	106.2

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

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



Note: Rates are for 5 year periods preceding the survey

NFHS-2, Andhra Pradesh, 1998–99

Infant mortality in rural areas declined from 92 deaths per 1,000 live births during 1984–88 to 71 deaths per 1,000 live births during 1994–98. Neonatal mortality declined by 24 percent and postneonatal mortality declined by 21 percent in rural areas over the same period. By contrast, none of the indicators of infant and child mortality show a consistent decline in urban areas. All indicators except postneonatal mortality are lower during the middle five years before

the survey than during the earliest or most recent five-year period. Postneonatal mortality is somewhat higher during the middle five years than during the other two periods. A comparison with corresponding figures from NFHS-1 shows a decline in most rural and urban estimates of infant and child mortality.

The estimated NFHS-2 infant mortality rate of 66 deaths per 1,000 live births during 1994–98 is almost identical to the SRS value of 65 deaths per 1,000 live births averaged for the period 1994–98. The NFHS-2 and average SRS estimates of the infant mortality rate for rural areas over the same period are also in close agreement (71 deaths per 1,000 live births from NFHS-2 compared with 72 deaths per 1,000 live births from the SRS). The NFHS-2 estimate for urban areas (49 deaths per 1,000 live births) is considerably higher than the average SRS estimate for urban areas (42 deaths per 1,000 live births). However, the difference between NFHS-2 and the average SRS infant mortality rates for urban areas is not statistically significant because of the relatively small urban sample (the lower and upper confidence limits for the NFHS-2 estimate are 26 and 72, respectively (Appendix Table A.2)).

Socioeconomic Differentials in Infant and Child Mortality

The probability of dying in early childhood is higher in some population groups than in others. Table 6.3 presents differentials in infant and child mortality rates for the 10-year period preceding the survey by selected background characteristics. Children in rural areas of Andhra Pradesh experience a 79 percent higher probability of dying before their fifth birthday than urban children, considerably more than the 49 percent differential in the most recent five-year period shown in Table 6.2. This comparison confirms the finding in Table 6.2 that the under-five mortality rate has been falling more rapidly in rural areas than in urban areas.

The infant mortality rate declines sharply with increasing education of mothers, as expected, ranging from a high of 82 deaths per 1,000 live births for illiterate mothers to a low of 49 deaths per 1,000 live births for mothers who have at least completed high school. Other mortality indicators shown in the table vary similarly with mothers' education except for the neonatal mortality rate, which is higher for children whose mother have at least completed high school than for children of literate mothers with less than a middle school education.

All the infant and child mortality rates are much higher for Hindus than for Muslims. The infant mortality rate is about two and one-half times higher and the postneonatal mortality rate is about four and one-half times higher for Hindu children than for Muslim children. Although the sample size for Muslim children is relatively small, these findings are consistent with those of NFHS-1, which also recorded much higher rates of infant and child mortality for Hindus than Muslims in Andhra Pradesh. Mortality differentials by religion presumably reflect influences other than religion alone. For example, a larger proportion of Muslims than Hindus in Andhra Pradesh live in urban areas, where mortality rates are generally low. This is confirmed by a study based on NFHS-1 data, which noted that the difference in infant and child mortality rates between Hindu and Muslim children is reduced considerably when other demographic and socioeconomic variables are controlled statistically (Pandey et al., 1998).

Children of women belonging to scheduled castes and scheduled tribes have higher rates of infant mortality than children of women belonging to other backward classes or 'other' women. Children of 'other' women have by far the lowest rates of infant and child mortality. As expected, all indicators of infant and child mortality decline substantially with increases in the

Table 6.3 Infant and child mortality by background characteristics					
Neonatal, postneonatal, infant, child, and under-five mortality for the 10-year period preceding the survey by selected background characteristics, Andhra Pradesh, 1998–99					
Background characteristic	Neonatal mortality (NN)	Postneonatal mortality ¹ (PNN)	Infant mortality (Iq ₀)	Child mortality (4q ₁)	Under-five mortality (5q ₀)
Residence					
Urban	33.1	13.3	46.4	11.0	56.9
Rural	52.0	26.6	78.6	25.5	102.1
Mother's education					
Illiterate	54.3	28.0	82.4	26.2	106.5
Literate, < middle school complete	32.9	20.2	53.0	18.8	70.9
High school complete and above	40.5	8.4	48.9	5.0	53.7
Religion					
Hindu	50.6	24.9	75.5	23.3	97.1
Muslim	(24.2)	(5.5)	(29.7)	(11.0)	(40.3)
Caste/tribe					
Scheduled caste	69.4	26.0	95.4	29.8	122.4
Scheduled tribe	(57.7)	(45.9)	(103.6)	(13.8)	(115.9)
Other backward class	42.9	26.8	69.7	21.3	89.5
Other	35.7	11.4	47.1	18.5	64.7
Standard of living index					
Low	62.8	34.4	97.1	29.5	123.8
Medium	38.5	18.3	56.8	21.0	76.6
High	34.1	8.4	42.5	3.4	45.7
Total	47.5	23.4	70.8	22.0	91.3
<p>Note: The 10-year period preceding the survey does not include the month in which the interview took place. Rates are specified on a per-thousand basis. See text for definition of rates. Total includes children whose mother's education is middle school complete, Christian children, and children with missing information on caste/tribe and the standard of living index. Each of these categories is based on fewer than 250 children surviving to the beginning of the age interval. Mortality rates for these categories are not shown separately.</p> <p>() Based on 250–499 children surviving to the beginning of the age interval</p> <p>¹ Computed as the difference between the infant and neonatal mortality rates</p>					

household standard of living. For example, for children in households with a high standard of living the infant mortality rate is 43 deaths per 1,000 live births and the under-five mortality rate is 46 deaths per 1,000 live births; the corresponding rates for children in households with a low standard of living are more than twice as high at 97 and 124, respectively. The postneonatal mortality rate is more than four times higher in households with a low standard of living than in households with a high standard of living, the child mortality rate is almost nine times as high, and the neonatal mortality rate is almost twice as high.

Demographic Differentials in Infant and Child Mortality

This section examines differentials in early childhood mortality by demographic characteristics of the child and the mother. Table 6.4 and Figure 6.2 present various indicators of infant and child mortality for the 10 years preceding the survey by sex of the child, mother's age at childbirth, birth order, length of the previous birth interval, and medical care received by the mother during pregnancy, delivery and the early postpartum period.

Table 6.4 shows that the female mortality rate below age five years is slightly higher than the male mortality rate. Excess female mortality occurs mainly after the first year of life. The

Table 6.4 Infant and child mortality by demographic characteristics					
Neonatal, postneonatal, infant, child, and under-five mortality for the 10-year period preceding the survey by selected demographic characteristics, Andhra Pradesh, 1998–99					
Demographic characteristic	Neonatal mortality (NN)	Postneonatal mortality ¹ (PNN)	Infant mortality (_{1q0})	Child mortality (_{4q1})	Under-five mortality (_{5q0})
Sex of child					
Male	45.0	27.9	72.9	16.6	88.2
Female	50.2	18.5	68.7	27.8	94.5
Mother's age at birth					
< 20	52.1	31.8	84.0	20.7	102.9
20–29	42.9	17.2	60.1	22.5	81.2
30–39	(52.3)	(22.8)	(75.1)	(25.0)	(98.2)
Birth order					
1	48.7	24.7	73.4	9.9	82.6
2	38.2	18.8	57.0	28.4	83.8
3	40.8	23.6	64.3	23.4	86.3
4+	64.7	27.6	92.3	29.1	118.7
Previous birth interval					
< 24 months	77.6	27.9	105.5	32.4	134.5
24–47 months	35.0	22.6	57.6	28.4	84.4
48+ months	(20.3)	(13.0)	(33.3)	(13.6)	(46.4)
Medical care²					
One or two types of care	49.0	17.6	66.6	U	U
All three types of care	14.1	11.5	25.5	U	U

Note: The period preceding the survey does not include the month in which the interview took place. Rates are specified on a per-thousand basis. See text for definition of rates. Total includes children whose mothers were age 40–49 at the time of birth and children whose mothers had no medical care. Each of these categories is based on fewer than 250 children surviving to the beginning of the age interval. Mortality rates for these categories are not shown separately.

U: Not available

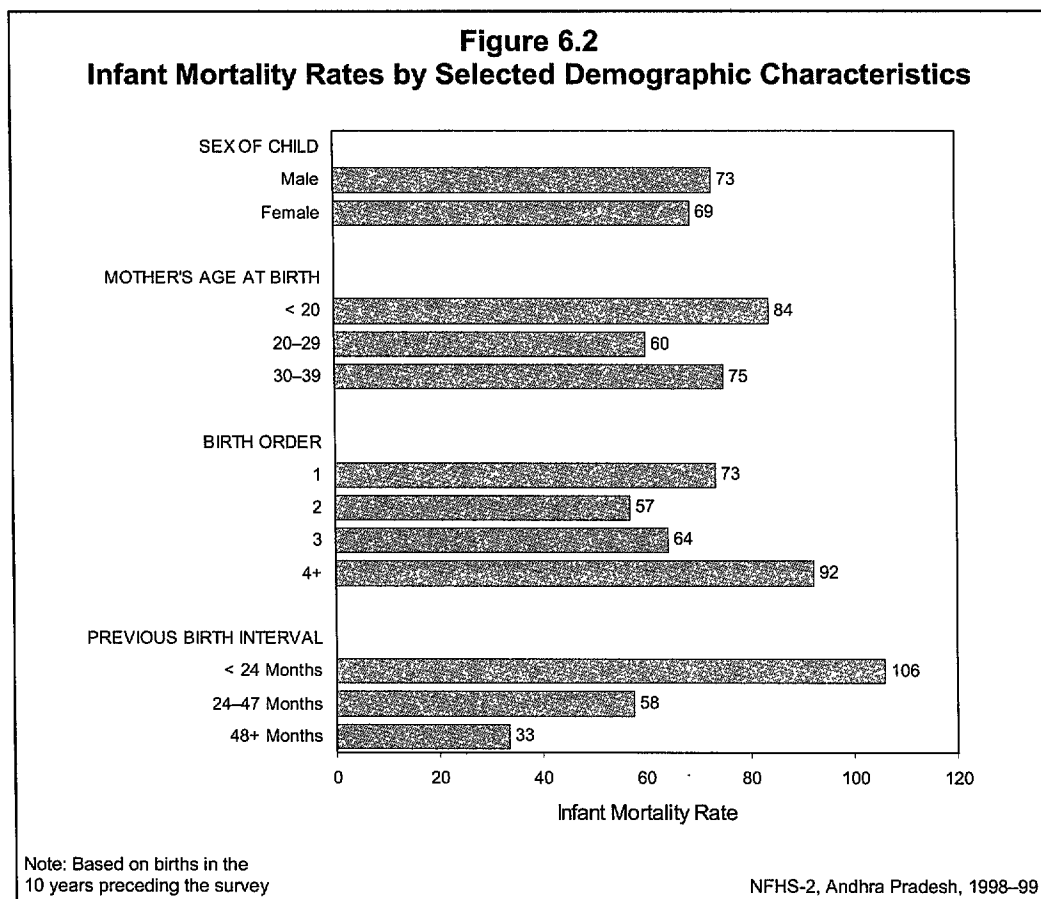
() Based on 250–499 children surviving to the beginning of the age interval

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

²Rates for the three-year period preceding the survey. Medical care includes (i) antenatal care received from a health worker, (ii) delivery assistance given by a doctor, nurse, trained midwife, or other health professional, and (iii) postnatal care received in a health facility or at home within two months of delivery.

infant mortality rate during the 10-year period before the survey is slightly higher for boys (73 deaths per 1,000 live births) than for girls (69 deaths per 1,000 live births), but the child mortality rate (_{4q1}) is considerably higher for girls (28 deaths per 1,000) than for boys (17 deaths per 1,000). This reversal of sex differentials in mortality with increasing age has been observed in other studies in South Asia and is thought to reflect the relative nutritional and medical neglect of the girl-child. (Das Gupta, 1987; Basu, 1989). The lower female than male infant mortality rate in Andhra Pradesh results from considerably higher postneonatal mortality among boys (28 deaths per 1,000) than among girls (19 deaths per 1,000). This pattern of gender differentials in mortality during the first year of life is unexpected because neonatal mortality (which reflects largely congenital conditions) tends to be higher for boys than girls in most populations. The male-female differences in the neonatal and postneonatal mortality rates in Andhra Pradesh are, however, unlikely to be significant given the large sampling errors associated with the different estimates of infant and child mortality (Appendix Table A.2).

For both social and biological reasons, infant mortality rates and child mortality rates often exhibit a U-shaped pattern with respect to the mother's age at childbirth, with children of the youngest and oldest mothers experiencing higher mortality rates than children whose mothers are in



the prime reproductive ages. Children born to young mothers are more likely to be of low birth weight, which is probably an important factor contributing to their higher neonatal mortality rate. Similarly, children born to mothers above age 30 are at a relatively high risk of experiencing congenital problems. Andhra Pradesh exhibits the expected U-shaped pattern of mortality by mother's age, with higher infant mortality among children of mothers under age 20 (84 deaths per 1,000 live births) and age 30-39 (75 deaths per 1,000) than among children of mothers age 20-29 (60 deaths per 1,000). Similar patterns are observed for neonatal and postneonatal mortality rates. The U-shaped relationship is not observed in the case of child mortality. Mortality rates among children age 1-4 years increase slightly with mother's age at childbirth.

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

The timing of successive births has a powerful effect on the survival chances of children in Andhra Pradesh. Infant and child mortality rates decrease as the length of the previous birth interval increases and both measures are especially high for children born less than 24 months after a previous birth. The infant mortality rate is more than three times as high for children with a previous birth interval of less than 24 months as for children with a previous interval of 48 months or more (106 deaths compared with 33 deaths per 1,000 live births). The previous birth interval has a similar effect on all other indicators of infant and child mortality as shown in Table 6.4. Although the length of the previous birth interval is likely to affect mortality risks directly, a substantial portion of the association between birth intervals and mortality risks may reflect the effect of factors that are correlated with birth intervals. For example, shorter birth intervals are likely to occur in large families, and large families tend to come from lower socioeconomic groups and are more likely than other families to live in rural areas where medical facilities and other survival-enhancing resources are less readily available. Nevertheless, multivariate analyses of birth-interval effects and child survival commonly find an association between short birth intervals (less than 24 months) and increased mortality even after controlling for other demographic and socioeconomic characteristics (Retherford et al., 1989).

Antenatal, delivery, and postnatal care are usually associated with lower infant mortality. Table 6.4 shows that children of women who receive all three types of care have considerably lower risk of neonatal and postneonatal mortality than those with only one or two types of care. It is not possible to compare the mortality rates for children of mothers who receive none of the three types of pregnancy-related care due to the small number of cases in that category.

6.3 Morbidity

There is limited experience in collecting morbidity data from population-based demographic sample surveys. NFHS-1 collected data on five major morbidity conditions—partial and complete blindness, tuberculosis, leprosy, physical impairment of the limbs, and malaria—among all persons in the sampled households. The results were found to be generally plausible and useful. For these reasons, it was decided to include similar morbidity questions in NFHS-2. In NFHS-2, questions on blindness, leprosy, and physical impairment of the limbs were replaced by questions on asthma and jaundice. The questions on tuberculosis and malaria were retained, and a question on medical treatment of tuberculosis was added to get a better measure of the prevalence of tuberculosis. The household head or other knowledgeable adult in the household reported morbidity for all household members, and no effort was made to do clinical tests for any of the disease conditions.

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

Table 6.5 Morbidity

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

Age and sex	Number of persons per 100,000 suffering from:					
	Asthma	Tuberculosis ¹	Medically treated tuberculosis	Jaundice during the past 12 months	Malaria during the past 3 months	Number of usual residents
URBAN						
Age						
< 15	2,209	64	64	2,209	2,211	1,507
15–59	3,515	324	194	1,164	2,810	2,953
60+	9,867	1,176	883	601	2,692	318
Sex						
Male	3,260	428	233	1,632	2,449	2,448
Female	3,804	163	163	1,272	2,785	2,329
Total	3,525	299	199	1,456	2,613	4,778
RURAL						
Age						
< 15	2,470	153	45	2,519	4,113	4,568
15–59	4,277	841	700	1,236	6,369	7,916
60+	14,553	1,811	1,296	608	6,578	1,179
Sex						
Male	4,940	803	612	1,781	5,551	6,866
Female	4,176	585	451	1,439	5,716	6,797
Total	4,560	695	532	1,611	5,633	13,663
TOTAL						
Age						
< 15	2,405	131	49	2,442	3,641	6,075
15–59	4,070	701	562	1,217	5,402	10,869
60+	13,558	1,676	1,208	606	5,753	1,497
Sex						
Male	4,498	704	513	1,742	4,736	9,314
Female	4,081	478	378	1,396	4,968	9,127
Total	4,292	592	446	1,571	4,851	18,441

¹Includes medically treated tuberculosis

Asthma

Asthma is a chronic respiratory disease characterized by sudden attacks of laboured breathing, chest constriction, and coughing. There has been a rapid increase in asthma cases in recent years in many parts of the world. In Andhra Pradesh, more than 4 percent of the population was reported to be suffering from asthma at the time of the survey. The prevalence of asthma is considerably higher in rural areas (4,560 per 100,000 population) than in urban areas (3,525 per 100,000 population), and is higher among males (4,498 per 100,000) than among females (4,081 per 100,000). Age differences are marked, with the prevalence of asthma increasing from 2,405 per 100,000 at age 0–14 to 13,558 per 100,000 at age 60 and over.

Tuberculosis

Tuberculosis, which is also resurgent worldwide, is an infectious disease that affects the lungs and other body tissues. Tuberculosis of the lungs, the most commonly known form, is characterized by coughing up mucus and sputum, fever, weight loss, and chest pain. The overall prevalence of tuberculosis in Andhra Pradesh is 592 per 100,000 population. This is considerably higher than the prevalence recorded in NFHS-1 (407 per 100,000). The prevalence of tuberculosis is more than twice as high in rural areas (695 per 100,000) as in urban areas (299 per 100,000). The prevalence rate is much higher for males (704 per 100,000) than for females (478 per 100,000). The gender differential in the prevalence of tuberculosis is much larger in urban areas than in rural areas. Probable causes for the much higher prevalence of tuberculosis among males than females are that men are more likely than women to come in contact with people who suffer from active tuberculosis and that men in Andhra Pradesh smoke more than women. The prevalence of tuberculosis increases rapidly with age. It is substantially higher among persons age 60 and above (1,676 per 100,000) than among those age 15–59 (701 per 100,000) or age 0–14 (131 per 100,000).

Medically treated tuberculosis is expected to give a more reliable measure of the prevalence of active tuberculosis than a measure based on all reported cases considered in the preceding paragraph. As expected, the prevalence of medically treated tuberculosis is considerably lower (446 per 100,000) than the prevalence based on all reported cases (592 per 100,000). The prevalence of medically treated tuberculosis reported in NFHS-2 is somewhat higher than the prevalence of all reported cases in NFHS-1, indicating that tuberculosis may be increasing in Andhra Pradesh. Differentials in the prevalence of medically treated tuberculosis by residence, age, and sex are similar to differentials in the prevalence of all reported cases.

Jaundice

Jaundice is characterized by yellowish discolouration of the eyes and skin, fever, liver enlargement, and abdominal pain. NFHS-2 asked household respondents if any member of the household had suffered from jaundice at any time during the 12 months preceding the survey. In Andhra Pradesh, 1,571 persons per 100,000 population were reported to have suffered from jaundice during the past 12 months. People living in rural areas were somewhat more likely to have suffered from jaundice (1,611 per 100,000) than those living in urban areas (1,456 per 100,000). Males were 25 percent more likely to have suffered from jaundice than females. Jaundice is the only condition measured that decreases with age. The prevalence of jaundice was highest for the age group 0–14 (2,442 per 100,000) followed by the age groups 15–59 (1,217 per 100,000) and 60 years and above (606 per 100,000). The age and sex differentials in the prevalence of jaundice are similar in the urban and rural areas.

Malaria

Malaria is characterized by recurrent high fever with shivering. NFHS-2 asked household respondents whether any member of their household had suffered from malaria any time during the three months preceding the survey. In Andhra Pradesh, 4,851 persons per 100,000 population were reported to have suffered from malaria during the three months before the survey. Since the prevalence of malaria is known to vary considerably by season, the NFHS-2 estimates should not be interpreted as representative of the level throughout the year. It is also misleading to compare

this estimate with the lower NFHS-1 estimate because the months of the year comprising the reference period for the malaria estimates from the two surveys are different.

Rural residents are more than twice as likely to suffer from malaria (5,633 per 100,000) as urban residents (2,613 per 100,000). The reported prevalence of malaria is slightly higher for females than for males in both urban and rural areas. The prevalence of malaria during the past three months increases with age, from 3,641 per 100,000 in the population age 0–14 to 5,753 per 100,000 in the population age 60 years and above. This steady increase with age occurs in rural areas but not in urban areas.

6.4 Child Immunization

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

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

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

Table 6.6 Childhood vaccinations by source of information

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

Source of information	Percentage vaccinated											Number of children
	BCG	Polio 0	DPT			Polio			Measles	All ¹	None	
			1	2	3	1	2	3				
URBAN												
Vaccinated at any time before the interview												
Vaccination card	96.4	16.0	96.5	96.5	89.3	96.5	96.5	89.3	78.6	73.2	0.0	53
Mother's report	(91.9)	(4.1)	(83.8)	(83.8)	(81.8)	(87.8)	(85.7)	(81.6)	(79.6)	(73.4)	(6.1)	46
Either source	94.3	10.5	90.5	90.5	85.8	92.4	91.4	85.7	79.1	73.3	2.8	99
Vaccinated by 12 months of age ²	92.5	10.5	87.2	87.1	82.0	89.0	88.0	81.9	69.6	62.8	6.3	99
RURAL												
Vaccinated at any time before the interview												
Vaccination card	97.0	9.5	100.0	96.2	86.6	100.0	96.2	86.6	68.2	64.3	0.0	106
Mother's report	83.9	0.0	83.3	79.4	71.8	90.8	87.4	76.4	54.8	47.2	8.1	179
Either source	88.8	3.5	89.5	85.6	77.3	94.2	90.7	80.2	59.8	53.6	5.1	285
Vaccinated by 12 months of age ²	87.9	3.5	88.6	83.0	75.5	93.3	87.8	78.3	54.7	48.7	5.1	285
TOTAL												
Vaccinated at any time before the interview												
Vaccination card	96.8	11.7	98.8	96.3	87.5	98.8	96.3	87.5	71.7	67.3	0.0	158
Mother's report	85.5	0.8	83.4	80.3	73.9	90.2	87.0	77.4	59.8	52.6	7.7	225
Either source	90.2	5.3	89.8	86.9	79.5	93.8	90.9	81.6	64.7	58.7	4.5	384
Vaccinated by 12 months of age ²	89.0	5.3	88.1	84.0	77.1	92.0	87.8	79.1	58.3	52.1	5.6	384

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

() Based on 25–49 unweighted cases

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

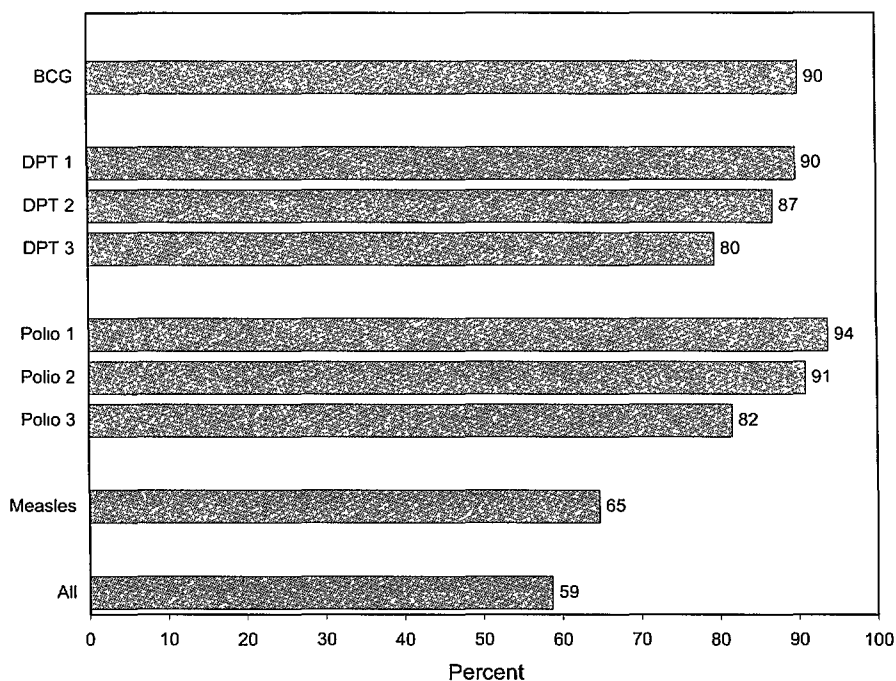
²For children whose information was based on the mother's report, the proportion of vaccinations given by 12 months of age is assumed to be the same as for children with a written record of vaccination.

birth) from Polio 1 (polio vaccine given about six weeks after birth), mothers were also asked whether the first polio vaccine was given just after birth or later³.

Table 6.6 gives the percentages of urban and rural children age 12–23 months who received specific vaccinations at any time before the interview and before 12 months of age, according to whether a vaccination card was shown to the interviewer or the mother was the source of all vaccination information. The 12–23 month age group was chosen for analysis

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

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



NFHS-2, Andhra Pradesh, 1998–99

because both international and Government of India guidelines specify that children should be fully immunized by the time they complete their first year of life. Because the date of vaccination was not asked of the mother if she could not show a vaccination card, for children whose information is based on the mother's report, the proportion of vaccinations given during the first year of life is assumed to be the same as the proportion of vaccinations given during the first year of life among children with an exact date of vaccination on the card.

In NFHS-2, children who have received BCG, measles, and three doses of DPT and polio (excluding Polio 0) are considered to be fully vaccinated. Based on information obtained from a card or reported by the mother ('Either source'), 59 percent of children age 12–23 months are fully vaccinated, and 5 percent have not received any vaccinations. Coverage for BCG, DPT, and polio (except Polio 0) vaccinations is much higher than the percentage fully vaccinated. BCG, the first dose of DPT, and the first and second doses of polio vaccine have each been received by at least 90 percent of children (see Figure 6.3). Eighty percent of children have received three doses of DPT and 82 percent have received three doses of polio vaccine. Although DPT and polio vaccinations are given at the same time as part of the routine immunization programme, the coverage rates are slightly higher for polio than DPT, undoubtedly because of the Pulse Polio campaigns. Not all children who begin with the DPT and polio vaccination series go on to complete them. The difference between the percentages of children receiving the first and third doses is 10 percentage points for DPT and 12 percentage points for polio. Sixty-five percent of children 12–23 months have been vaccinated against measles. The relatively low percentage vaccinated against measles is responsible for the fact that the percentage fully vaccinated is not higher than it is.

There has been considerable improvement in vaccination coverage in Andhra Pradesh since the time of NFHS-1 when the proportion of children fully vaccinated was 45 percent and the proportion who had received no vaccinations was 18 percent. The coverage of each specific vaccination has also improved considerably since NFHS-1. Nonetheless, these data indicate that the goal of universal immunization coverage for children has yet to be met.

Government statistics suggest a much higher level of vaccination coverage than NFHS-2 estimates. According to government statistics for Andhra Pradesh for 1997–98, 81 percent of children age 12–23 months are fully vaccinated and coverage is 94 percent for BCG, 92 percent for the third dose of DPT, 93 percent for the third dose of polio vaccine, and 92 percent for measles (Ministry of Health and Family Welfare, 1999).

According to the immunization schedule, all primary vaccinations, including measles, should be completed by the time a child is 12 months old. Table 6.6 shows that 52 percent of all children (or 89 percent of fully vaccinated children) were fully vaccinated by age 12 months. The percentage of children who received BCG, the third dose of DPT, and the third dose of polio by age 12 months is only slightly lower than the percentage who received these vaccines at any time before the survey. For measles vaccination, however, which is supposed to be given when the child is nine months old, the gap is wider (65 percent at any time before the survey compared with 58 percent by age 12 months). Ten percent of children who were vaccinated against measles received the vaccination after their first birthday.

The analysis of vaccine-specific data indicates higher coverage for each type of vaccine in urban areas than in rural areas, except for the first dose of polio vaccine. Seventy-three percent of children age 12–23 months in urban areas were fully vaccinated at some time before the survey, compared with 54 percent in rural areas. The proportion fully vaccinated during the first year of life is also higher in urban areas (63 percent) than in rural areas (49 percent). Consistent with this, dropout rates for DPT and polio are lower in urban areas than in rural areas.

Table 6.7 and Figure 6.4 present vaccination coverage rates (according to the vaccination card or the mother) for children age 12–23 months by selected background characteristics. The table also shows the percentage of children with vaccination cards that were shown to the interviewer. Mothers could show vaccination cards for 41 percent of children age 12–23 months, up from 35 percent in NFHS-1. Vaccination cards were shown for 54 percent of children in urban areas and 37 percent in rural areas. As expected, vaccination coverage is much higher for children for whom a vaccination card was shown than for other children (see Table 6.6).

Female children (63 percent) are more likely than male children (54 percent) to be fully vaccinated. Female children are also much more likely than male children to have received most of the individual vaccinations. Mothers showed vaccination cards for 44 percent of female children and 38 percent of male children. In NFHS-1, by contrast, vaccination coverage was higher for male than female children and a vaccination card was shown for a higher proportion of male than female children. The reversal in the vaccination coverage by sex suggests that there may no longer be discrimination against female children in Andhra Pradesh with regard to immunizations.

Table 6.7 Childhood vaccinations by background characteristics

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

Background characteristic	Percentage vaccinated											Percentage showing vaccination card	Number of children
	BCG	Polio 0	DPT			Polio			Measles	All ¹	None		
			1	2	3	1	2	3					
Sex of child													
Male	90.5	1.0	90.0	87.9	78.6	94.4	90.6	78.0	60.8	54.2	5.0	38.1	185
Female	89.9	9.4	89.5	86.0	80.3	93.2	91.1	85.0	68.4	62.8	4.0	44.2	198
Birth order													
1	93.4	9.7	94.2	93.5	85.4	96.4	94.9	86.8	71.7	66.7	2.9	46.2	140
2	92.6	2.3	91.1	88.6	84.7	95.2	92.7	87.9	66.5	60.8	2.5	38.2	124
3	92.8	2.8	91.5	85.8	72.8	93.0	90.2	73.0	61.5	51.5	4.4	48.7	71
4+	(71.2)	(4.0)	(71.4)	(65.3)	(59.2)	(83.8)	(75.6)	(63.1)	(44.9)	(40.6)	(14.3)	(24.1)	49
Residence													
Urban	94.3	10.5	90.5	90.5	85.8	92.4	91.4	85.7	79.1	73.3	2.8	53.3	99
Rural	88.8	3.5	89.5	85.6	77.3	94.2	90.7	80.2	59.8	53.6	5.1	37.1	285
Mother's education													
Illiterate	87.0	4.8	84.6	80.6	74.1	92.1	88.6	79.1	55.1	50.1	6.5	37.0	203
Literate, < middle school complete	92.5	0.0	95.7	92.5	83.0	94.7	92.5	82.9	73.3	65.7	4.3	39.2	96
Middle school complete	(96.4)	(13.0)	(100.0)	(100.0)	(89.5)	(100.0)	(100.0)	(86.2)	(76.8)	(69.5)	(0.0)	(56.5)	30
High school complete and above	94.5	12.1	93.1	93.1	87.8	95.0	91.4	86.0	78.7	71.8	0.0	52.3	55
Religion													
Hindu	89.9	5.8	89.1	85.9	78.0	93.8	90.7	80.8	64.4	57.5	4.1	41.5	321
Muslim	(97.1)	(6.0)	(97.1)	(94.0)	(91.0)	(97.1)	(94.0)	(87.8)	(72.0)	(72.0)	(2.9)	(48.3)	32
Christian	(86.5)	(0.0)	(89.6)	(89.6)	(83.4)	(89.6)	(89.6)	(83.5)	(60.5)	(57.4)	(10.4)	(31.9)	31
Caste/tribe													
Scheduled caste	88.3	1.2	89.7	89.7	83.4	93.5	92.3	82.3	64.6	60.7	6.5	28.6	80
Other backward class	92.3	6.2	90.1	86.5	79.3	93.1	90.1	81.0	65.3	59.3	4.1	44.0	172
Other ²	91.7	8.1	92.8	91.0	81.8	96.5	93.7	85.5	69.6	62.3	1.8	51.5	108
Standard of living index													
Low	86.9	2.3	84.7	80.9	75.5	90.9	87.1	78.6	54.8	51.7	6.9	32.0	133
Medium	89.8	3.5	91.5	88.2	78.5	95.2	92.4	80.6	65.2	57.1	4.3	44.4	189
High	98.5	17.3	95.5	95.5	90.6	95.5	93.9	90.7	84.0	77.8	0.0	50.7	62
Total	90.2	5.3	89.8	86.9	79.5	93.8	90.9	81.6	64.7	58.7	4.5	41.3	384

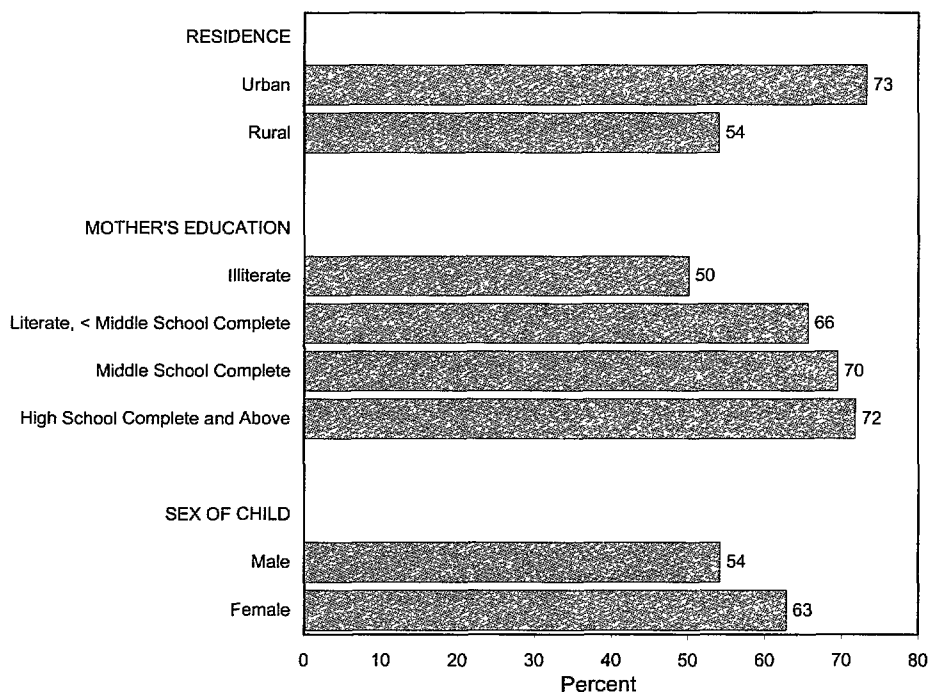
Note: Table includes only surviving children from among the two most recent births in the three years preceding the survey. Total includes 24 scheduled-tribe children and 1 child with missing information on the standard of living index, who are not shown separately.

() Based on 25–49 unweighted cases

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

²Children not belonging to a scheduled caste, a scheduled tribe, or an other backward class

Figure 6.4
Percentage of Children Age 12–23 Months
Who Have Received All Vaccinations



NFHS-2, Andhra Pradesh, 1998–99

The relationship between vaccination coverage and birth order is consistently negative for almost all vaccinations. A large majority of first-order births occur to younger women who are more likely than older women to utilize maternal and child health care services. As with use of maternal health care services, there is a positive relationship between mother's education and children's vaccination coverage. Only 50 percent of children of illiterate mothers are fully vaccinated compared with 72 percent of children with mothers who have at least completed high school. Muslim children are more likely to be fully vaccinated than are Hindu or Christian children, but this result is based on a small number of cases. Household standard of living has a strong positive relationship with vaccination coverage. Fifty-two percent of children from households with a low standard of living are fully vaccinated compared with 78 percent of children from households with a high standard of living.

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

The proportion of children whose vaccination status was determined from a vaccination card declines with the age of children. This may reflect an upward trend in the use of vaccination

Table 6.8 Childhood vaccinations in the first year of life by current age						
Percentage of children age 12–23 months and 24–35 months with a vaccination card that was shown to the interviewer and percentage who received specific vaccinations during the first year of life by residence and child's current age, Andhra Pradesh, 1998–99						
Vaccination status	Urban		Rural		Total	
	12–23 months	24–35 months	12–23 months	24–35 months	12–23 months	24–35 months
Vaccination card shown to interviewer	53.3	36.9	37.1	21.7	41.3	25.9
Percentage vaccinated by 12 months of age¹						
BCG	92.5	88.5	87.9	85.7	89.0	86.3
Polio 0	10.5	6.7	3.5	0.9	5.3	2.5
DPT						
1	87.2	86.5	88.6	88.9	88.1	88.1
2	87.1	85.5	83.0	89.6	84.0	88.0
3	82.0	80.0	75.5	78.5	77.1	78.6
Polio						
1	89.0	88.6	93.3	90.7	92.0	89.9
2	88.0	85.5	87.8	91.9	87.8	89.6
3	81.9	79.9	78.3	84.9	79.1	83.0
Measles	69.6	60.4	54.7	52.2	58.3	55.4
All vaccinations ²	62.8	53.8	48.7	46.0	52.1	48.9
No vaccinations	6.3	10.3	5.1	7.1	5.6	8.4
Number of children	99	83	285	220	384	303

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

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

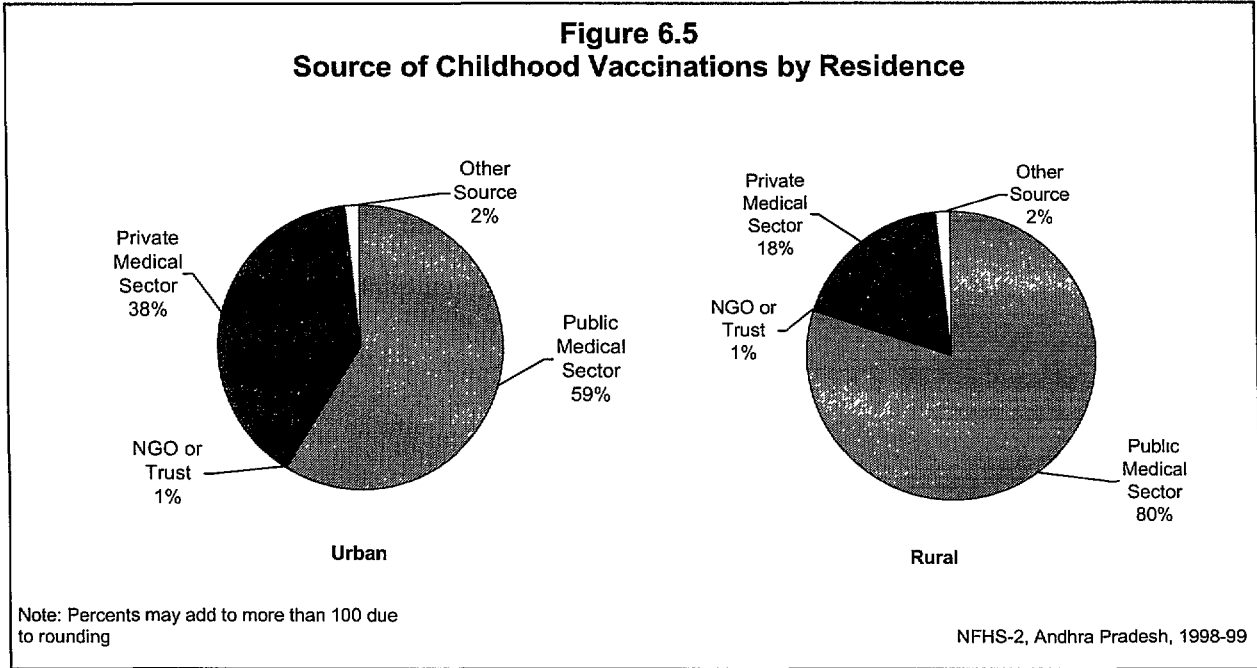
²BCG, measles, and three doses each of DPT and polio vaccines (excluding Polio 0)

cards as well as an upward trend in overall vaccination coverage. On the other hand, vaccination cards may have been lost or discarded, especially for older children who have received all their vaccinations. The proportion of children fully vaccinated by age 12 months declines slightly from 52 percent for children age 12–23 months to 49 percent for children age 24–35 months. A small decline in coverage with increasing children's age is also observed for all vaccines in urban areas. In rural areas and for the total state, a decline in coverage with increasing children's age is observed only for BCG, Polio 0, the first dose of polio, and measles.

Table 6.9 and Figure 6.5 give the percent distribution of children under age three years who have received any vaccinations by the source of most of the vaccinations, according to selected background characteristics. The public sector is the primary provider of childhood vaccinations. Almost three-quarters of all children who have received any vaccinations received most of them from a public sector source and only 23 percent received them from a private sector medical source. The percentage of children receiving vaccinations from the private sector is considerably lower in rural areas (18 percent) than urban areas (38 percent), where private sector services tend to be concentrated. Even in urban areas, however, 59 percent of children received their vaccinations from the public sector. Children of more educated mothers and those

Table 6.9 Source of childhood vaccinations						
Percent distribution of children under age 3 who have received any vaccinations by source of most of the vaccinations, according to selected background characteristics, Andhra Pradesh, 1998–99						
Background characteristic	Source				Total percent	Number of children
	Public medical sector	NGO or trust hospital/ clinic	Private medical sector	Other		
Age of child						
< 12 months	73.5	0.9	23.5	2.1	100.0	329
12–23 months	75.4	0.5	22.4	1.7	100.0	366
24–35 months	74.2	1.3	22.8	1.7	100.0	290
Sex of child						
Male	73.8	0.6	23.4	2.2	100.0	492
Female	75.0	1.2	22.4	1.4	100.0	493
Birth order						
1	71.4	0.8	26.1	1.7	100.0	365
2	76.7	0.6	21.2	1.6	100.0	331
3	70.8	0.6	26.8	1.8	100.0	164
4+	81.5	2.4	13.1	3.1	100.0	126
Residence						
Urban	58.7	1.1	38.3	1.8	100.0	253
Rural	79.8	0.8	17.5	1.8	100.0	732
Mother's education						
Illiterate	80.1	1.6	16.4	2.0	100.0	511
Literate, < middle school complete	78.4	0.4	20.0	1.2	100.0	236
Middle school complete	74.7	0.0	23.9	1.4	100.0	70
High school complete and above	51.4	0.0	46.3	2.3	100.0	168
Religion						
Hindu	74.9	0.6	22.5	2.0	100.0	837
Muslim	57.5	2.3	40.2	0.0	100.0	80
Christian	88.0	3.0	7.5	1.5	100.0	66
Caste/tribe						
Scheduled caste	82.5	1.5	11.7	4.3	100.0	202
Scheduled tribe	(87.4)	(4.2)	(8.5)	(0.0)	100.0	49
Other backward class	74.7	0.2	23.8	1.2	100.0	437
Other	65.9	0.9	31.8	1.4	100.0	294
Standard of living index						
Low	87.8	1.8	8.3	2.1	100.0	337
Medium	73.4	0.6	24.3	1.7	100.0	485
High	48.6	0.0	49.5	1.9	100.0	159
Total	74.4	0.9	22.9	1.8	100.0	985
<p>Note: Table includes only surviving children from among the two most recent births in the three years preceding the survey. Total includes 1 child of a mother with no religion, and 1, 3, and 5 children with missing information on religion, caste/tribe, and the standard of living index, respectively, who are not shown separately. () Based on 25–49 unweighted cases NGO: Nongovernmental organization</p>						

belonging to households with a high standard of living are more likely than other children to receive vaccinations from the private sector. Muslim children are much more likely to receive vaccinations from the private sector than Hindu or Christian children, perhaps because Muslims are more concentrated in urban areas. Children from scheduled tribes and scheduled castes are much less likely than other children to receive vaccinations from the private sector.



6.5 Vitamin A Supplementation

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

Table 6.10 shows that children living in urban areas and children of literate mothers are considerably more likely to receive vitamin A supplementation. The percentage receiving vitamin A supplementation is particularly low among scheduled-tribe children. Children of birth order 4 or above are much less likely than children of birth orders 1 or 2 to have received any vitamin A supplementation. In general, children from groups that are less likely to have received at least one dose of vitamin A supplementation are also less likely to have received a dose in the past six months.

Table 6.10 Vitamin A supplementation for children

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

Background characteristic	Percentage who received vitamin A		Number of children
	At least one dose	At least one dose within past six months	
Age of child			
12–23 months	22.4	15.1	384
24–35 months	27.9	12.5	303
Sex of child			
Male	25.9	14.2	325
Female	23.9	13.7	362
Birth order			
1	26.7	13.2	244
2	27.2	18.7	223
3	22.3	12.0	124
4+	17.7	7.4	96
Residence			
Urban	29.4	17.1	182
Rural	23.1	12.8	505
Mother's education			
Illiterate	19.4	11.1	377
Literate, < middle school complete	31.9	17.9	162
Middle school complete	(25.3)	(17.1)	48
High school complete and above	33.4	16.7	100
Religion			
Hindu	25.1	13.6	578
Muslim	22.7	13.6	62
Christian	(21.8)	(19.6)	46
Caste/tribe			
Scheduled caste	23.6	14.4	140
Scheduled tribe	(9.6)	(4.8)	42
Other backward class	24.0	11.2	298
Other	29.6	19.1	206
Standard of living index			
Low	22.1	12.0	246
Medium	26.7	16.3	336
High	24.0	10.6	101
Total	24.8	14.0	687

Note: Table includes only surviving children from among the two most recent births in the three years preceding the survey. Total includes 1 child of a mother with no religion, and 2 and 4 children with missing information on caste/tribe and the standard of living index, respectively, who are not shown separately.
() Based on 25–49 unweighted cases

6.6 Child Morbidity and Treatment

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

Acute Respiratory Infection (ARI)

Acute respiratory infection (ARI), primarily pneumonia, is a major cause of illness among infants and children and the leading cause of childhood mortality throughout the world (Murray and Lopez, 1996). Early diagnosis and treatment with antibiotics can prevent a large proportion of ARI/pneumonia deaths. NFHS-2 found that 19 percent of children under age three in Andhra Pradesh suffered from acute respiratory infection (cough accompanied by short, rapid breathing) at some time during the two-week period before the survey. A comparison with NFHS-1 ARI data is not meaningful since the two surveys took place at different times of the year and rates of ARI are affected by the time of the year when the measurements are taken.

Table 6.11 shows that there was little variation in the prevalence of ARI by most of the background characteristics included in the table. ARI was somewhat more common among boys than girls and among children living in rural areas than urban areas. Children of mothers who have at least completed high school had a lower occurrence of ARI than other children. The prevalence of ARI was much lower among Muslim children (13 percent) than among Hindu (19 percent) or Christian (26 percent) children. Surprisingly, household living standard had virtually no influence on the prevalence of ARI. Children living in households with piped water or water from a hand pump had a higher prevalence of ARI than children living in households with well water. Children living in households that use a water filter for the purification of water had a relatively low prevalence of ARI. The small variation in the prevalence of ARI by most socioeconomic characteristics indicates that respiratory infections affect children of all strata irrespective of their socioeconomic background.

Table 6.11 also shows the percentage of children suffering from ARI symptoms in the two weeks before the survey who were taken to a health facility or provider. Sixty-nine percent of children received some advice or treatment from a health facility or health provider when ill with ARI. This percentage, as expected, is relatively low for children whose mothers are illiterate or who live in households with a low standard of living. The percentage is relatively high for children whose mothers do not belong to any scheduled caste, scheduled tribe or other backward class. Notably, infants (age 1–11 months), boys, urban children and children of birth orders 1–3 are also more likely to have been taken to a health facility or provider for advice or treatment than other children.

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

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

Background characteristic	Percentage of children suffering in past two weeks from:					Percentage with ARI taken to a health facility or provider	Number of children with ARI
	Cough accompanied by fast breathing (ARI)	Fever	Diarrhoea		Number of children		
			Any diarrhoea ¹	Diarrhoea with blood			
Age of child							
1–5 months	18.5	17.9	12.5	0.6	185	(79.1)	34
6–11 months	19.7	33.4	23.5	1.2	173	(76.3)	34
12–23 months	20.6	31.4	16.2	1.9	384	65.7	79
24–35 months	17.8	28.6	10.2	1.7	303	64.4	54
Sex of child							
Male	20.9	29.4	16.5	1.4	524	72.1	109
Female	17.6	27.7	13.6	1.6	521	66.3	92
Birth order							
1	20.1	28.3	16.4	1.3	378	72.0	76
2	20.0	26.1	12.8	1.5	343	69.5	69
3	17.7	35.1	18.3	1.2	175	(67.5)	31
4+	17.0	27.1	13.0	2.1	149	(63.9)	25
Residence							
Urban	16.5	29.0	16.1	0.4	263	(78.2)	43
Rural	20.2	28.4	14.7	1.8	782	67.0	158
Mother's education							
Illiterate	19.9	28.0	17.2	2.0	563	63.7	112
Literate, < middle school complete	20.8	30.0	11.1	0.4	243	72.4	51
Middle school complete	20.9	37.7	15.3	1.4	72	*	15
High school complete and above	14.1	24.3	13.4	1.2	167	*	24
Religion							
Hindu	19.4	28.1	15.4	1.6	885	68.2	172
Muslim	13.4	33.2	12.0	0.0	88	*	12
Christian	25.5	28.8	14.2	1.4	70	*	18
Caste/tribe							
Scheduled caste	17.3	24.8	15.4	1.4	214	(61.7)	37
Scheduled tribe	24.8	36.7	13.4	1.7	61	*	15
Other backward class	20.7	28.7	14.1	1.8	462	71.7	96
Other	17.5	29.3	16.0	1.0	304	79.1	53
Standard of living index							
Low	20.8	22.5	17.5	2.5	372	60.7	77
Medium	18.0	32.6	14.5	1.0	507	75.7	91
High	20.4	30.4	11.5	0.6	160	(72.5)	33
Source of drinking water							
Piped water	19.1	27.3	14.2	1.3	534	64.6	102
Hand pump	20.8	28.2	14.4	1.4	298	72.0	62
Well water	16.3	34.0	17.1	2.3	184	(76.8)	30
Purification of water²							
Straining by cloth	22.9	30.7	15.5	1.2	264	73.5	61
Water filter	14.7	22.2	12.8	0.0	112	*	17
Boiling	20.3	24.2	13.3	0.0	54	*	11
Nothing	18.5	28.3	15.6	1.9	645	65.9	119
Total	19.3	28.6	15.0	1.5	1,045	69.4	201

Note: Table includes only surviving children age 1–35 months old from among the two most recent births in the three years preceding the survey. Total includes a small number of children of mothers with no religion, children in households having surface water or 'other' sources of drinking water, using electronic water purifiers or 'other' methods to purify water, or children with missing information on religion, caste/tribe, the standard of living index, or source of drinking water, who are not shown separately.

() Based on 25–49 unweighted cases

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

¹Includes diarrhoea with blood

²Number of children and number of children with ARI may sum to more than the respective totals because multiple methods of purification of water could be recorded.

Fever

Fever was the most common of the three conditions examined, with 29 percent of children suffering from fever during the two weeks before the survey. The prevalence of fever is considerably lower among children under age six months (18 percent) than among older children (more than 28 percent). In general, the prevalence of fever does not appear to vary in any predictable way with most of the remaining demographic and socioeconomic characteristics. As with acute respiratory infection, fever tends to strike young children irrespective of their demographic and socioeconomic background.

Diarrhoea

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

Table 6.11 shows that 15 percent of children under age three suffered from diarrhoea in the two-week period before the interview. There are seasonal variations in the prevalence of diarrhoea, however, so that the percentages shown in Table 6.11 cannot be assumed to reflect the situation throughout the year.

Among children age 1–35 months, those age 6–11 months are most susceptible to diarrhoea. Boys (17 percent) are somewhat more likely to have diarrhoea than girls (14 percent). Differentials by birth order, place of residence, mother's education, religion, and caste/tribe membership are also small. As expected, children were more likely to suffer from diarrhoea the lower the household standard of living. Also consistent with expectations, diarrhoea was somewhat more common among children living in households that use well water for drinking (17 percent) than among children in households that use piped water (14 percent).

About 10 percent of children who suffered from diarrhoea in Andhra Pradesh suffered from diarrhoea with blood, a symptom of dysentery. Children under age six months had the lowest prevalence of diarrhoea with blood (0.6 percent). Children of birth order four or higher, children living in rural areas, children whose mothers are illiterate, children living in households with a low standard of living, and children living in households using well water for drinking or drinking unpurified water all have a slightly elevated risk of having diarrhoea with blood.

Table 6.12 shows that 73 percent of mothers with births during the three years preceding the survey know about ORS packets, up from 32 percent among women who gave birth during the three years before NFHS-1. Knowledge of ORS packets is somewhat lower among mothers age 15–19 and among mothers age 35 years or older than among mothers in the middle age

Table 6.12 Knowledge of diarrhoea care

Percentage of mothers with births during the three years preceding the survey who know about oral rehydration salt (ORS) packets, who report that children with diarrhoea should be given less, more, or the same to drink as usual, and who know two or more signs of diarrhoea that indicate the need for medical treatment by selected background characteristics, Andhra Pradesh, 1998–99

Background characteristic	Percentage who know about ORS packets	Percentage reporting quantity to be given to drink					Total percent	Percentage who know two or more signs for medical treatment of diarrhoea ¹	Number of mothers
		Less	Same	More	Don't know/missing				
Age									
15–19	63.7	38.6	34.0	15.6	11.7	100.0	31.1	198	
20–24	76.6	34.5	36.7	23.8	5.0	100.0	30.1	463	
25–29	75.5	36.7	34.8	25.9	2.6	100.0	27.4	230	
30–34	74.0	41.7	27.7	27.3	3.3	100.0	28.9	62	
35–49	(59.5)	(46.9)	(39.8)	(13.3)	(0.0)	100.0	(29.5)	37	
Residence									
Urban	84.5	36.7	31.9	27.6	3.8	100.0	24.0	244	
Rural	69.2	36.8	36.4	20.8	6.0	100.0	31.4	746	
Education									
Illiterate	61.3	42.3	34.6	15.5	7.5	100.0	28.5	537	
Literate, < middle school complete	82.7	36.5	33.1	26.7	3.7	100.0	36.9	221	
Middle school complete	87.5	25.0	44.0	29.6	1.4	100.0	27.8	73	
High school complete and above	91.9	23.8	36.5	36.7	3.0	100.0	24.0	161	
Religion									
Hindu	72.4	36.2	35.3	22.3	6.1	100.0	30.0	836	
Muslim	82.3	38.9	31.1	27.5	2.5	100.0	30.1	80	
Christian	67.7	41.8	38.9	17.9	1.5	100.0	23.6	72	
Caste/tribe									
Scheduled caste	72.4	36.9	32.5	24.5	6.1	100.0	29.6	215	
Scheduled tribe	49.9	41.3	46.7	6.8	5.1	100.0	25.7	59	
Other backward class	71.0	39.6	35.3	18.6	6.5	100.0	31.5	432	
Other	81.3	31.4	35.0	30.0	3.5	100.0	27.4	281	
Exposure to media									
Exposed to any media	77.7	35.8	35.2	24.8	4.2	100.0	30.4	765	
Watches television weekly	81.9	34.1	34.6	26.8	4.5	100.0	31.1	581	
Listens to radio weekly	76.6	34.7	34.5	26.3	4.6	100.0	30.0	395	
Visits cinema/theatre monthly	79.9	34.8	36.1	25.8	3.3	100.0	31.1	411	
Reads newspaper/magazine weekly	87.2	23.6	37.7	35.0	3.7	100.0	28.6	242	
Not regularly exposed to any media	56.9	39.9	35.5	14.7	9.9	100.0	26.7	226	
Total	73.0	36.8	35.3	22.5	5.5	100.0	29.6	991	

Note: Total includes 1 mother with no religion and 1 and 3 mothers with missing information on religion and caste/tribe, respectively, who are not shown separately.

() Based on 25–49 unweighted cases

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

groups. As expected, knowledge is considerably higher among urban mothers than rural mothers, and among more educated mothers, especially literate mothers as compared with illiterate mothers. Knowledge of ORS is greater among Muslim mothers (82 percent) than Hindu mothers (72 percent) or Christian mothers (68 percent). Knowledge of ORS packets is much lower among mothers who are not regularly exposed to any mass media than among mothers who are exposed to some media. Mothers belonging to scheduled tribes are less likely to know about ORS than mothers with any other background characteristics.

In order to assess mothers' knowledge of children's need for extra fluids during episodes of diarrhoea, all mothers of children born in the past three years were asked: 'When a child is sick with diarrhoea should he/she be given less to drink than usual, about the same, or more than usual?' Table 6.12 shows the response of mothers to this question by selected background characteristics. In Andhra Pradesh only 23 percent of mothers report that children should be given more to drink than usual during an episode of diarrhoea and, contrary to the standard recommendation, 37 percent report that children should be given less. This suggests that mothers in Andhra Pradesh need much more education in the proper management of diarrhoea. The proportion reporting correctly that children with diarrhoea should be given more to drink is particularly low among rural mothers, less educated mothers, mothers belonging to a scheduled tribe, and mothers not regularly exposed to any mass media. The proportion reporting correctly is lower among Christian mothers than Hindu or Muslim mothers. Mothers age 15–19 and 35 years or older are less likely to answer correctly than mothers age 20–34.

To assess whether mothers are aware of one or more signs associated with diarrhoea which suggest the need for medical treatment, mothers were also asked: 'When a child is sick with diarrhoea what signs of illness would tell you that he or she should be taken to a health facility or health worker?' All answers given by the respondent were recorded. The signs warranting medical treatment include repeated watery stools, repeated vomiting, blood in the stools, fever, marked thirst, not eating or not drinking well, getting sicker or very sick, and not getting better. Table 6.12 shows that only 3 in 10 mothers were able to name two or more signs of diarrhoea that indicate that a child with diarrhoea should be given medical treatment. Contrary to expectation, the percentage is lower among urban than rural mothers and among more educated women than less educated women. It is also lower among Christian than among Hindu or Muslim mothers. Women who are exposed to any media are slightly more likely than women who are not regularly exposed to any media to know the danger signs. Notably, however, knowledge of two or more signs of diarrhoea that suggest the need for medical treatment is universally low across demographic and socioeconomic groups. This suggests a need for further educating mothers with regard to children's diarrhoea so that they are better able to recognize the signs of diarrhoea for which a health provider should be consulted.

Table 6.13 shows the percentage of children under age three with diarrhoea during the two weeks preceding the survey who were taken to a health facility or provider, the percentage who received various types of oral rehydration therapy (ORT), and the percentage who received other types of treatment, by selected background characteristics. Among children in Andhra Pradesh who suffered from diarrhoea during the two weeks preceding NFHS-2, medical advice or treatment was sought for 69 percent. Twenty-one percent of children with diarrhoea did not receive any treatment at all. Medical advice or treatment was more likely to be sought for boys than for girls, for urban children than for rural children, and for children of literate mothers than for children of illiterate mothers. The likelihood of seeking treatment is particularly low for children living in households with a low standard of living.

Forty percent of the children age 1–35 months who suffered from diarrhoea during the two weeks preceding the survey were treated with a solution made from ORS packets. This is up from 21 percent in NFHS-1, indicating considerable improvement in the use of ORS packets in Andhra Pradesh for the treatment of childhood diarrhoea.

Table 6.13 Treatment of diarrhoea

Among children under age 3 who had diarrhoea in the past two weeks, the percentage taken to a health facility or provider, the percentage who received various types of oral rehydration therapy (ORT), and the percentage who received other treatments by selected background characteristics, Andhra Pradesh, 1998–99

Background characteristic	Taken to a health facility or provider	Oral rehydration					Other treatment						Number of children with diarrhoea
		Oral rehydration salt (ORS) packets	Gruel	Homemade sugar-salt-water solution	Increased fluids	ORT not given	Pill or syrup	Injection	Intravenous (IV/drip/bottle)	Home remedy/herbal medicine	Other	No treatment	
Age of child													
1–11 months	63.5	35.9	15.8	3.1	21.6	51.9	45.9	15.5	0.0	8.0	0.0	25.1	64
12–23 months	72.5	46.9	22.4	1.7	24.2	40.5	65.9	22.6	3.0	0.0	1.5	14.6	62
24–35 months	(73.3)	(32.5)	(25.5)	(9.9)	(15.9)	(38.9)	(43.9)	(9.2)	(0.0)	(9.5)	(0.0)	(23.5)	31
Sex of child													
Male	73.0	41.0	15.2	4.7	25.4	45.3	60.0	20.6	2.1	1.2	0.0	20.0	86
Female	64.2	37.8	26.5	2.9	16.8	44.1	44.5	12.7	0.0	10.0	1.3	21.5	71
Residence													
Urban	(82.3)	(42.1)	(24.7)	(2.3)	(28.7)	(31.1)	(66.3)	(22.2)	(4.4)	(4.5)	(2.3)	(8.9)	42
Rural	64.1	(38.7)	18.7	4.5	18.9	49.8	48.1	15.2	0.0	5.4	0.0	24.9	115
Mother's education													
Illiterate	63.0	30.6	22.8	5.3	16.7	52.2	49.5	15.4	0.9	4.2	1.0	23.3	97
Literate, < middle school complete	(74.0)	(41.4)	(7.5)	(0.0)	(26.0)	(47.8)	(52.1)	(26.2)	(0.0)	(7.6)	(0.0)	(25.4)	27
Caste/tribe													
Scheduled caste	(72.5)	(39.4)	(24.5)	(0.0)	(39.7)	(39.2)	(63.4)	(27.3)	(2.8)	(0.0)	(0.0)	(18.3)	33
Other backward class	68.7	45.0	23.2	3.2	16.5	46.1	40.8	10.5	1.4	4.7	0.0	27.9	65
Other ¹	(66.8)	(34.5)	(15.8)	(4.1)	(16.2)	(45.6)	(61.0)	(16.0)	(0.0)	(8.1)	(2.0)	(12.5)	49
Standard of living index													
Low	55.7	31.3	15.7	4.7	20.5	54.7	42.0	15.6	0.0	4.7	0.0	32.8	65
Medium	76.9	47.7	23.0	2.8	18.5	41.8	62.8	21.3	2.5	6.8	1.3	12.4	74
Total	69.0	39.6	20.3	3.9	21.5	44.8	53.0	17.0	1.2	5.1	0.6	20.6	157

Note: Table includes only surviving children age 1–35 months from among the two most recent births in the three years preceding the survey. Total includes 11 children whose mother's education is middle school complete, 22 children whose mother's education is high school complete and above, 8 scheduled-tribe children, 2 children with missing information on caste/tribe, and 18 children with a high standard of living index, who are not shown separately.

() Based on 25–49 unweighted cases

¹Children not belonging to a scheduled caste, a scheduled tribe, or an other backward class

Table 6.14 Source of ORS packets

Among children under age 3 who were treated with a solution made from oral rehydration salt (ORS) packets for diarrhoea in the two weeks preceding the survey, the percent distribution of children by source of ORS packets, Andhra Pradesh, 1998–99

Source	Percent
Public medical sector	43.3
Government/municipal hospital	9.6
Government dispensary	6.8
UHC/UHP/UFWC	3.4
CHC/rural hospital/PHC	10.2
Sub-centre	6.7
Government mobile clinic	1.6
Government paramedic	1.8
Other public medical sector	3.2
Private medical sector	30.9
Private hospital/clinic	16.3
Private doctor	6.7
Private paramedic	3.2
Pharmacy/drugstore	4.8
Other source	25.7
Shop	25.7
Total percent	100.0
Number of children treated with ORS	61

Note: Table includes only surviving children age 1–35 months from among the two most recent births in the three years preceding the survey.
 UHC: Urban health centre; UHP: Urban health post; UFWC: Urban family welfare centre; CHC: Community health centre; PHC: Primary Health Centre

The proportion of children who did not receive any of the various types of oral rehydration therapy (ORT) when sick with diarrhoea declined from 66 percent in NFHS-1 to 45 percent in NFHS-2, again suggesting improvements in the management of childhood diarrhoea in the state. Yet only 22 percent received increased fluids when sick with diarrhoea, and only 20 percent received gruel.

The use of antibiotics and other antidiarrhoeal drugs is not generally recommended for the treatment of childhood diarrhoea. Yet 53 percent of the children who had diarrhoea in the two weeks before NFHS-2 were treated with pills or syrup, and 17 percent received an injection. These figures indicate poor knowledge about the proper treatment of diarrhoea not only among mothers but also among health-care providers. These results underscore the need for informational programmes for mothers and supplemental training for health-care providers that emphasizes the importance of ORT, increased fluid intake, and continued feeding and discourages the use of drugs to treat childhood diarrhoea.

The youngest children (age 1–11 months), children living in rural areas, children of illiterate mothers, and children belonging to households with a low standard of living are less likely than other children to receive any of the various types of oral rehydration therapy. The use of unnecessary drugs or injections is substantially higher for boys than for girls, for urban children than for rural children, and for children belonging to households with a medium standard of living than a low standard of living.

Table 6.14 shows the percent distribution of children who were treated with ORS for diarrhoea in the two weeks before NFHS-2 by source of the ORS packets. Only 61 children were treated with ORS packets in the Andhra Pradesh sample, so the results in this table should be interpreted with caution. For 43 percent of children who were treated with ORS, the packets were obtained from public-sector sources, for 31 percent the packets were obtained from private-sector medical sources, and for the remaining 26 percent the packets were obtained from shops. Among the public-sector sources, community health centres (CHC), rural hospitals, or Primary Health Centres (PHC) are mentioned most often, followed by government or municipal hospitals, government dispensaries, and sub-centres. Among the private-sector medical sources, ORS packets were usually obtained from a private hospital or clinic or a private doctor. The pharmacy or drugstore category, listed under private-sector sources, accounts for 5 percent of all cases. If this category is added to the 'other source' category, the proportion purchasing ORS packets from shops, pharmacies, or drugstores becomes 31 percent.

6.7 HIV/AIDS

Acquired Immune Deficiency Syndrome (AIDS) is an illness caused by the HIV virus, which weakens the immune system and leads to death through secondary infections such as tuberculosis or pneumonia. The virus is generally transmitted through sexual contact, through the placenta of HIV-infected women to their unborn children, or through contact with contaminated needles (injections) or blood. HIV and AIDS prevalence in India have been on the rise for more than a decade and have reached alarming proportions in recent years. The Government of India established a National AIDS Control Organization (NACO) under the Ministry of Health and Family Welfare in 1989 to deal with the epidemic. Since then there have been various efforts to prevent HIV transmission, such as public health education through the media and the activities of many nongovernmental organizations (NGOs).

NFHS-2 included a set of questions on knowledge of AIDS and AIDS prevention. Ever-married women age 15–49 were first asked if they had ever heard of an illness called AIDS. Respondents who had heard of AIDS were asked further questions about their sources of information on AIDS, whether they believe that AIDS is preventable, and if so, what precautions, if any, a person can take to avoid infection.

Knowledge of AIDS

Table 6.15 shows the percentage of women who have heard about AIDS by background characteristics. Forty-five percent of women in Andhra Pradesh have never heard of AIDS. NFHS-1 did not include AIDS-awareness questions for Andhra Pradesh so it is not possible to assess any trend in AIDS awareness between NFHS-1 and NFHS-2.

Knowledge of AIDS varies little by women's age, but it is somewhat lower among older women (age 35–49). Urban residence, education, and standard of living have a strong positive association with AIDS knowledge. Eighty-one percent of urban women in Andhra Pradesh have heard about AIDS, compared with only 47 percent of rural women. Knowledge of AIDS increases from 38 percent among illiterate women to 96 percent among women who have at least completed high school. Similarly, knowledge of AIDS increases from 36 percent among women in households with a low standard of living to 87 percent among women in households with a high standard of living.

Table 6.15 Source of knowledge about AIDS

The percentage of ever-married women who have heard about AIDS and among women who have heard about AIDS, the percentage who received information from specific sources by selected background characteristics, Andhra Pradesh, 1998-99

Background characteristic	Percentage who have heard about AIDS	Number of women	Among women who have heard about AIDS, percentage who received information from:										Number of women who have heard about AIDS
			Radio	Television	Cinema	Newspaper/magazine	Poster/hoarding	Health worker	Adult education programme	Friend/relative	School/teacher	Other source	
Age													
15-24	57.2	1,198	33.0	77.0	18.9	16.5	7.7	3.4	0.7	39.9	1.3	6.3	685
25-34	56.7	1,410	36.5	74.4	15.4	18.0	8.1	3.1	0.0	42.1	0.6	6.7	800
35-49	52.3	1,424	31.5	71.8	10.1	13.1	4.7	2.2	0.4	39.7	0.7	9.9	745
Residence													
Urban	80.6	1,002	28.6	89.0	20.9	21.6	7.4	2.2	0.7	32.8	0.8	3.8	808
Rural	46.9	3,030	36.7	66.0	11.2	12.7	6.5	3.2	0.1	45.0	0.9	9.9	1,421
Education													
Illiterate	37.5	2,574	30.1	58.6	7.7	2.2	1.0	2.7	0.1	48.0	0.9	12.1	964
Literate, < middle school complete	80.4	829	34.8	81.1	14.1	15.1	7.6	1.9	0.4	37.0	0.9	3.9	666
Middle school complete	94.0	194	37.2	86.1	21.3	25.7	10.9	2.7	0.0	35.4	0.5	6.0	182
High school complete and above	95.7	435	39.0	94.7	28.9	44.7	17.4	4.7	0.9	31.6	0.9	4.2	416
Religion													
Hindu	53.1	3,522	35.5	75.3	15.4	16.6	7.5	2.9	0.3	41.1	1.0	7.9	1,870
Muslim	69.0	268	19.5	85.8	16.7	13.4	2.0	2.6	0.5	28.6	0.5	2.2	185
Christian	71.5	238	28.4	51.2	5.8	11.0	4.1	2.3	0.6	48.4	0.0	11.7	170
Caste/tribe													
Scheduled caste	52.1	798	32.8	58.1	10.0	11.6	4.1	2.9	0.2	48.5	1.0	9.7	416
Scheduled tribe	24.6	194	(18.9)	(61.6)	(2.1)	(4.3)	(4.3)	(10.7)	(0.0)	(33.8)	(4.3)	(14.8)	48
Other backward class	47.9	1,783	34.0	72.8	15.9	13.8	6.5	3.4	0.4	41.8	1.2	9.2	854
Other	72.6	1,248	34.6	84.0	16.5	20.6	8.7	2.0	0.3	36.0	0.3	5.0	905
Standard of living index													
Low	35.9	1,485	34.6	51.3	8.4	6.3	3.6	2.3	0.3	52.6	1.0	9.1	534
Medium	59.2	1,862	34.1	75.2	13.7	13.8	6.8	3.8	0.3	39.9	0.9	8.6	1,101
High	87.3	667	32.0	93.7	22.6	28.7	9.7	1.7	0.5	30.7	0.7	4.8	582
Exposure to mass media													
Exposed to any media	66.1	3,077	35.3	78.6	15.7	17.3	7.2	2.8	0.3	39.2	0.8	6.6	2,033
Listens to radio weekly	67.2	1,580	53.0	74.5	15.5	17.3	7.0	2.6	0.4	38.4	1.0	5.6	1,062
Watches television weekly	73.3	2,346	32.9	86.8	16.8	18.9	7.5	2.7	0.4	37.4	0.7	5.7	1,718
Goes to cinema/theatre monthly	66.2	1,415	38.5	77.4	24.6	17.7	7.8	2.6	0.6	39.2	1.0	6.8	936
Reads newspaper/magazine weekly	91.5	788	38.3	91.9	23.4	38.9	13.6	3.1	0.8	31.3	1.1	4.5	721
Not regularly exposed to any media	20.6	955	17.9	30.3	4.6	1.5	3.1	3.1	0.5	55.5	1.6	19.0	196
Total	55.3	4,032	33.7	74.3	14.7	15.9	6.8	2.9	0.3	40.6	0.9	7.7	2,229

Note: Total includes a small number of women with no religion or with missing information on religion, caste/tribe, or the standard of living index, who are not shown separately.

() Based on 25-49 unweighted cases

Hindu women are much less likely to know about AIDS (53 percent) than Muslim (69 percent) or Christian (72 percent) women. Greater knowledge of AIDS among Muslims and Christians than Hindus may in part be due to the greater concentration of Muslims and Christians in urban areas. Only 25 percent of scheduled-tribe women have heard about AIDS, compared with 52 percent of scheduled-caste women, 48 percent of women belonging to other backward classes, and 73 percent of 'other' women. Exposure to mass media increases women's knowledge about AIDS substantially. Ninety-two percent of women who read a newspaper or magazine at least once a week know about AIDS compared with 21 percent of women who are not regularly exposed to any mass media (newspapers, magazines, radio, television, cinema, or theatre).

Source of Knowledge about AIDS

As part of the AIDS prevention programme, the Government of India has been using mass media, especially electronic media, extensively to create awareness among the general public about AIDS and its prevention. NFHS-2 asked women who had heard of AIDS about their sources of AIDS information. Table 6.15 shows the percentage of ever-married women who have heard about AIDS from specific sources. Television is the most important source of information about AIDS among ever-married women in Andhra Pradesh. Seventy-four percent of women report television as a source of their information about AIDS, followed by friends or relatives (41 percent), and radio (34 percent). Only 3 percent report that they received information about AIDS from a health worker.

Television is the most important source of information about AIDS in both rural and urban areas, followed by friends or relatives and the radio. Rural women are more likely than urban women to have learned about AIDS from the radio or from friends or relatives. On the other hand, urban women are more likely to have learned about AIDS from television, cinema, or a newspaper or magazine. More educated women are more likely than less educated women to have learned about AIDS from the radio, television, newspaper or magazine, cinema, or a poster or hoarding, but are less likely to have done so from a friend or relative. Hindu women are more likely than Muslim women to have learned about AIDS from the radio or from a friend or relative, but are less likely to have learned about AIDS from television.

Women in households with a high standard of living are more likely than other women to have learned about AIDS from television; they are less likely to have learned about AIDS from a friend or relative and equally as likely to have learned about it from the radio. Women who are not regularly exposed to mass media are much more likely to have learned about AIDS from a friend or relative than from any other source, as might be expected.

Knowledge of Ways to Avoid AIDS

Respondents who had heard of AIDS were asked if a person could do anything to avoid becoming infected. Those who reported that something could be done were asked what a person could do to avoid AIDS. Table 6.16 shows the percentage of ever-married women who know of no way to avoid AIDS and the percentages who report that AIDS can be avoided in specific ways, by selected background characteristics.

Table 6.16 Knowledge about avoidance of AIDS

Among ever-married women who have heard about AIDS, the percentage who believe AIDS can be avoided in specific ways by selected background characteristics, Andhra Pradesh, 1998–99

Background characteristic	Percentage who believe AIDS can be avoided by:									Knows no way to avoid AIDS	Number of women
	Abstaining from sex	Using condoms	Having only one sex partner	Avoiding sex with commercial sex workers	Avoiding sex with homosexuals	Avoiding blood transfusions	Avoiding injection/using clean needles	Avoiding IV drug use	Other ways		
Age											
15–24	2.4	16.4	33.2	24.7	1.7	22.0	40.7	1.4	5.5	36.5	685
25–34	5.2	19.2	35.1	27.6	2.5	21.1	38.8	2.0	5.6	34.0	800
35–49	3.9	12.4	28.1	25.3	1.9	19.3	35.1	1.2	6.9	40.1	745
Residence											
Urban	5.8	22.8	38.0	29.1	3.3	26.1	42.3	2.3	7.6	29.5	808
Rural	2.8	12.3	28.9	24.2	1.4	17.8	35.8	1.1	5.1	40.9	1,421
Education											
Illiterate	3.5	5.5	23.8	19.2	1.0	11.0	25.6	0.5	4.5	51.3	964
Literate, < middle school complete	2.7	14.7	30.3	26.1	0.7	20.9	39.1	0.9	5.9	36.6	666
Middle school complete	4.9	21.5	41.3	29.3	1.7	28.9	48.2	1.0	4.3	23.4	182
High school complete and above	6.3	40.3	50.6	39.9	6.9	39.7	61.4	5.2	10.5	9.3	416
Religion											
Hindu	3.4	15.9	32.1	27.0	2.1	20.7	39.6	1.7	6.3	35.7	1,870
Muslim	10.2	24.8	46.7	19.8	4.1	25.4	33.7	1.1	4.2	29.8	185
Christian	2.8	8.6	17.4	19.8	0.0	16.7	26.6	0.0	5.3	57.0	170
Caste/tribe											
Scheduled caste	3.2	9.6	25.6	20.5	0.7	14.9	29.9	0.0	5.9	50.0	416
Scheduled tribe	(2.1)	(10.7)	(23.7)	(17.1)	(2.1)	(19.1)	(40.3)	(0.0)	(8.2)	(44.6)	48
Other backward class	3.1	13.1	29.3	25.5	2.0	21.4	38.1	1.7	6.1	37.4	854
Other	5.1	22.2	38.6	29.2	2.9	23.1	41.8	2.0	5.9	29.6	905
Standard of living index											
Low	4.0	4.2	23.3	19.6	0.6	9.8	24.7	0.6	3.8	53.4	534
Medium	2.5	14.6	32.1	24.3	1.6	20.6	38.7	1.1	5.5	37.7	1,101
High	6.5	29.4	40.6	34.2	4.2	31.4	49.1	3.2	9.2	20.0	582
Exposure to mass media											
Exposed to any media	4.1	17.5	33.9	26.7	2.2	22.0	40.2	1.6	5.9	34.4	2,033
Listens to radio weekly	4.2	16.6	32.8	25.7	1.3	23.8	45.3	1.2	5.7	32.8	1,062
Watches television weekly	4.5	19.8	34.8	27.1	2.4	22.9	41.6	1.8	6.5	32.7	1,718
Goes to cinema/theatre monthly	3.5	17.9	33.4	27.8	2.3	24.3	45.7	2.1	6.1	32.3	936
Reads newspaper/magazine weekly	5.0	29.6	45.1	37.7	4.0	35.6	56.2	2.5	8.3	16.9	721
Not regularly exposed to any media	2.1	1.5	14.5	17.8	1.0	8.6	16.7	0.5	7.0	61.7	196
Total	3.9	16.1	32.2	26.0	2.1	20.8	38.2	1.5	6.0	36.8	2,229

Note: Total includes 1 woman with no religion and 3, 6, and 12 women with missing information on religion, caste/tribe, and the standard of living index, respectively, who are not shown separately.

() Based on 25–49 unweighted cases

Among women who have heard about AIDS, 37 percent do not know any way to avoid infection. As expected, this percentage is much higher among rural women than among urban women and among women not regularly exposed to mass media than among other women. The percentage who do not know any way to avoid becoming infected with AIDS decreases sharply with increasing levels of education and household standard of living. This percentage is also considerably higher among Christian women (57 percent) than among Hindu women (36 percent) or Muslim women (30 percent). Scheduled-caste women, followed by scheduled-tribe women, are less likely to know any way to avoid AIDS than other women.

Among women who report that something can be done to prevent AIDS, 'avoiding injections or using clean needles' (38 percent) and 'having only one sex partner' (32 percent) are the most commonly mentioned ways of avoiding AIDS. 'Avoiding sex with commercial sex workers' and 'avoiding blood transfusion' are also mentioned as ways to avoid AIDS by substantial proportions of women (26 percent and 21 percent, respectively). Only 16 percent of women mention using a condom during intercourse as a way of avoiding AIDS. Less than 4 percent mention abstaining from sex, avoiding sex with homosexuals, and avoiding intravenous drug use. The percentage reporting each means of avoiding AIDS is lower among rural than among urban women and women not regularly exposed to mass media than other women. The level of education and the household standard of living are strongly and positively associated with women mentioning each of these ways of avoiding AIDS. The use of condoms as a way of avoiding AIDS is mentioned most often by women who have at least completed middle school, women from households with a high standard of living, women who read a newspaper or magazine weekly, and Muslim women.

CHAPTER 7

NUTRITION AND THE PREVALENCE OF ANAEMIA

This chapter focuses on the nutrition of women and young children, examining both the types of food consumed and the consequences of inadequate nutrition and poor feeding practices. NFHS-1 included basic information about feeding practices and the nutritional status of young children. NFHS-2 contains greatly expanded information on these topics, and, for the first time, information on the diet of women. Measurement of height and weight has been expanded to include ever-married women as well as young children. Two additional tests have been included for the first time—anaemia testing for women and young children and the testing of cooking salt to determine the extent of iodization. The height and weight measurements and anaemia testing were conducted by a specially-trained health investigator attached to each interviewing team.

7.1 Women's Food Consumption

The consumption of a wide variety of nutritious foods is important for women's health. Adequate amounts of protein, fat, carbohydrates, vitamins, and minerals are required for a well-balanced diet. Meat, fish, eggs, and milk, as well as pulses and nuts, are rich in protein. Green, leafy vegetables are a rich source of iron, folic acid, vitamin C, carotene, riboflavin, and calcium. Many fruits are also good sources of vitamin C. Bananas are rich in carbohydrates. Papayas, mangoes, and other yellow fruits contain carotene, which is converted to vitamin A. Vitamin A is also present in milk and milk products, as well as egg yolks (Gopalan et al., 1996).

NFHS-2 asked ever-married women how often they consume various types of food (daily, weekly, occasionally, or never). Women consume milk or curd and vegetables (other than green, leafy vegetables) most often (Table 7.1). A majority of women consume these types of food on a daily basis. Pulses and beans are also an important part of the diet for more than 90 percent of women. Most women (73 percent) eat green, leafy vegetables at least once a week, but a substantial proportion (27 percent) eat green, leafy vegetables only occasionally. Fruits are eaten daily by only 12 percent of women, weekly by 36 percent of women, and occasionally by 50 percent of women. Only 9 percent of women in Andhra Pradesh never eat chicken, meat, or fish. On the other hand, very few women (only 3 percent) eat chicken, meat, or fish every day. The majority of women eat these types of food at least once a week but not every day. Eggs are consumed about as often as chicken, meat, or fish.

Table 7.2 shows that there are substantial differentials in food consumption patterns by selected background characteristics. Age does not play a major role in women's consumption patterns, except that younger women are somewhat more likely than older women to eat eggs, as well as chicken, meat, or fish. Women in urban areas are more likely than women in rural areas to include every type of food in their diet, particularly nutritious foods such as green, leafy vegetables; fruits; and dairy products. Illiterate women have poorer and less varied diets than literate women, and their diet is particularly deficient in fruit and milk/curd consumption. Muslims consume almost every food item more often than either Hindus or Christians. Hindu women are less likely than other women to eat chicken, meat, or fish at least once a week; nevertheless, a slight majority of Hindus (54 percent) usually eat chicken, meat, or fish at least

Table 7.1 Women's food consumption

Percent distribution of ever-married women by frequency of consumption of specific foods, Andhra Pradesh, 1998–99

Type of food	Frequency of consumption				Total percent
	Daily	Weekly	Occasionally	Never	
Milk or curd	57.2	14.8	19.8	8.2	100.0
Pulses or beans	35.4	56.9	7.5	0.2	100.0
Green, leafy vegetables	15.5	57.2	26.5	0.8	100.0
Other vegetables	77.9	17.8	4.1	0.2	100.0
Fruits	11.6	36.0	50.0	2.5	100.0
Eggs	5.0	54.8	30.5	9.8	100.0
Chicken, meat, or fish	2.5	54.2	34.8	8.5	100.0

once a week. Women from scheduled tribes have a relatively poor diet that is particularly deficient in fruits and green, leafy vegetables. Women from scheduled castes and other backward classes also have relatively poor diets compared with women in the 'other' category. As expected, poverty has a strong negative effect on the consumption of nutritious types of food. Women in households with a low standard of living are much less likely than other women to eat fruits; green, leafy vegetables; and milk or curd on a regular basis.

7.2 Nutritional Status of Women

In NFHS-2, ever-married women age 15–49 were weighed using a solar-powered digital scale with an accuracy of ± 100 grams. Their height was measured using an adjustable wooden measuring board specially designed to provide accurate measurements (to the nearest 0.1 cm) of women and children in a field situation. The weight and height data were used to calculate several indicators of women's nutritional status as shown in Table 7.3. The height of an adult is an outcome of several factors including nutrition during childhood and adolescence. A woman's height can be used to identify women at risk of having a difficult delivery, since small stature is often related to small pelvic size. The risk of having a baby with a low birth weight is also higher for mothers who are short.

The cutoff point for height, below which a woman can be identified as nutritionally at risk, varies among populations, but it is usually considered to be in the range of 140–150 centimetres (cm). NFHS-2 found a mean height for women in Andhra Pradesh of 151 cm. The mean height varies only slightly (between 150 and 153 cm) for women in different population groups, as shown in Table 7.3. Thirteen percent of women are under 145 cm in height. Older women are more likely than younger women to be short, as are illiterate women, women from scheduled castes and other backward classes, and women who are self-employed or who are employed by someone else, but the differences are not large. Short stature is also strongly related to poverty. One in every 6 women living in households with a low standard of living is below 145 cm in height compared with 1 in every 12 women living in households with a high standard of living.

Table 7.3 also shows an index that relate a woman's weight to her height. The body mass index (BMI) can be used to assess both thinness and obesity. The BMI is defined as the weight in kilograms divided by the height in metres squared (kg/m^2). This index excludes women who were pregnant at the time of the survey or women who had given birth during the two months preceding the survey. The mean BMI for women in Andhra Pradesh is 20.3. Chronic energy

Table 7.2 Women's food consumption by background characteristics

Percentage of ever-married women consuming specific foods at least once a week by selected background characteristics, Andhra Pradesh, 1998–99

Background characteristic	Type of food							Number of women
	Milk or curd	Pulses or beans	Green, leafy vegetables	Other vegetables	Fruits	Eggs	Chicken, meat, or fish	
Age								
15–24	71.4	92.2	70.2	94.7	48.9	63.1	60.9	1,198
25–34	72.4	92.4	75.0	95.6	48.7	58.8	55.6	1,410
35–49	72.2	92.3	72.6	96.7	45.4	57.8	54.1	1,424
Residence								
Urban	81.6	95.4	82.4	98.9	67.1	68.5	68.6	1,002
Rural	68.9	91.2	69.5	94.7	41.1	56.8	52.7	3,030
Education								
Illiterate	63.3	90.0	68.1	94.4	35.7	55.7	54.8	2,574
Literate, < middle school complete	84.2	95.4	76.8	97.7	62.1	68.3	61.8	829
Middle school complete	87.3	96.4	85.3	97.9	70.7	69.1	61.8	194
High school complete and above	93.7	98.0	86.3	99.1	80.1	63.0	55.2	435
Religion								
Hindu	71.7	92.4	73.0	95.5	46.3	57.9	53.9	3,522
Muslim	86.5	94.1	76.0	97.0	65.5	78.9	76.2	268
Christian	60.0	88.6	65.0	97.9	47.3	64.5	74.2	238
Caste/tribe								
Scheduled caste	55.3	89.5	66.4	93.5	38.0	58.9	64.0	798
Scheduled tribe	57.8	88.9	58.5	93.5	31.4	52.6	46.2	194
Other backward class	70.6	91.6	72.7	95.7	43.9	60.3	56.7	1,783
Other	87.3	95.5	78.8	97.5	61.7	60.3	53.3	1,248
Standard of living index								
Low	55.2	86.8	66.4	93.8	31.9	54.4	54.0	1,485
Medium	77.4	94.6	73.4	96.3	49.4	61.2	57.7	1,862
High	94.3	97.8	84.5	98.5	76.9	67.3	58.8	667
Total	72.0	92.3	72.7	95.7	47.6	59.7	56.7	4,032

Note: Total includes 1 woman with no religion and 3, 9, and 18 women with missing information on religion, caste/tribe, and the standard of living index, respectively, who are not shown separately.

deficiency is usually indicated by a BMI of less than 18.5. More than one-third (37 percent) of women have a BMI below 18.5, indicating a high prevalence of nutritional deficiency. Nutritional problems are particularly serious for rural women, illiterate women, women employed by someone else or working on a family farm or in a family business, and women from scheduled castes, scheduled tribes, or other backward classes. The standard of living is negatively related to chronic energy deficiency. Women from households with a low standard of living are more than three times as likely to have a low BMI as women from households with a high standard of living. Muslim women are much less likely than Hindu or Christian women to have a low BMI. There is no difference in the BMI estimates by marital status.

Table 7.3 Nutritional status of women

Among ever-married women, mean height, percentage with height below 145 cm, mean body mass index (BMI), and percentage with BMI below 18.5 kg/m² by selected background characteristics, Andhra Pradesh, 1998–99

Background characteristic	Height			Weight-for-height ¹		
	Mean height (cm)	Percentage below 145 cm	Number of women for height	Mean body mass index (BMI)	Percentage with BMI below 18.5 kg/m ²	Number of women for BMI
Age						
15–19	151.0	11.3	420	18.7	46.2	391
20–24	151.5	12.2	756	19.3	45.8	679
25–29	151.6	10.4	789	19.9	41.7	756
30–34	150.9	13.7	589	20.7	33.8	580
35–49	150.9	14.4	1,393	21.3	30.0	1,388
Marital status						
Currently married	151.2	12.5	3,624	20.3	37.4	3,471
Not currently married	150.8	15.6	324	20.4	37.3	324
Residence						
Urban	151.0	13.5	981	22.3	19.7	932
Rural	151.2	12.5	2,967	19.6	43.2	2,863
Education						
Illiterate	150.7	15.0	2,518	19.6	44.3	2,430
Literate, < middle school complete	151.4	11.1	816	21.2	28.2	783
Middle school complete	152.4	6.2	191	21.3	26.7	178
High school complete and above	153.0	5.3	422	22.5	18.3	403
Religion						
Hindu	151.2	13.0	3,456	20.2	38.5	3,332
Muslim	151.7	9.9	256	22.2	24.1	238
Christian	150.4	11.6	232	20.1	36.4	221
Caste/tribe						
Scheduled caste	149.9	16.7	782	19.4	44.8	753
Scheduled tribe	151.3	9.4	192	19.1	44.2	182
Other backward class	150.9	14.0	1,743	19.9	40.6	1,676
Other	152.3	9.1	1,221	21.7	26.9	1,176
Work status						
Working in family farm/business	151.5	11.8	715	19.6	43.0	696
Employed by someone else	150.7	15.4	1,396	19.1	48.9	1,361
Self-employed	150.8	14.7	202	20.9	30.1	194
Not worked in past 12 months	151.5	10.5	1,633	21.6	25.6	1,542
Standard of living index						
Low	150.4	16.5	1,456	19.1	50.2	1,405
Medium	151.3	11.5	1,823	20.3	35.6	1,738
High	152.4	8.0	651	23.1	14.5	635
Total	151.2	12.7	3,948	20.3	37.4	3,795

Note: Total includes 1 woman with no religion and a small number of women with missing information on religion, caste/tribe, work status, and the standard of living index, who are not shown separately.
¹Excludes women who are pregnant and women with a birth in the preceding two months. The body mass index (BMI) is the ratio of the weight in kilograms to the square of the height in metres (kg/m²).

7.3 Anaemia in Women

Anaemia is characterized by a low level of haemoglobin in the blood. Haemoglobin is necessary for transporting oxygen from the lungs to other tissues and organs of the body. Anaemia usually

results from a nutritional deficiency of iron, folate, vitamin B₁₂, or some other nutrients. This type of anaemia is commonly referred to as iron-deficiency anaemia. Iron deficiency is the most widespread form of malnutrition in the world, affecting more than two billion people (Stolzfus and Dreyfuss, 1998). In India, anaemia affects an estimated 50 percent of the population (Seshadri, 1998).

Anaemia may have detrimental effects on the health of women and children, may become an underlying cause of maternal mortality and perinatal mortality, and results in an increased risk of premature delivery and low birth weight (Seshadri, 1997). Early detection of anaemia can help to prevent complications related to pregnancy and delivery, as well as child-development problems. Information on the prevalence of anaemia can be useful for the development of health-intervention programmes designed to prevent anaemia, such as iron-fortification programmes.

In India, under the Government's Child Survival and Safe Motherhood Programme, iron and folic acid tablets are provided to pregnant women in order to prevent anaemia during pregnancy. Because anaemia is such a serious health problem in India, NFHS-2 undertook direct measurement of the haemoglobin levels of all ever-married women and their children under three years of age. Measurements were taken in the field using the HemoCue system¹. This system uses a single drop of blood from a finger prick (or heel prick in the case of infants under six months old), which is drawn into a cuvette and then inserted into a portable, battery-operated instrument². In less than one minute, the haemoglobin concentration is indicated on a digital read-out.

Before the anaemia testing was undertaken in a household, the health investigator read a detailed informed consent statement to the respondent, informing her about anaemia, describing the procedure to be followed for the test, emphasizing the voluntary nature of the test, and asking whether or not she would consent to have the test done for herself and her young children, if any. The health investigator then signed the questionnaire at the bottom of the statement to indicate that it had been read to the respondent and recorded her agreement or lack of agreement to the testing. If the test was conducted, at the end of the test the respondent was given a written record of the results for herself and each of her young children. In addition, the health investigator described to her the meaning of the results and advised her if medical treatment was necessary. In cases of severe anaemia, the respondent was read an additional statement asking whether or not she would give her permission for the health investigator to inform a local health official about the problem. For each Primary Sampling Unit, a local health official was given a list of severely anaemic women (and children) who had consented to the referral.

Table 7.4 and Figure 7.1 show anaemia levels for ever-married women age 15–49. The table distinguishes three levels of severity of anaemia: mild anaemia (10.0–10.9 g/dl for pregnant women and 10.0–11.9 g/dl for nonpregnant women), moderate anaemia (7.0–9.9 g/dl), and severe anaemia (less than 7.0 g/dl). Appropriate adjustments in these cutoff points were made for

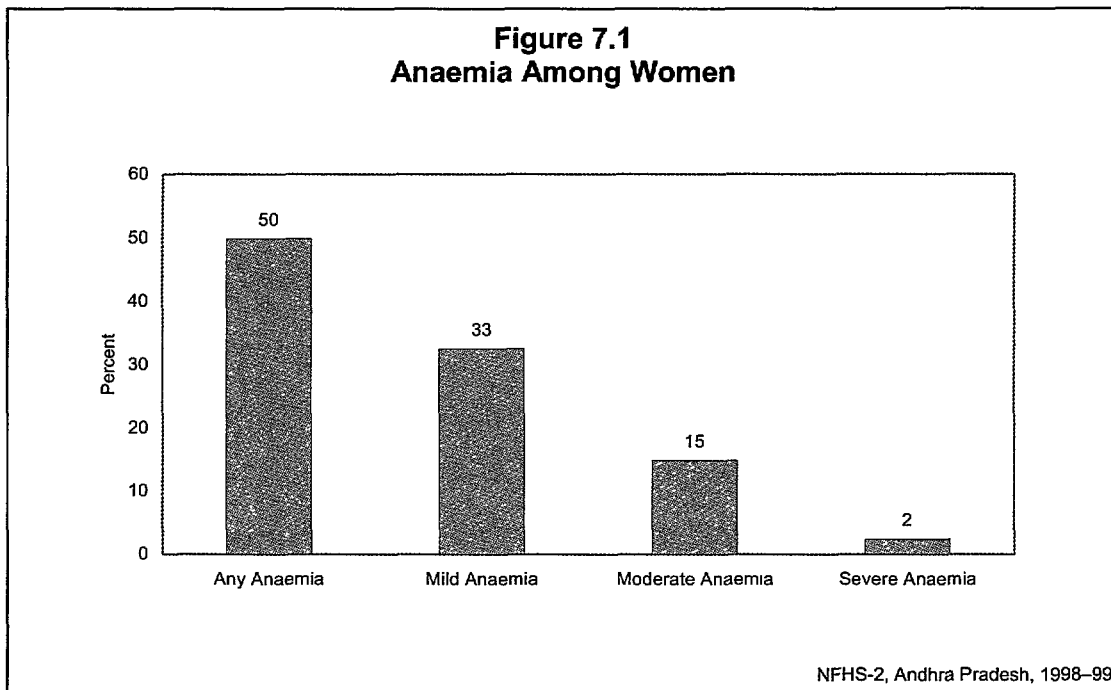
¹ The HemoCue instrument has been used extensively throughout the world for estimating the concentration of haemoglobin in capillary blood in field situations. The HemoCue has been found to give accurate results on venous blood sample, comparable to estimates from more sophisticated laboratory instruments (Von Schenk et al., 1986; McNulty et al., 1995; Krenzicheck and Tanseco, 1996). A recent small-scale study in India (Prakash et al., 1999), however, found that the HemoCue provided slightly higher estimates of haemoglobin than the standard blood cell counter (BCC) method.

² Because the first 2–3 drops of blood are wiped away to be sure that the sample used for analysis consists of fresh capillary blood, it is actually the third or fourth drop of blood that is drawn into the cuvette.

Table 7.4 Anaemia among women					
Percentage of ever-married women classified as having iron-deficiency anaemia by degree of anaemia, according to selected background characteristics, Andhra Pradesh, 1998–99					
Background characteristic	Percentage of women with anaemia	Percentage of women with:			Number of women
		Mild anaemia	Moderate anaemia	Severe anaemia	
Age					
15–19	54.9	35.2	17.2	2.5	405
20–24	50.7	33.5	14.8	2.4	739
25–29	48.1	29.9	15.3	2.9	775
30–34	48.7	30.2	15.7	2.8	579
35–49	49.2	33.6	13.6	2.0	1,361
Marital status					
Currently married	49.5	32.2	15.0	2.4	3,546
Not currently married	53.1	36.3	13.7	3.1	313
Residence					
Urban	47.4	32.4	13.4	1.6	959
Rural	50.6	32.6	15.4	2.7	2,900
Education					
Illiterate	50.8	32.6	15.4	2.8	2,466
Literate, < middle school complete	50.9	32.8	16.0	2.1	794
Middle school complete	54.3	40.4	12.8	1.0	190
High school complete and above	39.4	27.8	10.4	1.2	409
Religion					
Hindu	49.6	32.2	14.9	2.5	3,387
Muslim	39.3	32.8	6.1	0.4	240
Christian	64.1	37.1	23.6	3.4	228
Caste/tribe					
Scheduled caste	56.0	35.7	17.1	3.2	765
Scheduled tribe	48.6	34.2	11.8	2.6	190
Other backward class	48.5	31.5	15.1	1.9	1,699
Other	47.9	31.6	13.7	2.6	1,196
Work status					
Working in family farm/business	47.7	31.1	14.7	1.9	704
Employed by someone else	52.4	32.9	15.9	3.6	1,363
Self-employed	42.9	28.7	13.2	1.0	195
Not worked in past 12 months	49.3	33.3	14.3	1.7	1,595
Standard of living index					
Low	55.6	35.1	16.7	3.7	1,418
Medium	48.2	31.7	14.6	1.8	1,787
High	42.0	29.0	11.8	1.2	635
Pregnancy/breastfeeding status					
Pregnant	41.8	18.9	20.5	2.4	169
Not pregnant (breastfeeding)	50.8	35.2	13.9	1.7	723
Not pregnant (non-breastfeeding)	50.0	32.7	14.8	2.6	2,967
Height					
< 145 cm	52.2	31.3	16.6	4.4	492
≥ 145 cm	49.4	32.7	14.6	2.1	3,363
Body mass index					
< 18.5 kg/m ²	52.5	31.5	17.1	3.9	1,426
≥ 18.5 kg/m ²	48.2	33.1	13.6	1.5	2,426
Fruit and vegetable consumption¹					
Fruit and vegetables	47.8	32.5	13.3	2.0	1,522
Fruit only	51.5	36.9	12.7	2.0	305
Vegetables only	52.7	32.2	17.4	3.1	1,272
Neither	48.1	31.3	14.5	2.3	760
Total	49.8	32.5	14.9	2.4	3,859

Note: The haemoglobin levels are adjusted for altitude of the enumeration area and for smoking when calculating the degree of anaemia. Total includes 1 woman with no religion and 3, 9, 2, 18, 3, and 7 women with missing information on religion, caste/tribe, work status, the standard of living index, height, and body mass index, respectively, who are not shown separately.

¹Based on consumption at least weekly. Vegetables include only green, leafy vegetables.



women living at altitudes above 1,000 metres and women who smoke, since both of these groups require more haemoglobin in their blood (CDC, 1998).

In Andhra Pradesh, haemoglobin levels were tested for 96 percent of women (see Table B.3 in Appendix B). Overall, 50 percent of women have some degree of anaemia. Thirty-three percent of women are mildly anaemic, 15 percent are moderately anaemic, and 2 percent are severely anaemic³. There are some differences in the prevalence of anaemia by background characteristics, but anaemia is substantial for women in every population group. Prevalence of anaemia is slightly higher for younger women less than age 25 than for older women. It is also slightly higher for rural women (51 percent) than for urban women (47 percent). Differences by education, religion, caste/tribe, work status, and standard of living are more pronounced. Anaemia is relatively high for Christians and women from scheduled castes and relatively low for Muslims and women who have at least completed high school. In fact, Muslim women have a much lower prevalence of both moderate and severe anaemia than women from any other group shown in the table. Anaemia decreases as the standard of living rises.

Pregnant women are considerably more likely to have moderate to severe anaemia (23 percent) than nonpregnant women (16-17 percent). However, pregnant women are less likely than other women to have mild anaemia (probably because a substantial proportion of pregnant women consume iron and folic acid tablets or syrup). Shorter women and women with a low body mass index have somewhat higher prevalence of anaemia than other women. The diet of women also plays a role in the likelihood that they have anaemia. Consumption of iron-rich foods can reduce the prevalence or severity of anaemia, and the absorption of iron from the diet can be enhanced (for example, by vitamin C) or inhibited (for example, by tea or coffee) if

³Rates that are not adjusted for altitude and smoking are almost the same as the corresponding adjusted rates (with at most a 0.3 difference in any rate). This is to be expected since, in Andhra Pradesh, the proportion of women who smoke is very small (see Table 2.12), and almost all of the sample PSUs (131 of the 133 PSUs) are at an altitude below 1,000 metres.

particular items are consumed around the time that a meal is eaten. In NFHS-2, differentials in anaemia by consumption of fruits and green, leafy vegetables are surprisingly small. Only women who eat green, leafy vegetables, but not fruit, on a daily or weekly basis have slightly elevated levels of moderate and severe anaemia.

7.4 Infant Feeding Practices

Infant feeding practices have significant effects on both mothers and children. Mothers are affected through the influence of breastfeeding on the period of postpartum infertility, and hence on fertility levels and the length of birth intervals. These effects vary by both the duration and intensity of breastfeeding. Proper infant feeding, starting from the time of birth, is important for the physical and mental development of the child. Breastfeeding improves the nutritional status of young children and reduces morbidity and mortality. Breast milk not only provides important nutrients but also protects the child against infection. The timing and type of supplementary foods introduced in an infant's diet also have significant effects on the child's nutritional status.

The Baby Friendly Hospitals Initiative, launched by UNICEF, recommends initiation of breastfeeding immediately after childbirth. The World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) recommend that infants should be given only breast milk for about the first six months of their life. Under the Reproductive and Child Health Programme, the Government of India recommends that infants should be exclusively breastfed from birth to age four months (Department of Family Welfare, n.d.). Most babies do not require any other foods or liquids during this period. By age seven months, adequate and appropriate complementary foods should be added to the infant's diet in order to provide sufficient nutrients for optimal growth. It is recommended that breastfeeding should continue, along with complementary foods, through the second year of life or beyond. It is further recommended that a feeding bottle with a nipple should not be used at any age, for reasons related mainly to sanitation and the prevention of infections.

WHO has suggested several indicators of breastfeeding practices to guide countries in gathering information for measuring and evaluating infant feeding practices. These indicators include the ever breastfed rate, the exclusive breastfeeding rate, the timely complementary feeding rate, the continued breastfeeding rate, and the bottle feeding rate. The *exclusive breastfeeding rate* is defined as the proportion of infants under age four months who receive only breast milk. The *timely complementary feeding rate* is the proportion of infants age 6–9 months who receive both breast milk and solid or semi-solid food. The *continued breastfeeding rate through one year of age* is the proportion of children age 12–15 months who are still breastfed. The *continued breastfeeding rate until two years of age* is the proportion of children age 20–23 months who are still breastfed. The *bottle feeding rate* is the proportion of infants who are fed using a bottle with a nipple. These indicators of breastfeeding and other feeding practices are presented in this section.

In NFHS-2, data on breastfeeding and complementary feeding were obtained from a series of questions in the Woman's Questionnaire. These questions pertain to births since January 1995, but the tables are restricted to children born in the three years preceding the survey. For any given woman, information was obtained for a maximum of two births.

Initiation of breastfeeding immediately after childbirth is important because it benefits both the mother and the infant. As soon as the infant starts suckling at the breast, the hormone oxytocin is released, resulting in uterine contractions that facilitate expulsion of the placenta and reduce the risk of postpartum haemorrhage. It is also recommended that the first breast milk (colostrum) should be given to the child rather than squeezed from the breast and discarded, because it provides natural immunity to the child.

Table 7.5 shows the percentage of children born during the three years before the survey who started breastfeeding within one hour and one day of birth. It also gives the percentage of children whose mothers squeezed the first milk from the breast before breastfeeding, which is not the recommended practice. Although breastfeeding is nearly universal in Andhra Pradesh, very few children are put to the breast immediately after birth. Only 10 percent of children began breastfeeding within one hour of birth, and only 37 percent began breastfeeding within one day. A slight majority of women (52 percent) squeezed the first milk from the breast before they began breastfeeding. Differentials in the early initiation of breastfeeding and in squeezing the first milk from the breast are also shown in Table 7.5. No more than 13 percent of children in any group were put to the breast within one hour of birth. The percentage of children that started breastfeeding within one day of birth does not vary much by urban-rural residence, mother's education, or mother's work status. However, some differentials are notable. Children from scheduled castes, scheduled tribes, and other backward classes are much more likely than other children to have started breastfeeding within one day of birth. Children whose birth was not attended by a health professional or a TBA are less likely than any other group of children to have started breastfeeding within one day of birth. Children born in a health facility run by the government or an NGO/trust are more likely to be breastfed the first day than children born in a private health facility or at home, but the majority of children in every group were not breastfed within one day of birth.

The custom of squeezing the first milk from the breast before breastfeeding a child is widely practised in every group, but it is more common in rural areas and for scheduled-caste and scheduled-tribe children, Christians, children whose mothers work, and children born at home without the assistance of a health professional. The percentage of children whose mothers squeezed the first milk from the breast is almost twice as high for children whose mothers are illiterate (60 percent) as for children whose mothers have at least completed high school (33 percent). Children who live in households with a high standard of living are much less likely than children in other households to have mothers who squeezed the first milk from the breast before breastfeeding. It should be stressed, however, that contrary to recommendations for feeding infants, mothers squeeze the first milk from the breast before breastfeeding for one-third to two-thirds of children in different groups.

Mothers of children born in the three years before the survey were asked if the child had been given plain water, other liquids, or solid or mushy (semi-solid) food at any time during the day or night before the interview. Results are shown in Tables 7.6 and 7.7. Children who received nothing but breast milk in the previous 24 hours are defined as being *exclusively breastfed*. The introduction of supplementary foods before four months of age puts infants at risk of malnutrition because other liquids and solid foods are nutritionally inferior to breast milk. Consumption of liquids and solid or mushy foods at an early age also increases children's exposure to pathogens and consequently puts them at a greater risk of getting diarrhoea.

Table 7.5 Initiation of breastfeeding

Percentage of children born during the three years preceding the survey who started breastfeeding within one hour and within one day of birth and percentage whose mother squeezed the first milk from her breast before breastfeeding by selected background characteristics, Andhra Pradesh, 1998–99

Background characteristic	Percentage started breastfeeding within one hour of birth	Percentage started breastfeeding within one day of birth ¹	Percentage whose mother squeezed first milk from breast	Number of children
Residence				
Urban	11.3	37.6	44.2	283
Rural	9.9	37.3	55.1	846
Mother's education				
Illiterate	10.4	35.8	59.7	610
Literate, < middle school complete	10.4	41.5	51.4	259
Middle school complete	3.8	36.5	43.4	79
High school complete and above	12.5	36.8	32.8	180
Religion				
Hindu	10.4	36.8	52.1	957
Muslim	9.3	37.7	50.9	92
Christian	10.4	43.6	57.9	78
Caste/tribe				
Scheduled caste	11.3	40.1	57.8	241
Scheduled tribe	4.6	40.9	63.8	67
Other backward class	11.8	40.3	52.1	499
Other	8.1	29.9	45.8	318
Mother's work status				
Working in family farm/business	8.7	38.6	57.0	164
Employed by someone else	9.1	35.1	62.3	323
Self-employed	(10.0)	(37.1)	(67.3)	40
Not worked in past 12 months	11.4	38.2	44.8	602
Standard of living index				
Low	10.5	34.6	56.4	404
Medium	10.1	40.6	53.9	552
High	10.0	33.8	37.5	167
Assistance during delivery				
Health professional	10.8	39.8	47.1	737
Traditional birth attendant	8.1	34.0	61.8	299
Other or none	13.2	28.3	63.6	93
Place of delivery				
Public health facility	13.2	49.1	47.7	141
NGO or trust hospital/clinic	(12.3)	(48.1)	(59.4)	25
Private health facility	8.9	34.9	41.5	396
Own home	11.0	35.4	65.7	287
Parents' home	9.7	35.7	54.9	270
Total	10.3	37.3	52.4	1,129

Note: Table includes only the two most recent births during the three years preceding the survey, whether living or dead at the time of interview. Total includes 1 child whose mother has no religion; 1, 3, and 6 children with missing information on religion, caste/tribe, and the standard of living index, respectively; and 10 children with 'other' place of delivery, who are not shown separately.

NGO: Nongovernmental organization

() Based on 25–49 unweighted cases

¹Includes children who started breastfeeding within one hour of birth

Table 7.6 Breastfeeding status by child's age							
Percent distribution of living children under age 3 years by breastfeeding status, according to child's age in months, Andhra Pradesh, 1998–99							
Age in months	Breastfeeding status					Total percent	Number of living children
	Not breastfeeding	Exclusively breastfeeding	Breastfeeding and receiving				
			Plain water only	Supplements			
< 2	(4.1)	(72.8)	(0.0)	(23.1)	100.0	47	
2–3	3.9	75.7	4.1	16.3	100.0	73	
4–5	0.0	53.4	2.5	44.1	100.0	81	
6–7	3.3	26.7	11.4	58.6	100.0	61	
8–9	3.2	6.6	10.1	80.1	100.0	61	
10–11	7.4	3.9	8.1	80.5	100.0	51	
12–13	9.9	1.5	0.0	88.6	100.0	69	
14–15	20.6	1.4	1.5	76.6	100.0	72	
16–17	12.3	1.3	1.2	85.2	100.0	81	
18–19	24.8	1.5	6.4	67.3	100.0	64	
20–21	(36.4)	(0.0)	(0.0)	(63.6)	100.0	49	
22–23	(42.5)	(0.0)	(0.0)	(57.5)	100.0	48	
24–25	(35.4)	(3.0)	(0.0)	(61.7)	100.0	31	
26–27	50.5	0.0	0.0	49.5	100.0	55	
28–29	58.7	0.0	0.0	41.3	100.0	64	
30–31	63.9	0.0	2.1	34.0	100.0	50	
32–33	62.0	0.0	0.0	38.0	100.0	52	
34–35	67.4	0.0	0.0	32.6	100.0	52	
< 4 months	4.0	74.6	2.5	18.9	100.0	121	
4–6 months	0.0	47.7	4.5	47.9	100.0	110	
7–9 months	4.3	11.9	11.0	72.8	100.0	93	

Note: Table includes only living children from among the two most recent births in the three years preceding the survey. Breastfeeding status refers to the 24 hours preceding the survey. Children classified as 'breastfeeding and receiving plain water only' receive no supplements.
() Based on 25–49 unweighted cases

In Andhra Pradesh, three-quarters of children under four months of age are exclusively breastfed, 3 percent receive breast milk plus water, and 19 percent receive supplements along with breast milk (Table 7.6). The percentage of infants exclusively breastfed drops off after three months to 53 percent at age 4–5 months and 27 percent at age 6–7 months. The proportion of children receiving breast milk and supplements increases from 44 percent for children age 4–5 months to 89 percent for children age 12–13 months, and declines thereafter as children are weaned from the breast and their food consumption no longer supplements breast milk. However, breastfeeding generally continues for a long period. Ninety percent of children age 12–13 months are still being breastfed, as are 58 percent of children age 22–23 months. For the majority of children in Andhra Pradesh, breastfeeding usually stops at about 26–27 months of age, but 33 percent of children age 34–35 months are still breastfed.

Table 7.7 shows in more detail the types of food consumed by children under age three years during the 24 hours before the interview. Because of the small number of nonbreastfeeding children, two-month age categories have been combined into broader age groups. Powdered milk is rarely given to young children at any age, but other milk (such as cow's milk or buffalo's milk) is given to young children more often. About two-thirds of non-breastfeeding children were given these other types of milk the day before the interview. About one-third to one-half of breastfeeding children age 8–35 months received non-powdered milk in addition to breast milk. For all children under age three years, other liquids, such as juice or tea, are given much less

Table 7.7 Type of food received by children

Percentage of living children under age 3 years who received specific types of food in the 24 hours before the interview and percentage using a bottle with a nipple by breastfeeding status and child's age in months, Andhra Pradesh, 1998–99

Age in months	Type of food received						Using bottle with a nipple	Number of living children
	Powdered milk	Any other milk	Any other liquid	Green, leafy vegetables	Fruits	Any solid or mushy food ¹		
BREASTFEEDING CHILDREN								
< 2	(4.5)	(19.6)	(0.0)	(0.0)	(2.0)	(2.0)	(10.8)	45
2–3	5.6	9.9	2.8	1.4	1.4	2.8	8.5	71
4–5	7.4	23.2	5.0	0.0	2.4	16.9	13.5	81
6–7	0.0	22.3	11.9	5.0	16.7	45.1	10.2	59
8–9	0.0	37.1	11.7	13.6	30.2	77.7	10.4	59
10–11	(6.5)	(33.9)	(25.9)	(17.0)	(37.9)	(78.3)	(8.5)	47
12–13	3.2	40.1	22.3	29.1	49.8	91.8	8.1	62
14–15	1.8	49.1	17.1	24.3	47.0	92.8	12.3	57
16–17	2.8	43.3	30.6	36.9	43.3	93.0	12.6	71
18–23	2.8	46.6	20.5	25.3	43.8	89.6	7.5	107
24–29	0.0	34.6	24.4	33.1	46.8	97.4	1.4	74
30–35	1.8	32.3	34.2	30.5	48.7	96.3	7.1	55
< 4 months	5.2	13.7	1.7	0.9	1.7	2.5	9.4	116
4–5 months	7.4	23.2	5.0	0.0	2.4	16.9	13.5	81
6–9 months	0.0	29.7	11.8	9.3	23.5	61.4	10.3	118
NON-BREASTFEEDING CHILDREN								
< 16	(13.7)	(86.3)	(34.4)	(23.3)	(51.6)	(86.0)	(74.2)	34
16–23	6.1	69.1	23.3	35.6	56.8	90.9	35.3	64
24–29	1.2	65.1	38.9	36.4	48.3	97.3	16.9	76
30–35	6.0	64.5	42.9	48.7	55.6	95.8	10.8	99
ALL CHILDREN								
< 2	(4.3)	(23.0)	(0.0)	(0.0)	(2.0)	(2.0)	(14.5)	47
2–3	6.7	10.8	4.0	1.3	1.3	2.7	12.1	73
4–5	7.4	23.2	5.0	0.0	2.4	16.9	13.5	81
6–7	0.0	24.9	13.1	4.8	17.8	46.9	11.6	61
8–9	0.0	39.1	12.9	13.2	32.5	78.4	13.3	61
10–11	9.7	35.1	25.8	17.6	40.7	79.9	15.3	51
12–13	4.2	46.1	21.6	27.7	50.5	92.6	14.4	69
14–15	2.7	58.3	23.2	27.7	48.3	94.3	22.2	72
16–17	3.6	46.6	30.6	36.1	43.0	92.7	17.1	81
18–23	3.6	54.1	21.0	29.0	49.2	90.1	15.9	162
24–29	0.6	50.1	31.8	34.8	47.5	97.3	9.3	150
30–35	4.5	53.0	39.8	42.3	53.2	96.0	9.5	154
< 4 months	5.7	15.6	2.4	0.8	1.6	2.4	13.0	121
4–5 months	7.4	23.2	5.0	0.0	2.4	16.9	13.5	81
6–9 months	0.0	32.0	13.0	9.0	25.2	62.7	12.4	122

Note: Table includes only living children from among the two most recent births during the three years preceding the survey. Breastfeeding status refers to the 24 hours preceding the survey. Percents by type of food may sum to more than 100.0 because children may have received more than one type of food.
 () Based on 25–49 unweighted cases
¹ Includes green, leafy vegetables and fruits

often than milk. The consumption of green, leafy vegetables generally increases with age, from 5 percent at age 6–7 months to 42 percent at age 30–35 months for all children. The consumption of fruits increases rapidly in the first year of life and then levels off at about 50 percent.

From about six months of age, the introduction of complementary food is critical for meeting the protein, energy, and micronutrient needs of children. However, in Andhra Pradesh the introduction of complementary food is delayed for a substantial proportion of children. Only

45 percent of breastfeeding children age 6–7 months consume solid or mushy foods. This proportion rises to more than 90 percent at age 12–13 months and older ages. Only 61 percent of breastfeeding children age 6–9 months receive solid or mushy food, as recommended.

Bottle feeding has a direct effect on the mother's exposure to the risk of pregnancy because the period of amenorrhoea may be shortened when breastfeeding is reduced or replaced by bottle feeding. Because it is often difficult to sterilize the nipple properly, the use of bottles with nipples also exposes children to an increased risk of getting diarrhoea and other diseases. The use of bottles with nipples is not common in Andhra Pradesh, especially for children who are being breastfed. In every age group, less than 14 percent of breastfeeding children drank anything from a bottle with a nipple during the day before the interview (Table 7.7). The use of a bottle with a nipple is much more common for children who are not being breastfed, particularly in the early months of life.

Table 7.8 shows several statistics that describe the duration of breastfeeding. The median length of any breastfeeding is 25 months or slightly more than two years. Estimates of both means and medians are based on the current proportions of children breastfeeding in each age group because information on current status is usually more accurate than information based on mother's recall. Supplementation begins relatively early, however. The median length of exclusive breastfeeding is 4.6 months, and the median length of exclusive breastfeeding or breastfeeding with water only is 5.1 months.

The mean durations of any breastfeeding, exclusive breastfeeding, and exclusive breastfeeding or breastfeeding with water only are 24.6 months, 5.1 months, and 6.0 months, respectively. The mean durations differ slightly from the median durations because of extreme values of the duration of breastfeeding for some children. (The mean duration is strongly affected by extreme values, but the median duration is not.)

An alternative measure of the duration of breastfeeding is the prevalence-incidence mean, which is calculated as the 'prevalence' of breastfeeding divided by its 'incidence'. In this case, prevalence is defined as the number of children whose mothers were breastfeeding at the time of the survey, and incidence is defined as the average number of births per month (averaged over a 36-month period to overcome problems of seasonality of births and possible reference-period errors). For each measure of breastfeeding, the prevalence-incidence mean is about the same as the mean calculated in the conventional manner.

The median duration of breastfeeding is five months shorter for girls than for boys. This pattern is often observed in societies where there is a strong preference for sons, since the parents may stop breastfeeding a girl at a younger age to increase their chances of having another child earlier (with the hope that the next child will be a boy). The median length of breastfeeding is seven months longer in rural areas than in urban areas. Most rural women breastfeed their children for more than two years. Children in urban areas are exclusively breastfed for a very short median period of less than one month.

7.5 Nutritional Status of Children

Nutritional status is a major determinant of the health and well-being of children. Inadequate or unbalanced diets and chronic illness are associated with poor nutrition among children. To assess their nutritional status, measurements of weight and height/length were obtained for children

Table 7.8 Median duration of breastfeeding by background characteristics				
Median duration of any, exclusive, and full breastfeeding among children under age 3 years by sex of child and residence, and mean duration of breastfeeding, Andhra Pradesh, 1998–99				
Background characteristic	Median duration (months) ¹			Number of children
	Any breastfeeding	Exclusive breastfeeding	Exclusive breastfeeding or breastfeeding plus water only	
Sex of child				
Male	27.8	4.3	5.1	558
Female	23.3	4.7	5.1	571
Residence				
Urban	19.8	0.7	0.7	283
Rural	26.6	4.9	5.5	846
Median duration	25.0	4.6	5.1	1,129
Mean duration (months) ¹	24.6	5.1	6.0	1,129
Prevalence/incidence mean	24.8	5.0	6.0	1,129
Note: Table includes only the two most recent births during the three years preceding the survey.				
¹ Based on current status				

born in the three years preceding the survey. Children were weighed and measured with the same type of scales and measuring boards used for women. Children under two years of age were measured lying down and other children were measured standing up. Data on weight and height/length were used to calculate the following three summary indices of nutritional status:

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

The nutritional status of children calculated according to these three measures is compared with the nutritional status of an international reference population recommended by the World Health Organization (Dibley et al., 1987a; 1987b). The use of this reference population is based on the empirical finding that well-nourished children in all population groups for which data exist follow very similar growth patterns (Martorell and Habicht, 1986). A scientific report from the Nutrition Foundation of India (Agarwal et al., 1991) has concluded that the WHO standard is generally applicable to Indian children.

The three indices of nutritional status are expressed in standard deviation units (z-scores) from the median for the international reference population. Children who are more than two standard deviations below the reference median on any of the indices are considered to be *undernourished*, and children who fall more than three standard deviations below the reference median are considered to be *severely undernourished*.

Each of these indices provides somewhat different information about the nutritional status of children. Weight-for-age is a composite measure that takes into account both chronic and acute undernutrition. Children who are more than two standard deviations below the

reference median on this index are considered to be *underweight*. The height-for-age index measures linear growth retardation. Children who are more than two standard deviations below the median of the reference population in terms of height-for-age are considered short for their age or *stunted*. The percentage in this category indicates the prevalence of chronic undernutrition, which often results from a failure to receive adequate nutrition over a long period of time or from chronic or recurrent diarrhoea. Height-for-age, therefore, does not vary appreciably by the season in which data are collected.

The weight-for-height index examines body mass in relation to body length. Children who are more than two standard deviations below the median of the reference population in terms of weight-for-height are considered too thin or *wasted*. The percentage in this category indicates the prevalence of acute undernutrition. Wasting is associated with a failure to receive adequate nutrition in the period immediately before the survey and may be the result of seasonal variations in food supply or recent episodes of illness.

The validity of these indices is determined by many factors, including the coverage of the population of children and the accuracy of the anthropometric measurements. The survey was not able to measure the height and weight of all eligible children, usually because the child was not at home at the time of the health investigator's visit or because the mother refused to allow the child to be weighed and measured. In Andhra Pradesh, NFHS-2 failed to measure 5 percent of children under age three (see Table B.3 in Appendix B). Also excluded from the analysis are children whose month and year of birth were not known and those with grossly improbable height or weight measurements. In addition, two of the three indices (weight-for-age and height-for-age) are sensitive to misreporting of children's ages, including heaping on preferred digits.

Table 7.9 shows the percentage of children classified as undernourished by selected demographic characteristics. More than one-third of children under three years of age are underweight (38 percent), and a similar percentage are stunted (39 percent). The proportion of children who are severely undernourished is also notable—10 percent according to weight-for-age and 14 percent according to height-for-age. Wasting is also quite evident in Andhra Pradesh, affecting 9 percent of children under three years of age. The proportion of children under three years of age who are underweight decreased from 45 percent in NFHS-1 to 38 percent in NFHS-2 and the proportion severely underweight decreased from 13 percent to 10 percent. A similar comparison cannot be made for stunting and wasting because children's height/length was not measured in NFHS-1 in Andhra Pradesh.

The proportion of children who are underweight and stunted increases steadily with the child's age, whereas wasting has no consistent relationship with age. Even during the first six months of life, when most babies are breastfed, 8–18 percent of children are undernourished according to the three nutritional indices. It is notable that at age 24–35 months, when most children have been weaned from breast milk, more than one-fifth are severely stunted and nearly as many are severely underweight.

Overall, girls and boys are about equally undernourished, but girls are slightly more likely than boys to be underweight and stunted, whereas boys are more likely to be severely wasted. Undernutrition generally increases with increasing birth order. Young children in families with four or more children are nutritionally the most disadvantaged. First births have

Table 7.9 Nutritional status of children by demographic characteristics

Percentage of children under age 3 years classified as undernourished on three anthropometric indices of nutritional status, according to selected demographic characteristics, Andhra Pradesh, 1998–99

Demographic characteristic	Weight-for-age		Height-for-age		Weight-for-height		Number of children
	Percentage below -3 SD	Percentage below -2 SD ¹	Percentage below -3 SD	Percentage below -2 SD ¹	Percentage below -3 SD	Percentage below -2 SD ¹	
Age of child							
< 6 months	1.7	10.9	4.7	18.0	1.2	7.5	174
6–11 months	3.2	27.1	4.6	29.7	1.3	3.3	160
12–23 months	12.7	45.1	18.0	46.0	2.1	12.0	336
24–35 months	17.3	52.3	21.4	48.2	1.5	9.8	263
Sex of child							
Male	8.9	35.1	14.2	37.4	2.4	9.1	469
Female	11.7	40.2	14.1	39.8	0.9	9.0	464
Birth order							
1	7.4	36.4	12.8	37.3	1.5	6.8	330
2–3	9.7	37.3	14.6	38.3	1.5	9.5	464
4–5	17.9	41.1	10.8	40.9	2.8	15.2	113
6+	(23.2)	(45.3)	(38.1)	(49.0)	(0.0)	(3.8)	27
Previous birth interval²							
First birth	7.4	36.6	12.8	37.2	1.5	6.7	331
< 24 months	12.4	43.5	15.4	38.5	3.3	11.6	119
24–47 months	11.7	36.6	16.1	40.1	1.5	8.8	346
48+ months	11.9	37.9	11.7	38.0	0.7	13.2	137
Total	10.3	37.7	14.2	38.6	1.6	9.1	933

Note: Each index is expressed in standard deviation units (SD) from the median of the International Reference Population.
 () Based on 25–49 unweighted cases
¹ Includes children who are below -3 SD from the International Reference Population median
² First-born twins (triplets, etc.) are counted as first births because they do not have a previous birth interval.

slightly lower than average levels of undernutrition on all the measures, and children born after a short birth interval have higher than average levels on almost every measure.

Table 7.10 shows the nutritional status of children by selected background characteristics. Undernutrition is substantially higher in rural areas than in urban areas. Even in urban areas, however, about 30 percent of children are underweight or stunted. Children whose mothers are illiterate are about twice as likely to be undernourished as children whose mothers have completed at least high school (see Figure 7.2). Muslim children are less likely to be underweight and wasted than Hindu or Christian children. Children belonging to scheduled castes, scheduled tribes, or other backward classes have relatively high levels of undernutrition according to all three measures. Interestingly, undernutrition is relatively low for children whose mothers have not worked in the past 12 months.

Undernutrition among children is strongly related to maternal nutritional status. Undernutrition is more common for children of mothers whose height is less than 145 centimetres or whose body mass index is below 18.5 than for other children. All of the measures of undernutrition are strongly related to the household's standard of living. Children from households with a low standard of living are 2–3 times as likely to be undernourished as children from households with a high standard of living.

Table 7.10 Nutritional status of children by background characteristics

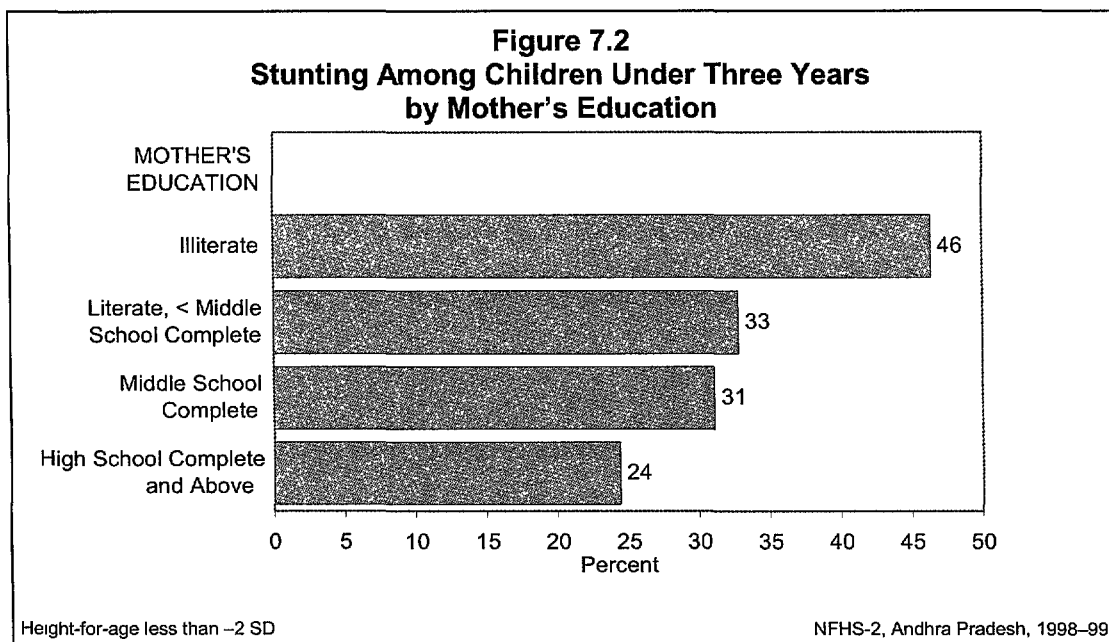
Percentage of children under age 3 years classified as undernourished on three anthropometric indices of nutritional status, according to selected background characteristics, Andhra Pradesh, 1998–99

Background characteristic	Weight-for-age		Height-for-age		Weight-for-height		Number of children
	Percent-age below -3 SD	Percent-age below -2 SD ¹	Percent-age below -3 SD	Percent-age below -2 SD ¹	Percent-age below -3 SD	Percent-age below -2 SD ¹	
Residence							
Urban	6.8	28.6	9.3	29.7	0.4	7.6	236
Rural	11.5	40.7	15.8	41.6	2.1	9.5	697
Mother's education							
Illiterate	14.7	44.0	18.6	46.3	1.6	10.4	497
Literate, < middle school complete	5.9	34.6	10.9	32.9	1.8	6.0	220
Middle school complete	9.1	34.3	12.0	31.0	1.6	16.4	68
High school complete and above	2.6	22.4	5.3	24.4	1.3	5.9	148
Religion							
Hindu	10.7	38.0	14.0	38.5	1.9	9.2	791
Muslim	6.2	31.6	15.0	39.0	0.0	6.2	78
Christian	10.0	40.9	16.3	37.4	0.0	11.6	62
Caste/tribe							
Scheduled caste	14.2	43.4	18.4	42.7	1.1	9.5	192
Scheduled tribe	7.5	45.9	12.9	44.2	0.0	7.5	56
Other backward class	12.5	39.1	15.1	39.8	2.7	10.4	413
Other	4.8	29.7	10.1	32.3	0.7	7.1	269
Mother's work status							
Working in family farm/business	15.3	42.8	20.7	44.6	1.5	7.7	134
Employed by someone else	16.3	49.6	18.5	49.4	2.4	10.0	258
Self-employed	(11.4)	(45.6)	(14.4)	(54.3)	(2.9)	(16.8)	35
Not worked in past 12 months	5.8	29.6	10.2	30.4	1.2	8.4	506
Mother's height							
< 145 cm	15.1	46.3	24.9	54.9	0.0	9.5	93
≥ 145 cm	9.8	36.6	13.0	36.8	1.8	9.0	839
Mother's body mass index							
< 18.5 kg/m ²	14.2	44.6	16.7	43.0	1.7	11.7	423
≥ 18.5 kg/m ²	7.1	31.9	12.2	35.1	1.6	6.9	508
Standard of living index							
Low	16.6	48.5	19.1	46.3	2.4	12.6	329
Medium	8.0	36.5	12.8	37.7	1.4	7.3	457
High	2.7	16.1	7.1	23.7	0.7	4.8	141
Total	10.3	37.7	14.2	38.6	1.6	9.1	933

Note: Each index is expressed in standard deviation units (SD) from the median of the International Reference Population. Total includes 1 child whose mother has no religion and 1, 3, 1, 3, and 6 children with missing information on religion, caste/tribe, mother's height, mother's body mass index, and the standard of living index, respectively, who are not shown separately.

() Based on 25–49 unweighted cases

¹Includes children who are below -3 SD from the International Reference Population median



7.6 Anaemia Among Children

Anaemia is a serious concern for young children because it can result in impaired cognitive performance, behavioural and motor development, coordination, language development, and scholastic achievement, as well as increased morbidity from infectious diseases (Seshadri, 1997). One of the most vulnerable groups is children age 6–24 months (Stoltzfus and Dreyfuss, 1998).

Table 7.11 and Figure 7.3 show anaemia levels for children age 6–35 months. Overall, nearly three-quarters (72 percent) of these children have some level of anaemia, including 23 percent who are mildly anaemic (10.0–10.9 g/dl), 45 percent who are moderately anaemic (7.0–9.9 g/dl), and 4 percent who are severely anaemic (less than 7.0 g/dl)⁴. Notably, a much higher proportion of children than women are anaemic.

Several groups of children have particularly high levels of moderate to severe anaemia. These include children age 12–23 months (an age at which children are often being weaned), male children, rural children, Christian children, children from scheduled castes and scheduled tribes, and children from poor families. The prevalence of anaemia among children whose mothers have completed at least a high school education is lower than among children whose mothers are illiterate or have less than a high school education. As expected, there is a strong positive relationship between the anaemia status of mothers and prevalence of anaemia among children.

7.7 Iodization of Salt

Iodine is an important micronutrient. A lack of iodine in the diet can lead to Iodine Deficiency Disorders (IDD), which, according to the World Health Organization, can cause miscarriages, brain disorders, cretinism, and retarded psychomotor development. It is the single most important and preventable cause of mental retardation worldwide.

⁴ Because only 2 PSUs out of 133 were above 1,000 metres in Andhra Pradesh, the unadjusted rates for anaemia among children are almost identical to the corresponding rates presented here, which are adjusted for altitude.

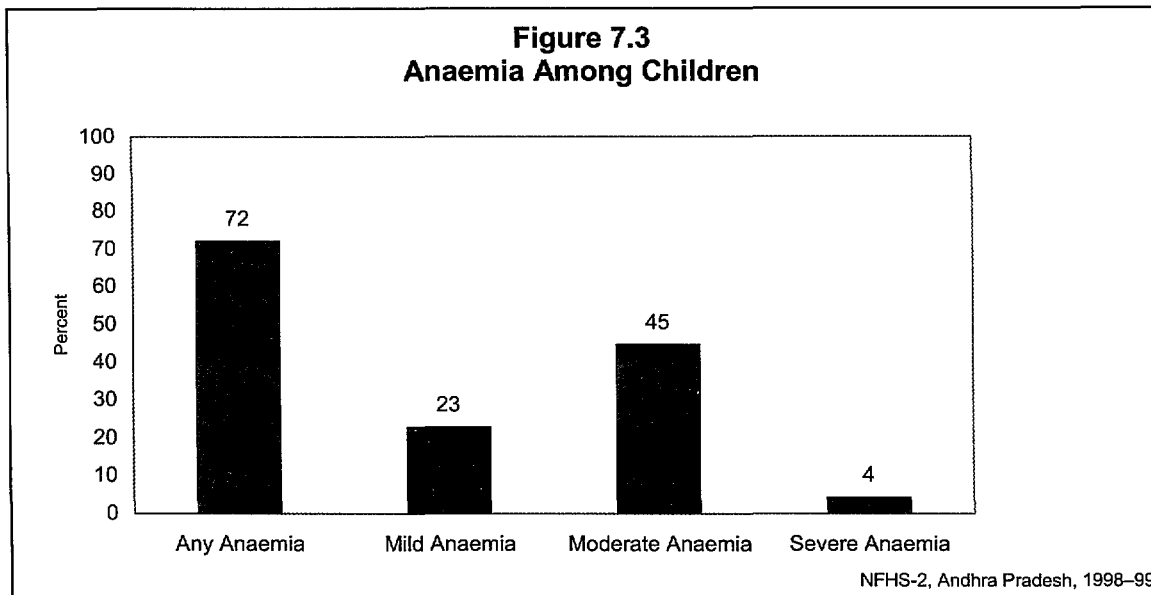
Table 7.11 Anaemia among children

Percentage of children age 6–35 months classified as having iron-deficiency anaemia by selected demographic and background characteristics, Andhra Pradesh, 1998–99

Background characteristic	Percentage of children with anaemia	Percentage of children with:			Number of children
		Mild anaemia	Moderate anaemia	Severe anaemia	
Age of child					
6–11 months	68.4	23.7	44.0	0.6	156
12–23 months	75.2	23.2	45.8	6.1	332
24–35 months	71.1	22.4	44.4	4.4	268
Sex of child					
Male	72.9	20.6	46.3	6.0	369
Female	71.8	25.4	43.6	2.8	387
Birth order					
1	75.0	24.5	47.8	2.7	264
2–3	73.6	23.4	44.6	5.6	377
4–5	62.9	19.4	39.1	4.4	89
6+	(59.8)	(15.0)	(41.0)	(3.7)	27
Residence					
Urban	69.5	23.2	44.4	1.9	192
Rural	73.3	23.0	45.1	5.2	564
Mother's education					
Illiterate	72.3	21.8	45.1	5.5	405
Literate, < middle school complete	75.7	26.4	46.2	3.2	188
Middle school complete	(77.1)	(17.8)	(55.1)	(4.2)	49
High school complete and above	64.6	24.0	38.0	2.6	114
Religion					
Hindu	72.7	23.6	44.5	4.5	638
Muslim	71.2	22.7	48.5	0.0	64
Christian	70.8	16.5	46.7	7.7	53
Caste/tribe					
Scheduled caste	79.6	21.6	51.2	6.8	159
Scheduled tribe	(68.2)	(13.7)	(43.0)	(11.5)	45
Other backward class	71.4	25.8	41.9	3.7	326
Other	69.7	22.0	45.4	2.2	225
Mother's work status					
Working in family farm/business	72.0	19.8	47.7	4.5	114
Employed by someone else	73.8	21.5	46.2	6.1	231
Self-employed	(84.4)	(39.9)	(44.6)	(0.0)	25
Not worked in past 12 months	70.8	23.8	43.4	3.6	387
Standard of living index					
Low	78.1	25.1	46.4	6.6	271
Medium	70.1	20.2	46.6	3.3	368
High	67.3	28.0	37.6	1.7	113
Mother's anaemia status					
Not anaemic	68.4	25.1	40.8	2.4	376
Mildly anaemic	74.8	22.5	47.3	4.9	263
Moderately anaemic	80.9	18.2	54.7	8.1	100
Total	72.3	23.0	44.9	4.4	756

Note: Haemoglobin levels are adjusted for altitude when calculating the severity of anaemia. Total includes 1 child whose mother has no religion, 14 children whose mothers are severely anaemic, and 1, 4, and 3 children with missing information on caste/tribe, the standard of living index, and mother's anaemia status, respectively, who are not shown separately.

() Based on 25–49 unweighted cases



It has been estimated that 200 million people in India are exposed to the risk of iodine deficiency and 70 million suffer from goitre and other IDD (IDD & Nutrition Cell, 1998). In addition, about one-fifth of pregnant women are at considerable risk of giving birth to children who will not reach their optimum physical and mental potential because of maternal iodine deficiency (Vir, 1995).

Iodine deficiency can be avoided by using salt that has been fortified with iodine. In 1983-84, the Government of India adopted a policy to achieve universal iodization of edible salt by 1992. In 1988, the Prevention of Food Adulteration Act was amended to fix the minimum iodine content of salt at 30 parts per million (ppm) at the manufacturing level and 15 ppm at the consumer level (MOHFW, 1994). The Government of India has advised all states and union territories to issue notifications banning the sale of edible salt that is not iodized. NFHS-2, with its representative sample of households throughout Andhra Pradesh and the rest of India, is an ideal vehicle for measuring the degree of salt iodization in the country.

Iodine levels in salt can be measured in the laboratory using a standard titration test or in the field using a rapid-test kit. In NFHS-2, interviewers measured the iodine content of cooking salt in each interviewed household using a rapid-test kit. The test kit consists of ampoules of a stabilized starch solution and of a weak acid-based solution. The interviewer squeezes one drop of the starch solution on a sample of cooking salt obtained from the household respondent. If the colour changes (from light blue through dark violet), the interviewer matches the colour of the salt as closely as possible to a colour chart on the test kit and records the iodine level as 7, 15, or 30 ppm. If the initial test is negative (no change in colour), the interviewer is required to conduct a second confirmatory test on a new salt sample, using the acid-based solution in addition to the starch solution. This test is necessary because the starch solution will not show any colour change even on iodized salt if the salt is alkaline or mixed with alkaline free-flow agents. If the colour of the salt does not change even after the confirmatory test, the salt is not iodized. Because of uncertainties and subjective judgement in the matching process, the rapid test should not be seen as giving an exact quantitative estimate of salt iodization, but it does provide reasonable information on whether or not salt is iodized, as well as the extent of iodization.

Table 7.12 Iodization of salt

Percent distribution of households by degree of iodization of salt, according to selected background characteristics, Andhra Pradesh, 1998–99

Background characteristic	Not iodized	7 ppm	15 ppm	30 ppm	Missing	Total percent	Number of households
Type of place of residence							
Large city	10.2	23.4	10.2	56.3	0.0	100.0	121
Small city	26.2	30.3	9.3	34.2	0.0	100.0	424
Town	28.2	25.0	10.6	36.1	0.0	100.0	422
Rural area	40.7	38.6	10.3	10.3	0.1	100.0	2,906
Religion of household head							
Hindu	36.2	36.6	10.0	17.3	0.0	100.0	3,399
Muslim	28.9	30.9	15.7	24.6	0.0	100.0	238
Christian	54.6	29.3	7.8	8.3	0.0	100.0	232
Caste/tribe of household head							
Scheduled caste	48.6	35.8	9.1	6.6	0.0	100.0	780
Scheduled tribe	37.7	44.2	9.9	8.3	0.0	100.0	195
Other backward class	36.1	38.9	10.6	14.3	0.1	100.0	1,685
Other	29.7	30.1	10.6	29.6	0.0	100.0	1,203
Standard of living index							
Low	46.3	41.2	8.3	4.2	0.0	100.0	1,580
Medium	34.2	36.6	11.5	17.6	0.1	100.0	1,722
High	18.3	17.1	11.6	53.0	0.0	100.0	555
Total	36.8	35.7	10.2	17.2	0.1	100.0	3,872

Note: Total includes 2 households with a household head with no religion and 1, 9, and 15 households with missing information on religion, caste/tribe, and the standard of living index, respectively, which are not shown separately.
ppm: Parts per million

Table 7.12 shows the extent of salt iodization at the household level. Overall, only slightly more than one-quarter of households (27 percent) use cooking salt that is iodized at the recommended level of 15 ppm or more. More than one-third of households (37 percent) use salt that is not iodized at all and about the same percentage use salt that is inadequately iodized (less than 15 ppm). Differentials in salt iodization by background characteristics are pronounced. Two-thirds of households in large cities use salt with 15 ppm or more of iodine compared with 44–47 percent of households in small cities and towns and only 21 percent of households in rural areas. Households with Muslim heads (which are concentrated in urban areas) are more likely to use iodized salt than households with Hindu or Christian heads. The use of iodized salt is relatively low in households headed by persons from scheduled castes or scheduled tribes. The widest differentials are observed for the standard of living index. Sixty-five percent of households with a high standard of living use adequately iodized salt compared with only 13 percent of households with a low standard of living.

CHAPTER 8

MATERNAL AND REPRODUCTIVE HEALTH

Promotion of maternal and child health has been one of the most important objectives of the Family Welfare Programme in India. The Government of India took steps to strengthen maternal and child health services as early as the First and Second Five-Year Plans (1951–56 and 1956–61). As part of the Minimum Needs Programme initiated during the Fifth Five-Year Plan (1974–79), maternal health, child health and nutrition services were integrated with family planning services. The primary aim at that time was to provide at least a minimum level of public health services to pregnant women, lactating mothers, and preschool children (Kanitkar, 1979).

In 1992–93, the Child Survival and Safe Motherhood Programme continued the process of integration by bringing together several key child survival interventions with safe motherhood and family planning activities (Ministry of Health and Family Welfare, 1992). In 1996, safe motherhood and child health services were incorporated into the Reproductive and Child Health Programme. This new programme seeks to integrate maternal health, child health and fertility regulation interventions with reproductive health programmes for both women and men. With regard to maternal and reproductive health (Ministry of Health and Family Welfare, 1997; 1998b), the important elements of the programme include:

- Provision of antenatal care, including at least three antenatal care visits, iron prophylaxis for pregnant and lactating mothers, detection and treatment of anaemia in mothers, and management and referral of high-risk pregnancies
- Encouragement of institutional deliveries or home deliveries assisted by trained health personnel
- Provision of postnatal care, including at least three postnatal visits
- Identification and management of reproductive tract and sexually transmitted infections

In rural areas, the government delivers reproductive and other health services through its network of Primary Health Centres (PHCs), sub-centres, and other government health facilities. In addition, pregnant women and children can obtain services from private maternity homes, hospitals, private practitioners, and in some cases, nongovernmental organizations (NGOs). In urban areas, reproductive health services are available mainly through government or municipal hospitals, urban health posts, hospitals and nursing homes operated by NGOs, and private nursing and maternity homes.

In rural areas, a female paramedical worker, called an auxiliary nurse midwife (ANM), is posted at a sub-centre to provide basic maternal health, child health, and family welfare services to women and children either in their homes or in the health clinic. Her work is overseen by the lady health visitor (LHV) posted at the PHC. With regard to safe motherhood, the ANM is responsible for registering pregnant women, motivating them to obtain antenatal and postnatal care, assessing their health throughout pregnancy and in the postpartum period, and referring women with high-risk pregnancies. The ANMs are assisted by a male health worker whose

duties include motivating men to participate in the family welfare programme and educating men about reproductive tract and sexually transmitted infections. The ANM and LHV also assist the medical officer at the PHC where health services including antenatal and postnatal care are provided (Ministry of Health and Family Welfare, 1997; 1998b).

An important objective of NFHS-2 is to provide information on the use of safe-motherhood services. In addition, the survey included questions on the prevalence and treatment of reproductive health problems. The Woman's Questionnaire included relevant questions on safe motherhood for women age 15–49 who have given birth since 1 January 1995. The topics covered included pregnancy complications, antenatal and postnatal care, place of and assistance during delivery, delivery characteristics, and postpartum complications. Although the survey obtained information for the two most recent live births since 1 January 1995, the information presented in this chapter pertains only to the subset of those births that took place during the three years preceding the survey. With regard to reproductive health, all women were asked about their experience of specific symptoms of reproductive health problems, and if problems were reported, whether and where they received treatment.

8.1 Antenatal Problems and Care

Antenatal care (ANC) refers to pregnancy-related health care provided by a doctor or a health worker in a medical facility or at home. The Safe Motherhood Initiative proclaims that all pregnant women must receive basic, professional antenatal care (Harrison, 1990). Ideally, antenatal care should monitor a pregnancy for signs of complications, detect and treat pre-existing and concurrent problems of pregnancy, and provide advice and counselling on preventive care, diet during pregnancy, delivery care, postnatal care, and related issues. The Reproductive and Child Health Programme recommends that as part of antenatal care, women receive two doses of tetanus toxoid vaccine, adequate amounts of iron and folic acid tablets or syrup to prevent and treat anaemia, and at least three antenatal check-ups that include blood pressure checks and other procedures to detect pregnancy complications (Ministry of Health and Family Welfare, 1997; 1998b).

NFHS-2 collected information from women on specific problems they may have had during their pregnancies and whether they received any antenatal check-ups. Women who did not receive antenatal check-ups were asked why they did not. Women who received antenatal check-ups were asked about the care provider, the timing of the first antenatal check-up, the total number of check-ups, the procedures conducted during the check-ups, and the advice given. In addition, the survey asked women whether they received tetanus toxoid injections and iron and folic acid tablets or syrup. Results from each of these questions are discussed in this chapter.

Problems During Pregnancy

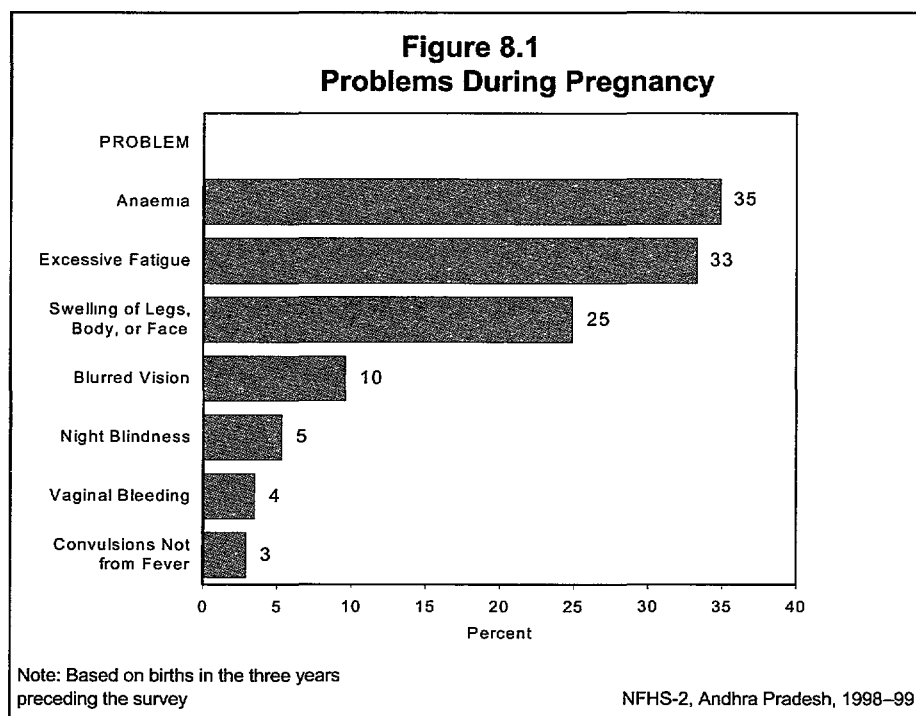
For each of the two most recent births in the three years preceding the survey, the mother was asked if at any time during the pregnancy she experienced any of the following pregnancy-related problems: night blindness, blurred vision, convulsions (not from fever), swelling (of the legs, body or face), excessive fatigue, anaemia, or vaginal bleeding. Night blindness, or difficulty seeing at dusk, is the result of chronic vitamin A deficiency and is often seen in pregnant women in areas where vitamin A deficiency is endemic. Convulsions accompanied by signs of hypertension can be symptomatic of eclampsia, a potentially fatal condition. The potential health

Table 8.1 Health problems during pregnancy			
Among births during the three years preceding the survey, percentage of mothers experiencing specific health problems during pregnancy by residence, Andhra Pradesh, 1998–99			
Problem during pregnancy	Urban	Rural	Total
Night blindness	2.3	6.3	5.3
Blurred vision	4.7	11.2	9.6
Convulsions not from fever	2.7	3.0	2.9
Swelling of the legs, body, or face	29.4	23.4	24.9
Excessive fatigue	36.2	32.3	33.3
Anaemia	33.9	35.2	34.9
Vaginal bleeding	3.3	3.5	3.5
Number of births	283	846	1,129

Note: Table includes only the two most recent births during the three years preceding the survey.

risk posed by vaginal bleeding during pregnancy varies by when in the pregnancy the bleeding takes place. Although documenting the prevalence of the symptoms of pregnancy complications is vital for planning services to reduce maternal morbidity and mortality, the information presented here is based on women’s self reports and should be interpreted with care.

As shown in Table 8.1 and Figure 8.1, the problems most commonly reported are anaemia (35 percent) and excessive fatigue (33 percent), followed by swelling of the legs, body, or face (25 percent). Ten percent of women reported blurred vision, 5 percent reported night blindness, 4 percent reported any vaginal bleeding, and 3 percent reported convulsions that were not from fever. The reported prevalence of both kinds of vision problems is much higher in rural than in urban areas. A slightly higher proportion of urban than rural women reported having excessive fatigue and swelling of the legs, body or face.



Antenatal Check-Ups

A pregnant woman can have an antenatal check-up by visiting a doctor or another health professional in a medical facility, receiving a home visit from a health worker, or both. NFHS-2 asked women who had a birth during the three years preceding the survey whether any health worker had visited them at home to provide antenatal check-ups. The survey also asked whether women had gone for antenatal check-ups outside the home, and if they had, what type of service provider gave them the check-ups.

Table 8.2 and Figure 8.2 show the percent distribution of births in the three years preceding the survey by the source of antenatal check-ups received during pregnancy. Women who received antenatal check-ups both at home and outside the home are categorized as having received care outside the home. If women received check-ups from more than one type of health provider, only the provider with the highest qualification is considered.

NFHS-2 results for Andhra Pradesh show that mothers received antenatal check-ups for 93 percent of births during the three years preceding the survey, up slightly from 89 percent in NFHS-1. Mothers received antenatal check-ups from doctors for 81 percent of births and from other health professionals (such as ANMs, nurses, midwives, or LHVs) for 7 percent of births. Mothers received antenatal check-ups exclusively at home from a health worker for 5 percent of births.

Older women and women having higher-order births are much less likely to have received antenatal check-ups (especially from doctors) for their births, but more likely to have received check-ups exclusively at home. As expected, antenatal check-ups from doctors are much more common in urban areas than in rural areas.

In Andhra Pradesh, almost all literate mothers received antenatal check-ups for their births, but even 87 percent of illiterate mothers received antenatal check-ups. The proportion of births whose mothers received antenatal check-ups from a doctor increases steadily with education, from 72 percent for illiterate mothers to 96 percent for mothers who have completed at least high school. Conversely, the prevalence of home visits only from a health worker decreases with mothers' education. The utilization of antenatal check-up services does not vary by religion; but Christians are twice as likely (13 percent) as Muslims or Hindus (6 percent each) to have received check-ups from 'other health professionals'. By caste/tribe, the likelihood of having received any antenatal check-up and a check-up from a doctor is lowest for births to scheduled-tribe mothers and highest for births to mothers who do not belong to scheduled castes, scheduled tribes, or other backward classes. The likelihood of having received antenatal check-ups from a doctor increases with the household's standard of living, from 68 percent for births to mothers with a low standard of living to 95 percent for births to mothers with a high standard of living.

In summary, women in Andhra Pradesh who did not receive an antenatal check-up for births in the three years preceding the survey are disproportionately women of high parity, women from scheduled tribes, illiterate women, and poor women. This suggests that improving the coverage of antenatal programmes in Andhra Pradesh requires special efforts to reach high-parity women and women who are socioeconomically disadvantaged.

Table 8.2 Antenatal check-ups

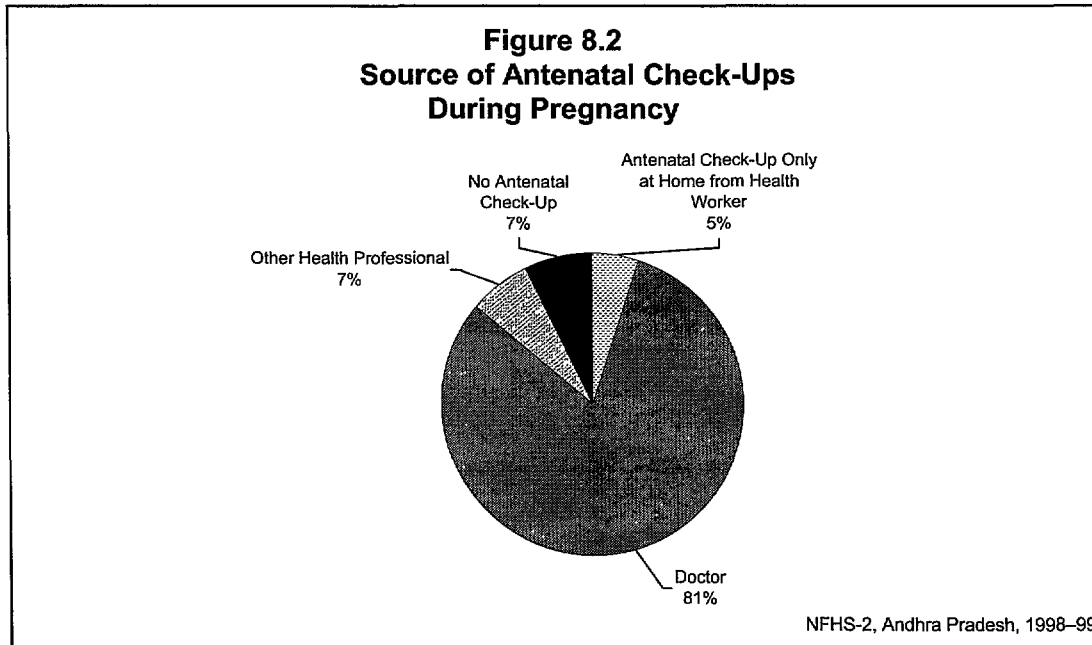
Percent distribution of births during the three years preceding the survey by source of antenatal check-up, according to selected background characteristics, Andhra Pradesh, 1998–99

Background characteristic	Antenatal check-up only at home from health worker	Antenatal check-up outside home ¹ from:			No antenatal check-up	Total percent	Number of births
		Doctor	Other health professional				
Mother's age at birth							
< 20	2.4	85.6	6.4	5.6	100.0	386	
20–34	6.2	79.9	6.9	7.0	100.0	718	
35–49	(7.9)	(47.7)	(4.0)	(40.4)	100.0	25	
Birth order							
1	1.8	88.2	6.5	3.5	100.0	410	
2–3	4.9	83.9	5.9	5.3	100.0	550	
4–5	12.2	60.4	10.6	16.8	100.0	133	
6+	(14.2)	(35.0)	(5.3)	(45.4)	100.0	36	
Residence							
Urban	1.3	93.6	4.4	0.7	100.0	283	
Rural	6.1	77.0	7.4	9.5	100.0	846	
Mother's education							
Illiterate	7.6	71.9	7.9	12.6	100.0	610	
Literate, < middle school complete	2.3	89.0	7.1	1.6	100.0	259	
Middle school complete	1.2	92.5	6.4	0.0	100.0	79	
High school complete and above	1.1	96.1	2.2	0.6	100.0	180	
Religion							
Hindu	5.0	81.3	6.2	7.4	100.0	957	
Muslim	2.2	84.8	6.4	6.6	100.0	92	
Christian	6.5	74.0	12.9	6.7	100.0	78	
Caste/tribe							
Scheduled caste	7.1	75.2	9.7	8.1	100.0	241	
Scheduled tribe	9.2	63.4	1.5	25.9	100.0	67	
Other backward class	4.8	80.6	7.4	7.2	100.0	499	
Other	2.6	90.1	4.4	2.9	100.0	318	
Standard of living index							
Low	9.4	68.2	8.9	13.5	100.0	404	
Medium	2.8	86.3	6.0	4.8	100.0	552	
High	1.2	94.5	3.7	0.7	100.0	167	
Total	4.9	81.1	6.7	7.3	100.0	1,129	

Note: Table includes only the two most recent births during the three years preceding the survey. Total includes 1 birth to a woman with no religion and 1, 3, and 6 births with missing information on religion, caste/tribe, and the standard of living index, respectively, which are not shown separately.

() Based on 25–49 unweighted cases

¹Includes all women who received an antenatal check-up outside the home, even if they also received an antenatal check-up at home from a health worker. If more than one type of antenatal check-up provider was mentioned, only the provider with the highest qualification is shown.



Reasons for Not Receiving Antenatal Check-Ups

Table 8.3 shows the percent distribution of births in the three years preceding the survey whose mothers did not receive any antenatal check-ups in a health facility or at home by the main reason for not receiving check-ups. For births to mothers who did not have any antenatal check-ups, one-half of mothers did not consider having a check-up to be necessary (44 percent) or customary (6 percent). Costs (20 percent) and lack of time (13 percent) account for another one-third of cases. For 6 percent of births, mothers did not have antenatal check-ups because of lack of knowledge of antenatal services. These results suggest the need to inform mothers about the availability and benefits of antenatal check-ups to help overcome traditional attitudes and other hurdles that prevent mothers from seeking antenatal care for their pregnancies. Utilization of antenatal care services could also be increased by lowering the cost and making the services more accessible.

Number and Timing of Antenatal Check Ups

The number of antenatal check-ups and the timing of the first check-up are important for the health of the mother and the outcome of the pregnancy. The conventional recommendation for normal pregnancies is that once pregnancy is confirmed, antenatal check-ups should be scheduled at four-week intervals during the first seven months, then every two weeks until the last month, and weekly thereafter (MacDonald and Pritchard, 1980). Four antenatal check-ups—one each during the third, sixth, eighth, and ninth months of pregnancy—have been recommended as the minimum necessary (Park and Park, 1989). The conventional recommendation is to schedule the first check-up within six weeks of a woman's last menstrual period. Studies on the timing of the initial antenatal check-up, however, show that even when antenatal care is initiated as late as the third trimester, there is a substantial reduction in perinatal mortality (Ramachandran, 1992).

Reason for not receiving an antenatal check-up	
Percent distribution of births during the three years preceding the survey to mothers who did not receive an antenatal check-up by the main reason for not receiving an antenatal check-up, Andhra Pradesh, 1998–99	
Reason for not receiving an antenatal check-up	Percent
Not necessary	43.6
Not customary	6.4
Costs too much	19.6
Too far/no transport	3.7
No time to go	12.8
Family did not allow	1.3
Lack of knowledge	6.3
No health worker visited	2.6
Other	3.9
Total percent	100.0
Number of births	82
Note: Table includes only the two most recent births during the three years preceding the survey.	

In India, the Reproductive and Child Health Programme includes the provision of at least three antenatal care visits for pregnant women. Guidelines of the programme require that each pregnancy be registered in the first 12–16 weeks (Ministry of Health and Family Welfare, 1997). Accordingly, the first antenatal check-up should take place at the latest during the second trimester of pregnancy. NFHS-2 asked women who received antenatal check-ups for births in the three years preceding the survey about the total number of check-ups they received and when in their pregnancies they received their first check-up.

Table 8.4 and Figure 8.3 show the percent distribution of births in the three years preceding the survey by number and timing of antenatal check-ups. In Andhra Pradesh, mothers of 80 percent of births received at least three antenatal check-ups and 64 percent had four or more check-ups. The median number of check-ups was 4.5. There are substantial differences in the number of antenatal check-ups by residence. At least three antenatal check-ups were received for 92 percent of births to mothers living in urban areas compared with only 76 percent of births to mothers living in rural areas. The median number of check-ups is also higher in urban areas (5.6) than in rural areas (4.0). The shorter distances to antenatal-care services and the comparative ease of travelling in urban areas, as well as the higher educational attainment of mothers in urban areas, could be important factors for the larger number of check-ups received by mothers in urban areas.

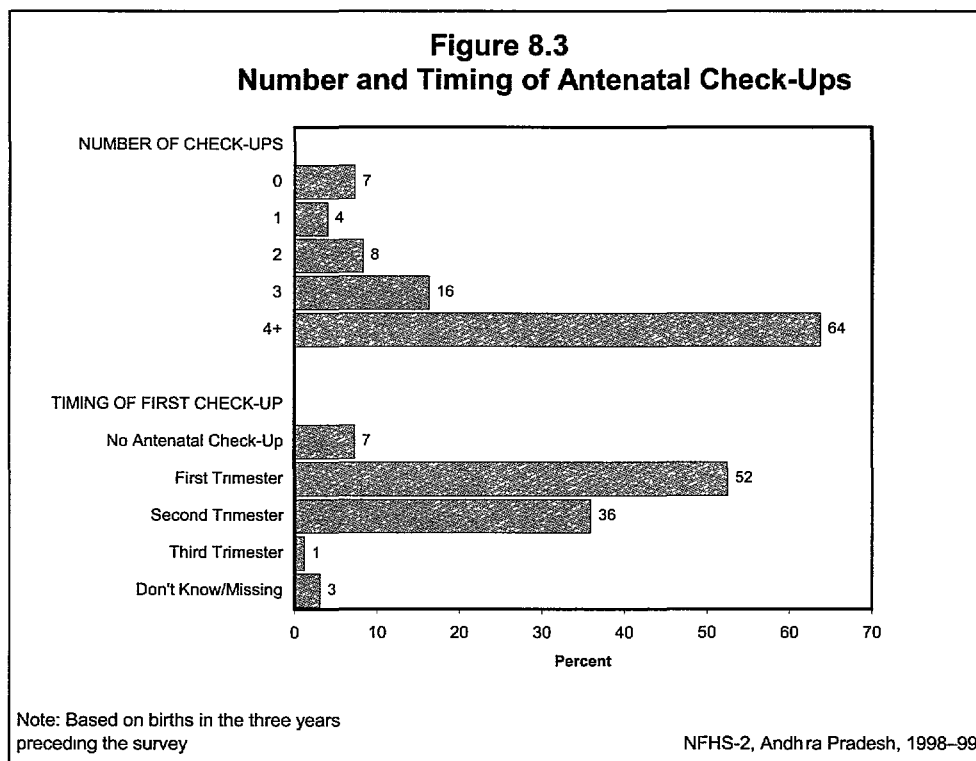
Mothers of half (52 percent) of the births that took place in the three years preceding the survey received their first antenatal check-up in the first trimester of pregnancy, and another third (36 percent) received their first check-up in the second trimester (Table 8.4 and Figure 8.3). Check-ups during the first trimester were much more common in urban areas (72 percent) than in rural areas (46 percent). The first check-up was rarely received as late as the third trimester. The median timing of the first antenatal check-up is 3.3 months for Andhra Pradesh as a whole, and it is slightly later in rural areas than in urban areas.

Table 8.4 Number and timing of antenatal check-ups and stage of pregnancy			
Percent distribution of births during the three years preceding the survey by number of antenatal check-ups and by the stage of pregnancy at the time of the first check-up, according to residence, Andhra Pradesh, 1998–99			
Number and timing of check-ups	Urban	Rural	Total
Number of antenatal check-ups			
0	0.7	9.5	7.3
1	4.0	4.0	4.0
2	3.0	10.1	8.3
3	11.7	17.8	16.3
4+	80.6	58.2	63.8
Don't know/missing	0.0	0.4	0.3
Total percent	100.0	100.0	100.0
Median number of check-ups (for those who received antenatal check-ups)	5.6	4.0	4.5
Months pregnant at the time of the first antenatal check-up			
No antenatal check-up	0.7	9.5	7.3
First trimester	72.0	45.9	52.4
Second trimester	25.0	39.5	35.9
Third trimester	1.3	1.1	1.2
Don't know/missing	1.0	4.0	3.2
Total percent	100.0	100.0	100.0
Median months pregnant at first check-up (for those who received at least one antenatal check-up)	3.0	3.5	3.3
Number of births	283	846	1,129
Note: Table includes only the two most recent births during the three years preceding the survey.			

Components of Antenatal Check-Ups

The effectiveness of antenatal check-ups in ensuring safe motherhood depends in part on the tests and measurements done and the advice given during the check-ups. For births during the three years preceding the survey for which antenatal check-ups were received, Table 8.5 presents the percentage whose mothers received specific components of check-ups by residence. Except for X-rays (which are not recommended as a standard component of antenatal care), all of the measurements and tests are part of essential obstetric care or are required for monitoring high-risk pregnancies.

Among all births for which mothers received antenatal check-ups, 87 percent of mothers had an abdominal examination and a similar proportion had their blood pressure checked as part of the antenatal check-ups. Other common components of antenatal check-ups were blood tests (77 percent), urine tests (75 percent), the measurement of weight (75 percent), and internal examinations (63 percent). Mothers of only 34 percent of births had their height measured during any antenatal check-up and 23 percent had a sonogram or ultrasound. X-rays and amniocentesis



were rarely performed. With the exception of height measurement, all of these measurements or tests were performed more often during antenatal check-ups for mothers in urban than in rural areas. The differences by residence are most pronounced for a sonogram or ultrasound (41 percent in urban areas compared with 16 percent in rural areas) and an internal examination (76 percent in urban areas compared with 58 percent in rural areas).

Table 8.5 also shows the type of advice received by mothers who had antenatal check-ups for births in the three years preceding the survey. Dietary advice was given to mothers most often (in 72 percent of cases). Mothers were less likely to receive advice on the danger signs of pregnancy (41 percent), on delivery care (40 percent), on family planning (36 percent), and on newborn care (35 percent). The proportions receiving advice on different topics vary little by residence.

Tetanus Toxoid Vaccination

In India, an important cause of death in infancy is neonatal tetanus, which is caused by newborn infants becoming infected by tetanus organisms, usually at the umbilical stump. Neonatal tetanus is most common among children who are delivered in unhygienic environments and when unsterilized instruments are used to cut the umbilical cord. Tetanus typically develops during the first or second week of life and is fatal in 70–90 percent of cases (Foster, 1984). Where expert medical help is not available, as is common in many rural areas in India, death due to neonatal tetanus is almost certain. Neonatal tetanus, however, is a preventable disease. Two doses of tetanus toxoid vaccine given one month apart during early pregnancy are nearly 100 percent effective in preventing tetanus both among newborn infants and their mothers. Immunity against tetanus is transferred to the foetus through the placenta when the mother is vaccinated.

Table 8.5 Components of antenatal check-ups			
Among births during the three years preceding the survey for which an antenatal check-up was received, the percentage receiving specific components of antenatal check-ups by residence, Andhra Pradesh, 1998–99			
Components of antenatal check-ups	Urban	Rural	Total
Antenatal measurements/tests			
Weight measured	84.2	72.1	75.3
Height measured	33.6	33.8	33.8
Blood pressure checked	92.6	84.9	86.9
Blood tested	84.5	74.1	76.9
Urine tested	82.8	71.8	74.8
Abdomen examined	92.6	85.2	87.2
Internal examination	75.7	57.8	62.6
X-ray	10.0	4.4	5.9
Sonography or ultrasound	40.6	16.0	22.6
Amniocentesis	2.0	0.7	1.0
Antenatal advice			
Diet	75.1	71.2	72.2
Danger signs of pregnancy	40.8	41.4	41.2
Delivery care	38.0	41.2	40.3
Newborn care	34.1	35.6	35.2
Family planning	34.1	36.5	35.9
Number of births for which the mother received at least one antenatal check-up	281	766	1,047
Note: Table includes only the two most recent births during the three years preceding the survey.			

In India, the tetanus toxoid immunization programme for expectant mothers was initiated in 1975–76 and was integrated with the Expanded Programme on Immunization (EPI) in 1978 (Ministry of Health and Family Welfare, 1991). To step up the pace of the immunization programme, the Government of India initiated the Universal Immunization Programme (UIP) in 1985–86. An important objective of the UIP was to vaccinate all pregnant women against tetanus by 1990. In 1992–93, the UIP was integrated into the Child Survival and Safe Motherhood Programme, which in turn has been integrated into the Reproductive and Child Health Programme. According to the National Immunization Schedule, a pregnant woman should receive two doses of tetanus toxoid injection, the first when she is 16 weeks pregnant and the second when she is 20 weeks pregnant (Central Bureau of Health Intelligence, 1991). Re-inoculation is recommended every three years. If two doses were received less than three years earlier, a single booster injection is recommended.

For each birth during the three years preceding the survey, NFHS-2 asked mothers whether they were given an injection in the arm to prevent them and their baby from getting tetanus. Women who said they had received a tetanus injection were asked how many times they had received the injection during pregnancy.

Table 8.6 shows the distribution of births by the number of tetanus toxoid injections given to mothers, according to selected background characteristics. Tetanus toxoid coverage in Andhra Pradesh, although high, is not yet complete. For births in the three years preceding the survey, 11 percent of the mothers did not receive any tetanus toxoid injections during pregnancy, and another 6 percent received only one injection. The proportion of mothers who received two

or more tetanus toxoid injections during their pregnancies rose from 76 percent to 82 percent between NFHS-1 and NFHS-2.

Tetanus toxoid injections are more common in urban areas than in rural areas. Coverage varies inversely by age of mother and by birth order. Tetanus toxoid coverage (two or more injections) is much higher for births to women under age 35 (81–85 percent) than for the small number of births to older mothers (52 percent). At least two tetanus toxoid injections were received by mothers for 88 percent of first births, compared with 68 percent of fourth and fifth births and less than half of higher-order births. Tetanus toxoid coverage does not vary substantially by religion, but coverage is substantially lower for births to scheduled-tribe mothers (59 percent) than for births to mothers in all other caste and class groups (83–84 percent). For almost one-third of their births, scheduled-tribe mothers did not receive any tetanus toxoid vaccine. Illiterate mothers received at least two tetanus toxoid injections for 74 percent of their births, compared with 89 percent or higher for births to literate mothers. Tetanus toxoid coverage increases with an increasing standard of living of the household. These results suggest that despite generally improving coverage of tetanus toxoid vaccinations, the coverage for socioeconomically disadvantaged women lags behind the level for the state as a whole.

Iron and Folic Acid Supplementation

Nutritional deficiencies in women are often exacerbated during pregnancy because of the additional nutrient requirements of foetal growth. Iron deficiency anaemia is the most common micronutrient deficiency in the world. It is a major threat to safe motherhood and to the health and survival of infants because it contributes to low birth weight, lowered resistance to infection, impaired cognitive development, and decreased work capacity. Studies in different parts of India have estimated that the proportion of births with a low birth weight (less than 2,500 grams) ranges from 15 percent in Trivandrum to 46 percent in Baroda (Nutrition Foundation of India, 1993). Overall, about one-third of newborn children in India are of low birth weight, indicating that many pregnant women in India suffer from nutritional deficiencies. Improvement in a woman's nutritional status, coupled with proper health care during pregnancy, can substantially increase her child's birth weight (Ramachandran, 1992). To this end, the provision of iron and folic acid (IFA) tablets to pregnant women to prevent nutritional anaemia forms an integral part of the safe-motherhood services offered as part of the MCH activities of the Family Welfare Programme (Ministry of Health and Family Welfare, 1991), and now offered as part of the Reproductive and Child Health Programme. The programme recommendation is that pregnant women consume 100 tablets of iron and folic acid during pregnancy.

For each birth during the three years preceding the survey, NFHS-2 collected information on whether the mother received IFA tablets or syrup during pregnancy. Table 8.6 shows that mothers in Andhra Pradesh received IFA supplements for a large majority (81 percent) of births. As with tetanus toxoid coverage, however, IFA coverage is well below average for births to illiterate women, women with a low standard of living, scheduled-tribe women, and mothers of higher-order births. IFA coverage is also lower in rural areas (79 percent) than in urban areas (89 percent). For the state as a whole, IFA coverage increased slightly from 78 percent in NFHS-1 to 81 percent in NFHS-2.

Table 8.6 Tetanus toxoid vaccination and iron and folic acid tablets or syrup

Percent distribution of births during the three years preceding the survey by the number of tetanus toxoid injections received by the mother, percentage of births whose mothers were given iron and folic acid (IFA) tablets or syrup during pregnancy, and among those who received iron and folic acid tablets or syrup, percentage who received enough for three months or longer and percentage who consumed all the supply given, according to selected background characteristics, Andhra Pradesh, 1998–99

Background characteristic	Number of tetanus toxoid injections					Percent- age given iron and folic acid tablets or syrup	Number of births	Among births whose mother received iron and folic acid tablets or syrup		
	None	One	Two or more	Don't know/ missing	Total percent			Percent- age who received supply for 3+ months	Percent- age who consumed all the supply	Number of births whose mothers received IFA
Mother's age at birth										
< 20	8.2	5.1	85.0	1.6	100.0	85.0	386	86.4	82.8	328
20–34	11.8	6.5	80.7	1.0	100.0	80.4	718	87.4	78.3	578
35–49	(44.3)	(0.0)	(51.5)	(4.2)	100.0	(43.9)	25	*	*	11
Birth order										
1	8.5	2.2	87.5	1.7	100.0	83.9	410	85.9	83.6	344
2–3	7.3	8.6	83.0	1.1	100.0	82.8	550	88.1	79.1	455
4–5	24.4	6.8	68.0	0.8	100.0	75.6	133	87.8	71.2	101
6+	(56.2)	(2.7)	(41.1)	(0.0)	100.0	(46.6)	36	*	*	17
Residence										
Urban	3.3	6.3	89.4	1.0	100.0	88.7	283	89.8	86.5	251
Rural	14.0	5.8	78.9	1.3	100.0	78.7	846	86.1	77.3	666
Mother's education										
Illiterate	18.6	6.4	73.5	1.5	100.0	77.6	610	85.4	76.5	474
Literate, < middle school complete	2.8	6.8	89.2	1.2	100.0	82.6	259	86.3	79.5	214
Middle school complete	1.3	2.5	96.3	0.0	100.0	86.5	79	91.2	85.1	69
High school complete and above	3.4	4.4	91.1	1.1	100.0	88.8	180	91.4	87.8	160
Religion										
Hindu	11.4	6.2	81.0	1.4	100.0	80.1	957	86.9	81.2	767
Muslim	13.2	3.1	83.8	0.0	100.0	85.0	92	87.1	78.4	78
Christian	7.9	6.4	84.3	1.3	100.0	91.0	78	88.5	65.8	71
Caste/tribe										
Scheduled caste	9.3	7.8	82.5	0.4	100.0	84.6	241	85.2	69.6	204
Scheduled tribe	31.9	9.2	58.9	0.0	100.0	62.2	67	(85.4)	(85.4)	42
Other backward class	11.3	5.2	82.5	1.0	100.0	80.4	499	87.6	82.4	401
Other	8.3	5.0	84.1	2.6	100.0	84.0	318	87.9	83.1	267
Standard of living index										
Low	16.2	9.4	73.1	1.2	100.0	75.6	404	88.0	75.7	306
Medium	10.5	4.6	83.5	1.3	100.0	84.1	552	85.1	79.6	464
High	2.5	1.8	94.5	1.1	100.0	85.7	167	91.2	88.8	143
Total	11.3	5.9	81.5	1.3	100.0	81.2	1,129	87.1	79.8	917

Note: Table includes only the two most recent births during the three years preceding the survey. Total includes a small number of births to mothers with no religion and births with missing information on religion, caste/tribe, and the standard of living index, which are not shown separately.

() Based on 25–49 unweighted cases

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

Not all mothers who received IFA received the recommended three-month supply of tablets or syrup. Among mothers who received IFA during pregnancy, 87 percent received at least a three-month supply and 80 percent consumed all the supplements that were given to them. Differentials by background characteristics in the proportion that received at least a three-month supply are minimal, but consumption of the supply received is negatively related to birth order and positively related to mother's education level and the standard of living. Consumption of the supply received is relatively low in rural areas, for Christian mothers, and for scheduled-caste mothers. Thus, despite a fair amount of success in ensuring that pregnant women receive the recommended dosage of IFA, many women are not actually consuming an adequate amount of IFA during their pregnancies. This suggests that the Reproductive and Child Health Programme needs to do a better job in informing pregnant women about the advantages of IFA, trying to understand why many women do not consume all the IFA they receive, and overcoming resistance to the consumption of IFA.

8.2 Delivery Care

Place of Delivery

Another important thrust of the Reproductive and Child Health Programme is to encourage deliveries under proper hygienic conditions under the supervision of trained health professionals. For each birth during the three years preceding the survey, NFHS-2 asked the mother where she gave birth and who assisted during the delivery. Table 8.7 and Figure 8.4 show that one-half of births in Andhra Pradesh took place in health facilities, one-quarter took place in the women's own homes, and one-quarter took place in their parents' homes. Thirty-five percent of births took place in a private health facility, only 13 percent took place in public institutions (such as government-operated district, *taluk*, town, or municipal hospitals and Primary Health Centres), and only 2 percent took place in facilities operated by nongovernmental organizations or trusts. The proportion of deliveries that took place in health facilities is twice as high in urban areas (79 percent) as in rural areas (40 percent). The 1997 SRS estimated that 43 percent of births in Andhra Pradesh took place in institutions, which is somewhat lower than the NFHS-2 estimate of 50 percent. This difference is mainly due to a difference in the estimates for rural areas (31 percent in the SRS compared with 40 percent in NFHS-2) because the estimates for urban areas are very similar (82 percent in the SRS compared with 79 percent in NFHS-2).

The proportion of births occurring in health facilities is slightly lower for mothers age less than 20 years (48 percent) than for mothers age 20–34 (51 percent). Muslim mothers are much more likely to give birth in a health facility (77 percent) than are Hindu (48 percent) or Christian (39 percent) mothers. Only 22 percent of births to scheduled-tribe mothers are institutional deliveries, compared with 66 percent of births to mothers who do not belong to scheduled castes, scheduled tribes, or other backward classes. The proportion of births that were delivered in a health facility decreases as birth order rises from 1 (60 percent) to 4–5 and over (34–35 percent). Institutional deliveries, particularly in private facilities, increase sharply with education and with standard of living.

Table 8.7 Place of delivery

Percent distribution of births during the three years preceding the survey by place of delivery, according to selected background characteristics, Andhra Pradesh, 1998–99

Background characteristic	Place of delivery						Total percent	Number of births
	Health facility/institution			Home				
	Public	NGO/trust	Private	Own home	Parents' home	Other ¹		
Mother's age at birth								
< 20	12.3	2.6	32.7	20.0	31.5	0.8	100.0	386
20–34	12.8	2.0	36.6	27.4	20.2	1.0	100.0	718
35–49	(7.9)	(0.0)	(27.3)	(52.4)	(12.4)	(0.0)	100.0	25
Birth order								
1	13.5	3.0	43.8	12.4	26.6	0.7	100.0	410
2–3	11.7	1.6	33.5	27.6	24.2	1.3	100.0	550
4–5	11.7	2.8	19.1	47.3	19.2	0.0	100.0	133
6+	(16.4)	(0.0)	(18.7)	(59.4)	(5.6)	(0.0)	100.0	36
Residence								
Urban	18.6	3.6	56.4	12.4	8.7	0.3	100.0	283
Rural	10.5	1.7	28.0	29.8	29.0	1.1	100.0	846
Mother's education								
Illiterate	9.5	1.0	23.2	37.3	27.9	1.2	100.0	610
Literate, < middle school complete	17.2	4.6	37.9	15.3	25.0	0.0	100.0	259
Middle school complete	17.4	3.9	45.5	13.8	15.5	3.8	100.0	79
High school complete and above	14.0	2.1	66.6	5.0	12.4	0.0	100.0	180
Religion								
Hindu	11.6	2.2	34.3	26.7	24.3	0.9	100.0	957
Muslim	20.8	3.2	53.3	11.8	9.8	1.1	100.0	92
Christian	14.7	1.3	22.8	26.2	35.0	0.0	100.0	78
Caste/tribe								
Scheduled caste	13.9	1.2	22.5	32.7	28.5	1.2	100.0	241
Scheduled tribe	2.9	0.0	19.4	62.4	12.2	3.0	100.0	67
Other backward class	13.2	2.5	33.8	24.5	25.7	0.2	100.0	499
Other	12.5	3.0	50.2	13.1	20.0	1.3	100.0	318
Standard of living index								
Low	10.6	1.5	16.9	38.8	30.7	1.5	100.0	404
Medium	14.4	2.5	38.0	21.6	22.7	0.7	100.0	552
High	11.2	2.9	70.7	5.4	9.8	0.0	100.0	167
Number of antenatal check-ups								
0	1.2	0.0	5.0	67.6	23.7	2.5	100.0	82
1	(6.6)	(0.0)	(8.9)	(51.1)	(33.3)	(0.0)	100.0	45
2	5.2	0.0	13.8	44.3	34.6	2.1	100.0	94
3	16.5	2.3	21.5	27.8	31.3	0.6	100.0	184
4+	14.2	2.9	46.5	16.0	19.7	0.7	100.0	721
Total	12.5	2.2	35.1	25.4	23.9	0.9	100.0	1,129

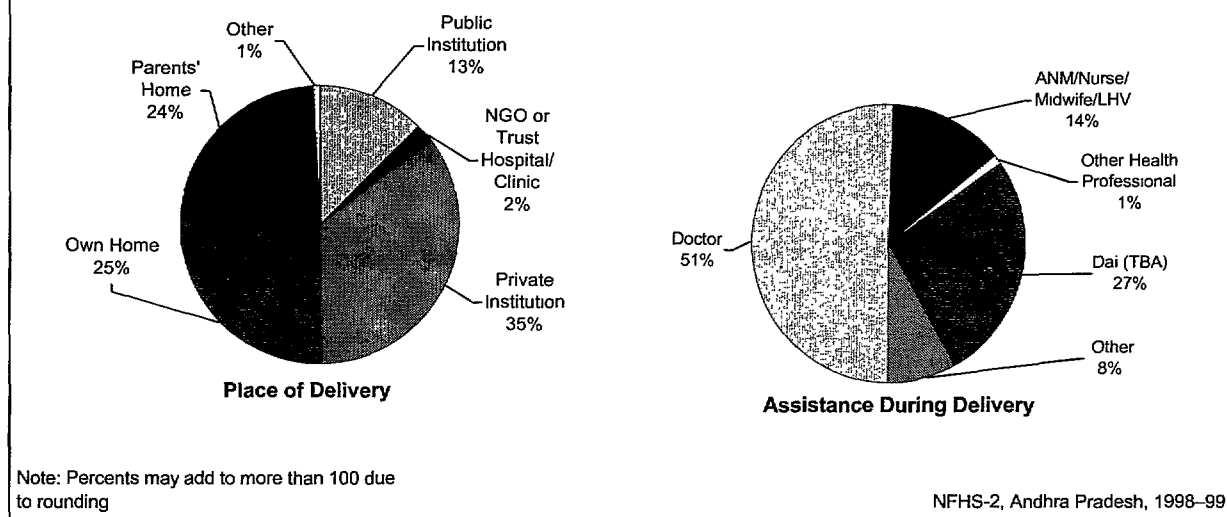
Note: Table includes only the two most recent births during the three years preceding the survey. Total includes 1 birth to a woman with no religion and 1, 3, 6, and 3 births with missing information on religion, caste/tribe, the standard of living index, and antenatal check-ups, respectively, which are not shown separately.

NGO: Nongovernmental organization

() Based on 25–49 unweighted cases

¹ Includes missing

**Figure 8.4
Place of Delivery and
Assistance During Delivery**



Institutional deliveries are three to four times more common among births to mothers who had four or more antenatal check-ups (64 percent) than to mothers who had only two or fewer antenatal check-ups (19 percent or less). Institutional deliveries are least prevalent (6 percent) among births to mothers who did not receive any antenatal check-ups. Several factors are likely to contribute to the positive relationship between antenatal check-ups and delivery in a health facility. Women who receive antenatal check-ups are more likely than other women to deliver in a health facility because their antenatal care providers advised them to do so. Conversely, women who register themselves with a health facility for delivery may be called for regular check-ups by the facility. Another important factor may be pregnancy complications, because women with complications are more likely than other women to have antenatal check-ups and also to deliver in a health facility. Yet another contributing factor may be the growing awareness of the benefits of professional medical care during both pregnancy and delivery, especially among urban, young, and educated women.

With regard to deliveries at home, the proportion of deliveries in a woman's own home increases and the proportion at her parents' home decreases with age and birth order. Mother's education and standard of living are both negatively associated with deliveries at home.

Deliveries in health facilities have risen in Andhra Pradesh from 35 percent at the time of NFHS-1 to 50 percent at the time of NFHS-2. The increase has been greater in rural areas where institutional deliveries increased from 23 percent in NFHS-1 to 40 percent in NFHS-2. In urban areas, the corresponding increase between surveys is from 69 percent to 79 percent.

Assistance During Delivery

Table 8.8 and Figure 8.4 provide information on assistance during delivery by selected background characteristics. If more than one type of attendant assisted at delivery only the most qualified attendant is shown.

Table 8.8 Assistance during delivery

Percent distribution of births during the three years preceding the survey by attendant assisting during delivery, according to selected background characteristics, Andhra Pradesh, 1998–99

Background characteristic	Attendant assisting during delivery ¹					Total percent	Number of births
	Doctor	ANM/nurse/ midwife/LHV	Other health professional	Dai (TBA)	Other		
Mother's age at birth							
< 20	50.8	13.6	1.6	26.4	7.7	100.0	386
20–34	50.4	14.0	0.8	26.3	8.4	100.0	718
35–49	(51.1)	(0.0)	(4.2)	(32.4)	(12.3)	100.0	25
Birth order							
1	63.2	11.8	1.2	18.5	5.3	100.0	410
2–3	46.0	15.3	1.1	29.1	8.6	100.0	550
4–5	35.4	12.5	0.8	38.2	13.1	100.0	133
6+	(32.3)	(11.2)	(2.9)	(33.7)	(19.9)	100.0	36
Residence							
Urban	70.3	14.6	0.3	11.0	3.7	100.0	283
Rural	43.9	13.2	1.4	31.7	9.8	100.0	846
Mother's education							
Illiterate	38.1	11.5	1.7	37.5	11.3	100.0	610
Literate, < middle school complete	55.7	18.6	0.8	17.8	7.1	100.0	259
Middle school complete	66.9	18.1	1.2	10.1	3.7	100.0	79
High school complete and above	78.0	11.3	0.0	8.9	1.8	100.0	180
Religion							
Hindu	49.9	13.4	1.0	27.5	8.2	100.0	957
Muslim	66.1	12.3	0.0	18.4	3.3	100.0	92
Christian	39.4	16.4	5.2	24.5	14.5	100.0	78
Caste/tribe							
Scheduled caste	41.6	14.9	3.8	30.8	8.9	100.0	241
Scheduled tribe	25.5	1.4	1.5	47.3	24.4	100.0	67
Other backward class	51.0	14.8	0.2	26.6	7.5	100.0	499
Other	62.0	13.3	0.6	18.7	5.4	100.0	318
Standard of living index							
Low	33.7	12.5	1.8	40.4	11.7	100.0	404
Medium	54.4	14.9	0.9	22.4	7.4	100.0	552
High	79.2	10.9	0.6	6.2	3.1	100.0	167
Number of antenatal check-ups							
0	11.1	3.8	2.5	51.1	31.5	100.0	82
1	(13.3)	(15.1)	(2.3)	(51.3)	(18.0)	100.0	45
2	23.4	14.2	4.3	49.5	8.6	100.0	94
3	42.8	14.8	1.1	30.7	10.5	100.0	184
4+	63.1	14.2	0.6	17.7	4.4	100.0	721
Place of delivery							
Public health facility	81.1	18.2	0.0	0.0	0.7	100.0	141
NGO or trust hospital/clinic	(92.5)	(7.5)	(0.0)	(0.0)	(0.0)	100.0	25
Private health facility	88.4	11.4	0.3	0.0	0.0	100.0	396
Own home	11.9	13.8	2.1	52.2	20.0	100.0	287
Parents' home	17.4	14.7	2.3	52.7	13.0	100.0	270
Total	50.5	13.6	1.2	26.5	8.3	100.0	1,129

Note: Table includes only the two most recent births during the three years preceding the survey. Total includes 1 birth to a woman with no religion; 1, 3, 6, and 3 births with missing information on religion, caste/tribe, the standard of living index, and antenatal check-ups, respectively; and 10 births with 'other' place of delivery, which are not shown separately.

ANM: Auxiliary nurse midwife; LHV: Lady health visitor; TBA: Traditional birth attendant; NGO: Nongovernmental organization

() Based on 25–49 unweighted cases

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

Nearly two-thirds of births (65 percent) in the last three years were attended by a health professional, including one-half by a doctor (51 percent) and 14 percent by an ANM, nurse, midwife, or LHV. More than one-quarter of births (27 percent) were attended by a traditional birth attendant, and 8 percent were attended by friends, relatives, and other persons. The NFHS-2 estimates for assistance during delivery are similar to the corresponding SRS estimates for Andhra Pradesh. According to the 1997 SRS, 70 percent of deliveries were attended by a health professional, 28 percent by a TBA, and 2 percent by relatives or others. The proportion of deliveries attended by a health professional increased from 49 percent in NFHS-1 to 65 percent in NFHS-2.

Eighty-eight percent of deliveries in private institutions were attended by a doctor compared with 81 percent of deliveries in public institutions. Among deliveries at home (the respondents' or their parents' homes), more than half were attended by a traditional birth attendant (TBA) and less than one-third were attended by a health professional. The percentage of births attended by a doctor does not vary by age of the mother but it decreases steadily by birth order. Deliveries are much more likely to be attended by a doctor in urban areas (70 percent) than in rural areas (44 percent). The proportion of births attended by doctors is twice as high for births to mothers with at least a high school education (78 percent) as for births to illiterate mothers (38 percent). The difference is even larger for births to mothers who live in households with a high standard of living (79 percent) compared with births to mothers in households with a low standard of living (34 percent). Among religious groups, Muslim women are most likely (66 percent) and Christian women are least likely (39 percent) to have a delivery attended by a doctor. The higher utilization of doctors' services by Muslim mothers probably occurs, at least in part, because Muslims are more concentrated in urban areas where doctors are more likely to be available. Births to women who do not belong to a scheduled caste, scheduled tribe, or other backward class are more likely to be attended by a doctor than are other births. Only 26 percent of births to women who belong to scheduled tribes were attended by a doctor compared with more than 40 percent of births to women in all other groups. Only 11 percent of births to women who did not have any antenatal check-ups were attended by a doctor compared with 63 percent of births to women who had four or more antenatal check-ups.

Delivery Characteristics

Table 8.9 shows the percentage of births during the three years preceding the survey that were delivered by caesarian section and the percent distribution of children by birth weight and the mother's estimate of the baby's size at birth. Based on mothers' reports, 15 percent of children born in Andhra Pradesh in the past three years were delivered by caesarian section. The proportion of deliveries by caesarian section was higher in urban areas (22 percent) than in rural areas (12 percent).

Low-birth weight babies face higher risks of dying than do babies of normal birth weight. For each birth that took place in the three years preceding the survey, respondents were asked the baby's birth weight. Since babies delivered at home are unlikely to be weighed, the survey asked mothers about the size of each baby at birth (large, average, small, or very small).

Table 8.9 Characteristics of births			
Percentage of births during the three years preceding the survey that were delivered by caesarian section and percent distribution of births by birth weight and by the mother's estimate of the baby's size at birth, according to residence, Andhra Pradesh, 1998–99			
Characteristic of births	Urban	Rural	Total
Percentage delivered by caesarian section	22.2	11.9	14.5
Birth weight			
< 2.5 kg	9.6	6.5	7.3
2.5 kg or more	50.8	25.8	32.0
Don't know/missing	8.9	3.4	4.8
Not weighed	30.7	64.3	55.9
Total percent	100.0	100.0	100.0
Size at birth			
Large	17.9	15.8	16.4
Average	74.1	70.5	71.4
Small	7.3	12.1	10.9
Very small	0.7	1.5	1.3
Don't know/missing	0.0	0.1	0.1
Total percent	100.0	100.0	100.0
Number of births	283	846	1,129
Note: Table includes only the two most recent births during the three years preceding the survey.			

In Andhra Pradesh, more than half (56 percent) of babies born in the three years preceding the survey were not weighed at birth. The proportion not weighed is 31 percent in urban areas and 64 percent in rural areas. Even for babies that were weighed, some mothers did not remember the weight. Therefore, the resulting sample of births whose weights are reported is subject to a potentially large selection bias, and the results should be interpreted with caution. Among children for whom birth weights are reported, 19 percent weighed less than 2.5 kilograms. The proportion weighing less than 2.5 kilograms is slightly higher in rural areas (20 percent) than in urban areas (16 percent).

According to mothers' estimates, 71 percent of births in the three years preceding the survey were of average size, 16 percent were large, 11 percent were small, and 1 percent were very small. The proportion of babies reported as small or very small was 8 percent in urban areas and 14 percent in rural areas.

8.3 Postnatal Care

The health of a mother and her newborn child depends not only on the health care she receives during her pregnancy and delivery, but also on the care she and the infant receive during the first few weeks after delivery. Postpartum check-ups within two months after delivery are particularly important for births that take place in noninstitutional settings. Recognizing the importance of postpartum check-ups, the Reproductive and Child Health Programme recommends three postpartum visits (Ministry of Health and Family Welfare, 1998b).

Table 8.10 gives the percentage of noninstitutional deliveries in the three years preceding the survey that were followed by a postpartum check-up within two months of delivery. Among births that were followed by a postpartum check-up, the table also shows the percentage with a check-up within two days of delivery (which is the most crucial period) and within one week of delivery, and the percentage whose mothers received specific recommended components of care during the check-up.

Less than half (45 percent) of the noninstitutional births were followed by a check-up within two months of the delivery. Among births that were followed by a check-up, few check-ups took place shortly after birth—only 4 percent within two days and 21 percent within one week. The likelihood of a postpartum check-up generally increases with mother's education and the standard of living. Births to mothers who received two or more antenatal check-ups were much more likely to be followed by a postpartum check-up than were births to mothers who received one or no antenatal check-up. Births delivered with the assistance of a health professional were more likely to be followed by a postpartum check-up (53 percent) than were births delivered with the assistance of a TBA (43 percent) or an other person (36 percent). These results clearly indicate that women are more likely to have a postpartum check-up if they have had continuous interaction with health providers through their pregnancy and delivery, even if they did not give birth in a health facility. There are almost no differences in the prevalence of postpartum check-ups by mother's age, birth order, residence, or religion.

Mothers who did not deliver in a health facility but who received a postpartum check-up were asked whether they had received specific components of postpartum care, including an abdominal examination and advice on family planning, breastfeeding, and baby care. For 35 percent of births, mothers who received a postpartum check-up said that their abdomen was examined during the check-up, and a similar proportion said that they received family planning advice. Advice on breastfeeding and baby care was somewhat more common (given in 46–47 percent of cases). Rural mothers were more likely than urban mothers to receive each component of the postpartum check-up. For women having postpartum check-ups after noninstitutional births, women having their first birth were less likely than other women to have an abdominal examination or receive advice on family planning. Notably, mothers received advice about family planning during postpartum check-ups after only 10 percent of first births, although these women are particularly likely to need advice on birth spacing and general information on family planning. With the exception of advice on baby care, mothers who were 20 years or older were more likely than younger mothers to receive all components of the postpartum check-up. Mothers of births assisted by a TBA were less likely to receive each check-up component than were mothers of births assisted by a health professional or any other person. Illiterate women were less likely to receive each component of a postpartum check-up than were literate women who have not completed middle school. Because of the small number of births in each category, it is not possible to draw conclusions about the effects of other background characteristics.

Table 8.10 Postpartum check-ups

Percentage of noninstitutional births during the three years preceding the survey for which a postpartum check-up was received within two months of birth and among those receiving a postpartum check-up, percentage seen within two days and one week of birth and percentage receiving specific components of check-ups by selected background characteristics, Andhra Pradesh, 1998–99

Background characteristic	Percentage with postpartum check-up within two months of birth	Number of births	Among those with postpartum check-up						Number of births with a postpartum check-up
			Percentage seen within two days of birth	Percentage seen within one week of birth	Components of postpartum check-up (%)				
					Abdominal examination	Family planning advice	Breast-feeding advice	Baby care advice	
Mother's age at birth									
< 20	44.6	202	4.4	23.5	30.4	22.5	43.8	48.5	90
20–34	45.4	349	1.9	18.6	38.2	44.4	47.1	47.2	158
Birth order									
1	45.6	163	2.7	20.5	26.0	9.6	45.4	45.6	74
2–3	46.0	292	2.9	23.2	41.8	45.4	50.7	50.0	134
4–5	43.7	89	(7.7)	(18.2)	(37.1)	(60.8)	(34.2)	(42.3)	39
Residence									
Urban	42.1	61	(7.4)	(21.9)	(22.1)	(22.2)	(33.3)	(36.8)	25
Rural	45.2	507	3.1	21.4	36.8	37.6	47.0	48.1	229
Mother's education									
Illiterate	41.8	405	3.0	21.4	30.9	35.7	36.8	40.4	169
Literate, < middle school complete	49.7	105	0.0	19.6	42.9	41.1	62.8	57.2	52
Middle school complete	(58.0)	26	*	*	*	*	*	*	15
High school complete and above	(57.8)	31	*	*	*	*	*	*	18
Religion									
Hindu	45.9	497	3.9	20.4	34.9	35.3	47.2	48.8	228
Christian	(42.6)	48	*	*	*	*	*	*	20
Caste/tribe									
Scheduled caste	42.3	151	4.7	23.7	30.4	35.1	39.8	43.2	64
Scheduled tribe	54.9	52	(0.0)	(14.6)	(39.9)	(43.2)	(39.2)	(42.9)	29
Other backward class	47.7	252	4.1	22.5	36.5	36.4	49.9	45.7	120
Other	37.3	109	(2.5)	(20.0)	(37.3)	(32.4)	(47.9)	(60.7)	41
Standard of living index									
Low	40.9	287	5.1	22.2	26.3	36.6	43.3	46.1	117
Medium	47.8	249	2.5	20.6	41.2	35.0	47.2	48.1	119
High	(51.1)	25	*	*	*	*	*	*	13
Number of antenatal check-ups									
0	21.2	77	*	*	*	*	*	*	16
1	(26.5)	38	*	*	*	*	*	*	10
2	56.2	76	(0.0)	(26.1)	(57.4)	(50.3)	(38.8)	(55.2)	43
3+	49.7	372	3.7	21.2	33.0	34.6	49.9	47.9	185
Assistance during delivery									
Doctor/nurse/midwife/LHV ¹	53.0	176	6.5	31.4	35.2	37.1	50.2	52.5	93
Dai (TBA)	42.9	299	1.5	15.7	34.1	34.9	41.2	40.5	128
Other ²	35.7	92	(2.8)	(15.8)	(40.6)	(37.3)	(50.1)	(56.5)	33
Total	44.9	567	3.5	21.4	35.3	36.0	45.6	47.0	254

Note: Table includes only the two most recent births during the 2–35 months preceding the survey. Total includes a small number of births to women age 35–49, births of sixth or higher order, births to Muslim women, and births with missing information on religion, caste/tribe, the standard of living index, and antenatal check-ups, which are not shown separately.

LHV: Lady health visitor; TBA: Traditional birth attendant

() Based on 25–49 unweighted cases

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

¹Includes other health professionals

²Includes missing

Postpartum Complications

Every woman who had a birth in the three years preceding the survey was asked if she had massive vaginal bleeding or a very high fever—both symptoms of possible postpartum complications—at any time during the two months after delivery (Table 8.11). Mothers reported massive vaginal bleeding for 18 percent of births, and a very high fever in the postpartum period for 14 percent of births. Both complications were more common among rural than urban mothers and among younger than older mothers. Twenty percent of births to mothers who were age 19 or younger at the time of birth were followed by massive vaginal bleeding, and 16 percent were followed by very high fever, compared with 16 and 13 percent, respectively, of births to mothers age 20–34. Although there are no differences in the likelihood of having massive vaginal bleeding by place of delivery, mothers of births delivered at their own home were more likely to have had a very high fever in the postpartum period (19 percent) than were mothers of births delivered elsewhere (14 percent or less). Mothers of births assisted by a health professional were less likely to have very high fever than were mothers of births assisted by a traditional birth attendant or other person.

8.4 Reproductive Health Problems

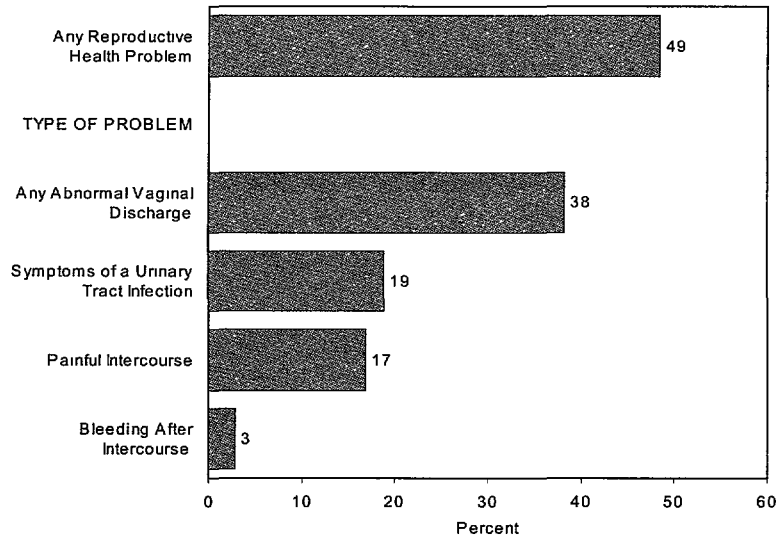
Absence of reproductive tract infections (RTIs) is essential for the reproductive health of both women and men and is also critical for their ability to meet their reproductive goals. There are three different types of reproductive tract infections for women: endogenous infections that are caused by the multiplying of organisms normally present in the vagina; iatrogenic infections caused by the introduction of bacteria or other infection-causing micro-organisms through medical procedures such as an IUD insertion; and sexually transmitted infections (STIs). Endogenous infections and several of the iatrogenic and sexually transmitted infections are often easily cured if detected early and given proper treatment. If left untreated, RTIs can cause pregnancy-related complications, congenital infections, infertility, and chronic pain. They are also a risk factor for pelvic inflammatory disease and HIV (Population Council, 1999).

A number of studies (Bang et al., 1989; Bang and Bang, 1991; Pachauri and Gittlesohn, 1994; Jeejeebhoy and Rama Rao, 1992) have shown that many Indian women suffer from RTIs. Several researchers have also shown that women in India often bear the symptoms of RTIs silently without seeking health care. RTIs and their sequellae are an important component of programmes for family planning, child survival, women's health, safe motherhood, and HIV prevention. RTIs have profound implications for the success of each of these initiatives, and conversely, these initiatives provide a critical opportunity for the prevention and control of RTIs (Germain et al., 1992). Studies have demonstrated that RTIs are an important reason for the poor acceptance and low continuation rates of contraceptive methods such as the IUD. Bhatia and Cleland (1995) found a higher incidence of gynaecological symptoms among women who had undergone a tubectomy than among other women. The Government of India recognized the importance of RTIs and STIs in undermining the health and welfare of individuals and couples in a policy statement on the Reproductive and Child Health Programme, which states that couples should be 'able to have sexual relations free of fear of pregnancy and contracting diseases' (Ministry of Health and Family Welfare, 1997:2). The Reproductive and Child Health Programme includes the following interventions: RTI/STI clinics at district hospitals (where not already available), provision of technicians for laboratory diagnosis of RTIs/STIs, and in selected districts, screening and treatment of RTIs/STIs (Ministry of Health and Family Welfare, 1997).

Table 8.11 Symptoms of postpartum complications			
Among births during the three years preceding the survey, the percentage for which the mother had massive vaginal bleeding or very high fever within two months after the delivery by selected background characteristics, Andhra Pradesh, 1998–99			
Background characteristic	Massive vaginal bleeding	Very high fever	Number of births
Residence			
Urban	14.5	10.8	271
Rural	19.0	14.9	809
Mother's age at birth			
< 20	19.8	15.9	378
20–34	16.4	12.6	681
Birth order			
1	18.1	13.4	398
2–3	17.8	14.2	527
4–5	17.4	16.5	121
6+	(16.8)	(6.0)	35
Place of delivery			
Public health facility	17.3	12.9	136
Private health facility	18.3	11.1	382
Own home	18.5	19.3	275
Parents' home	17.7	13.5	256
Assistance during delivery			
Doctor	18.3	12.6	546
ANM/nurse/midwife/LHV	14.5	12.4	146
<i>Dai</i> (TBA)	17.6	16.6	289
Other ¹	19.2	15.9	90
Total	17.9	13.9	1,081
<p>Note: Table includes only the two most recent births during the three years preceding the survey excluding births in the most recent two months. Total includes 22 births to mothers age 35–49, 23 births delivered in nongovernmental organization or trust hospitals/clinics, 8 births delivered in 'other' places, and 10 births assisted by other health professionals, which are not shown separately.</p> <p>ANM: Auxiliary nurse midwife; LHV: Lady health visitor; TBA: Traditional birth attendant</p> <p>{ } Based on 25–49 unweighted cases</p> <p>¹ Includes missing</p>			

NFHS-2 collected information from women on some common symptoms of RTIs, namely problems with abnormal vaginal discharge, urinary tract infections, and intercourse-related pain and bleeding. Specifically, the prevalence of reproductive health problems among ever-married women is estimated from women's self-reported experience in the three months preceding the survey with each of the following problems: vaginal discharge accompanied by itching, by irritation around the vaginal area, by bad odour, by severe lower abdominal pain, by fever, or by any other problem; pain or burning while urinating or frequent or difficult urination; and (among married women) painful intercourse or bleeding after intercourse. Women who experience one or more of these reproductive health problems could either have or be at risk of getting an RTI/STI. However, since information on health problems is based on self reports rather than clinical tests or examinations, the results should be interpreted with caution.

Figure 8.5
Reproductive Health Problems Among
Currently Married Women Age 15-49



NFHS-2, Andhra Pradesh, 1998-99

Table 8.12 shows the prevalence of different reproductive health problems among women in Andhra Pradesh during the three months preceding the survey by background characteristics. Thirty-eight percent of ever-married women report at least one type of problem related to vaginal discharge, and 18 percent report symptoms of a urinary tract infection. Overall, 43 percent of women report either problems with vaginal discharge or symptoms of a urinary tract infection. Among problems related to vaginal discharge, severe lower abdominal pain (26 percent) is mentioned most frequently, followed by itching or irritation (16 percent). Problems related to vaginal discharge and symptoms of urinary tract infections are marginally more prevalent among currently married women than among ever-married women.

Table 8.12 and Figure 8.5 show that half of currently married women (49 percent) report that they have one or more reproductive health problems. Seventeen percent report painful intercourse and 3 percent report bleeding after intercourse. Reproductive health problems are more common among currently married women below age 30 (52-54 percent) than among older women (35-45 percent). There is almost no difference in the prevalence of reproductive health problems between urban and rural women. Among education groups, the prevalence of reproductive health problems is highest for illiterate women (51 percent) and lowest for women who have at least completed high school (42 percent). Muslim women (56 percent) are more likely to have reproductive health problems than Hindu women (48 percent) or Christian women (47 percent). Scheduled-tribe women (61 percent) and scheduled-caste women (51 percent) are more likely to have reproductive health problems than are other women (46-48 percent). Women in households with a medium or low standard of living (49-51 percent) are more likely to have reproductive health problems than women from households with a high standard of living (43 percent). Women who are self employed (63 percent) or employed by others (52 percent) are more likely to report reproductive health problems than are nonworking women or women working on a family farm or in a family business (both 45 percent).

Table 8.12 Symptoms of reproductive health problems

Percentage of ever-married women reporting abnormal vaginal discharge or symptoms of a urinary tract infection during the three months preceding the survey and percentage of currently married women reporting painful intercourse or bleeding after intercourse by selected background characteristics, Andhra Pradesh, 1998-99

Background characteristic	Ever-married women								Number of ever-married women	Currently married women			
	Any abnormal vaginal discharge	Vaginal discharge accompanied by:					Symptoms of a urinary tract infection ²	Any abnormal vaginal discharge or symptoms of a urinary tract infection ²		Painful intercourse (often)	Bleeding after intercourse (ever) ¹	Any reproductive health problem	Number of currently married women
		Itching or irritation	Bad odour	Severe lower abdominal pain ¹	Fever	Other problem							
Age													
15-19	38.7	15.1	7.4	30.2	8.6	9.4	18.6	45.2	425	21.9	4.3	52.1	417
20-24	41.6	18.6	10.9	28.1	11.5	15.5	18.0	46.6	773	21.1	3.9	53.7	742
25-29	43.9	18.9	13.0	30.2	12.0	15.0	20.0	49.4	807	19.8	3.0	53.4	765
30-34	37.5	12.8	8.7	23.7	11.6	17.2	15.9	42.3	603	15.6	2.0	45.4	556
35-39	35.1	18.0	10.1	22.9	11.9	12.9	18.7	40.5	578	12.7	2.9	45.2	523
40-44	33.0	12.1	9.0	22.7	11.4	11.1	20.4	40.6	446	11.1	1.3	44.1	381
45-49	25.2	12.1	5.7	16.5	8.2	9.9	16.3	31.0	399	9.4	1.6	35.0	310
Residence													
Urban	35.4	16.6	8.9	24.0	8.3	11.9	17.0	40.9	1,002	19.4	2.9	47.4	920
Rural	38.4	15.8	10.1	26.1	11.9	14.2	18.8	44.1	3,030	16.1	2.9	48.8	2,775
Education													
Illiterate	39.9	16.1	10.7	28.2	13.2	15.1	20.0	45.6	2,574	16.0	2.9	50.6	2,311
Literate, < middle school complete	35.2	16.3	9.1	22.5	7.8	11.6	16.0	40.7	829	18.5	2.7	45.3	774
Middle school complete	38.9	19.2	9.1	21.9	7.6	11.7	11.6	41.9	194	16.3	3.2	49.1	189
High school complete and above	28.7	12.9	6.2	17.6	5.5	9.7	16.2	35.1	435	19.0	3.2	42.4	420
Religion													
Hindu	37.4	15.5	9.8	25.2	11.1	13.7	18.8	43.1	3,522	15.7	2.6	48.0	3,233
Muslim	43.4	21.6	8.3	35.2	14.6	15.0	17.6	49.5	268	29.9	4.7	55.7	247
Christian	35.8	17.1	11.3	20.8	5.8	10.4	12.5	39.6	238	20.8	4.3	46.7	210
Caste/tribe													
Scheduled caste	40.3	16.9	10.6	26.7	10.2	14.8	19.0	46.0	798	18.6	3.0	51.3	726
Scheduled tribe	48.3	15.3	18.4	41.6	20.0	18.4	25.2	54.7	194	20.8	4.1	61.2	177
Other backward class	37.7	15.7	9.7	25.6	12.2	13.2	19.3	43.2	1,783	15.4	2.9	47.8	1,628
Other	34.2	15.8	8.1	22.5	8.5	12.6	15.5	40.0	1,248	17.4	2.6	45.8	1,156

Contd...

Table 8.12 Symptoms of reproductive health problems (contd.)

Percentage of ever-married women reporting abnormal vaginal discharge or symptoms of a urinary tract infection during the three months preceding the survey and percentage of currently married women reporting painful intercourse or bleeding after intercourse by selected background characteristics, Andhra Pradesh, 1998-99

Background characteristic	Ever-married women							Currently married women					
	Any abnormal vaginal discharge	Vaginal discharge accompanied by:					Symptoms of a urinary tract infection ²	Any abnormal vaginal discharge or symptoms of a urinary tract infection ²	Number of ever-married women	Painful intercourse (often)	Bleeding after intercourse (ever) ¹	Any reproductive health problem	Number of currently married women
		Itching or irritation	Bad odour	Severe lower abdominal pain ¹	Fever	Other problem							
Standard of living index													
Low	38.5	15.7	11.5	27.2	13.0	15.2	17.9	43.1	1,485	15.1	2.7	48.5	1,307
Medium	39.0	16.0	9.3	26.6	10.7	13.6	19.6	45.4	1,862	18.7	2.7	50.6	1,732
High	32.4	16.8	7.6	19.4	7.5	10.0	15.9	38.2	667	16.0	3.6	42.9	639
Work status													
Working in family farm/business	36.3	16.3	11.2	25.8	11.6	10.6	18.7	41.2	722	16.1	1.8	45.3	669
Employed by someone else	40.7	16.2	10.6	29.4	13.5	16.0	20.5	46.6	1,435	16.3	2.8	52.3	1,266
Self-employed	45.7	16.2	9.6	30.1	14.3	17.2	21.9	55.2	208	19.1	5.7	62.6	176
Not worked in past 12 months	34.7	15.7	8.5	21.7	8.3	12.4	15.9	39.9	1,664	17.4	3.0	45.1	1,581
Number of children ever born													
0	39.8	15.2	8.6	31.0	9.7	11.9	21.9	46.6	468	25.5	5.6	55.1	411
1	36.8	15.5	9.2	23.1	9.2	12.6	13.4	42.0	564	17.3	1.9	48.6	521
2-3	37.7	16.6	10.2	25.2	11.0	13.8	18.4	43.0	1,871	16.9	2.7	47.9	1,730
4-5	39.8	17.0	11.4	27.1	13.8	15.1	19.4	45.1	802	14.5	3.1	49.3	747
6+	30.6	11.9	5.9	20.9	9.3	12.8	18.4	37.8	327	10.1	1.1	39.7	287
All ever-married women	37.6	16.0	9.8	25.6	11.0	13.6	18.3	43.3	4,032	NA	NA	NA	NA
All currently married women	38.2	16.4	10.3	25.7	11.3	13.8	18.8	44.0	3,695	16.9	2.9	48.5	3,695

Note: Total includes a small number of women with no religion and women with missing information on religion, caste/tribe, the standard of living index, and work status, who are not shown separately.

NA: Not applicable

¹Not related to menstruation

²Includes pain or burning while urinating or more frequent or difficult urination

Table 8.13 Treatment of reproductive health problems

Among women with a reproductive health problem, the percentage who sought advice or treatment from specific providers by residence, Andhra Pradesh, 1998–99

Provider	Urban	Rural	Total
Public medical sector	6.1	7.1	6.8
Government doctor	5.1	3.6	4.0
Public health nurse	0.2	1.2	1.0
ANM/LHV	0.4	2.3	1.9
Male MPW/supervisor	0.0	0.1	0.1
Anganwadi worker	0.0	0.4	0.3
Village health guide	0.0	0.4	0.3
Other public medical sector	0.6	0.4	0.5
NGO worker	0.2	0.2	0.2
Private medical sector	36.0	30.1	31.5
Private doctor	35.4	29.2	30.7
Private nurse	0.4	0.5	0.5
Compounder/pharmacist	0.0	0.2	0.2
Vaid/hakim/homeopath	0.6	0.5	0.5
Dai (TBA)	0.0	0.4	0.3
Traditional healer	0.0	0.1	0.1
Other private medical sector	0.2	0.2	0.2
Other	0.4	0.7	0.6
None	58.3	64.0	62.6
Number of women	461	1,449	1,910

Note: Table includes currently married women who report abnormal vaginal discharge, symptoms of urinary tract infections, painful intercourse, or bleeding after intercourse and women who are ever married but not currently married who report abnormal vaginal discharge or symptoms of a urinary tract infection. Percentages may sum to more than 100.0 because women could report treatment from multiple providers.
ANM: Auxiliary nurse midwife; LHV: Lady health visitor; MPW: Multipurpose health worker; NGO: Nongovernmental organization; TBA: Traditional birth attendant

Women with no children are much more likely than women with one or more children to have reproductive health problems. Among women with at least one child, women with six or more children are less likely to have reproductive health problems (40 percent) than are women with 1–5 children (48–49 percent).

Among women who report any reproductive health problems, 63 percent have not seen anyone for advice or treatment (Table 8.13). The proportion of women who have not obtained advice or treatment is slightly higher in rural areas (64 percent) than in urban areas (58 percent). Among women who have obtained advice or treatment, 82 percent saw a private doctor. A private doctor was seen by 85 percent of these women in urban areas and 81 percent in rural areas. Less than one-fifth of women who have obtained advice or treatment were seen by someone in the public medical sector.

NFHS-2 results show that although one in every two ever-married women in Andhra Pradesh report at least one reproductive health problem that could be symptomatic of a more serious reproductive tract infection, the majority of them bear the problems silently without

seeking advice or treatment. Moreover, women who seek advice or treatment for reproductive health problems do not usually go to government health professionals. These findings highlight the need to educate women regarding the symptoms and consequences of reproductive health problems and the urgent need to expand counselling and reproductive health services in both rural and urban areas, particularly in the public sector.

CHAPTER 9

QUALITY OF CARE

The historic International Conference on Population and Development in Cairo in 1994 brought about a paradigm shift in population-related policies. The conference helped focus the attention of governments on making programmes more client-oriented with an emphasis on the quality of services and care. In line with the conference recommendations, the Government of India acknowledged the need to abandon the use of targets for monitoring its family welfare programme. It recognized that the top-down target approach does not reflect user needs and preferences and de-emphasizes the quality of care provided (Ministry of Health and Family Welfare, 1998a). Recent research on the different aspects of service delivery, especially at the grass-roots level, including programme coverage, client-provider interactions, and informed choice, also endorses the need to take a different approach to meet the reproductive and health needs of the Indian population (Koenig and Khan, 1999). This research suggests that inadequate attention to the quality of care has contributed to the inability of the Government's family welfare programme to meet its goals.

In 1996, the existing family welfare programme was transformed into the new Reproductive and Child Health (RCH) Programme. This new programme integrates all family welfare and women and child health services with the explicit objective of providing beneficiaries with 'need based, client centred, demand driven, high quality integrated RCH services' (Ministry of Health and Family Welfare, 1998a:6). The strategy for the RCH Programme shifts the policy emphasis from achieving demographic targets to meeting the reproductive needs of individual clients (Ministry of Health and Family Welfare, 1996).

NFHS-2 included several questions on the quality of care of health and family welfare services provided in the public as well as the private sector. In this chapter, sources of health care for households are described first. The chapter then examines different aspects of home visits by health and family planning workers and visits by respondents to health facilities, including frequency, source, and quality. Finally, information is presented on the quality of care for family planning services.

9.1 Source of Health Care for Households

To examine the role of different health providers in meeting the health-care needs of households, the NFHS-2 Household Questionnaire included the question, 'When members of your household get sick, where do they generally go for treatment?' Table 9.1 shows the use of services from various types of health providers. A large majority of households (82 percent) normally use the private medical sector when a household member gets sick. Only 15 percent normally use public-sector medical services. The pattern of service utilization is similar for rural and urban households. In the private health sector as well as in the public health sector, hospitals are the most popular source of health care.

Use of health-care services is strongly influenced by the standard of living of the household. As the standard of living increases, use of private-sector services increases. Ninety percent of households with a high standard of living use the private medical sector compared

Table 9.1 Source of health care						
Percent distribution of households by main source of health care when household members get sick, according to residence and the standard of living index, Andhra Pradesh, 1998–99						
Source	Residence		Standard of living index			Total
	Urban	Rural	Low	Medium	High	
Public medical sector	15.3	14.6	19.4	13.2	6.4	14.8
Government/municipal hospital	8.9	5.9	8.3	6.1	3.5	6.6
Government dispensary	1.2	0.8	1.3	0.8	0.2	0.9
UHC/UHP/UFWC	0.2	0.2	0.3	0.1	0.2	0.2
CHC/rural hospital/PHC	2.1	6.3	7.9	4.2	0.9	5.2
Sub-centre	0.1	0.9	1.0	0.5	0.2	0.7
Government mobile clinic	0.0	0.1	0.3	0.0	0.0	0.1
Government paramedic	0.0	0.0	0.0	0.0	0.2	0.0
Other public medical sector	2.9	0.4	0.4	1.4	1.2	1.0
NGO or trust	0.8	0.6	0.5	0.7	0.7	0.6
Hospital/clinic	0.6	0.6	0.5	0.6	0.7	0.6
NGO worker	0.2	0.0	0.1	0.1	0.0	0.0
Private medical sector	81.2	81.9	76.7	83.8	89.8	81.7
Private hospital/clinic	61.5	53.1	49.2	56.5	68.7	55.2
Private doctor	18.4	24.5	23.6	24.3	16.5	23.0
Private mobile clinic	0.0	0.5	0.3	0.5	0.2	0.4
Private paramedic	0.6	2.9	2.7	1.7	3.1	2.3
Vaidya/hakim/homeopath	0.3	0.2	0.2	0.2	0.5	0.2
Traditional healer	0.0	0.4	0.5	0.1	0.2	0.3
Pharmacy/drugstore	0.2	0.1	0.0	0.1	0.3	0.1
Other private medical sector	0.2	0.3	0.3	0.4	0.2	0.3
Other source	2.7	2.9	3.3	2.3	3.2	2.8
Shop	1.4	2.3	2.9	1.7	0.4	2.0
Home treatment	1.4	0.5	0.3	0.5	2.8	0.7
Other	0.0	0.1	0.1	0.1	0.0	0.1
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of households	966	2,906	1,580	1,722	555	3,872

Note: Total includes 15 households with missing information on the standard of living index, which are not shown separately.
UHC: Urban health centre; UHP: Urban health post; UFWC: Urban family welfare centre; CHC: Community health centre; PHC: Primary Health Centre; NGO: Nongovernmental organization

with 77 percent of households with a low standard of living. Yet, even among households with a low standard of living, only 19 percent typically use public-sector services for their health care.

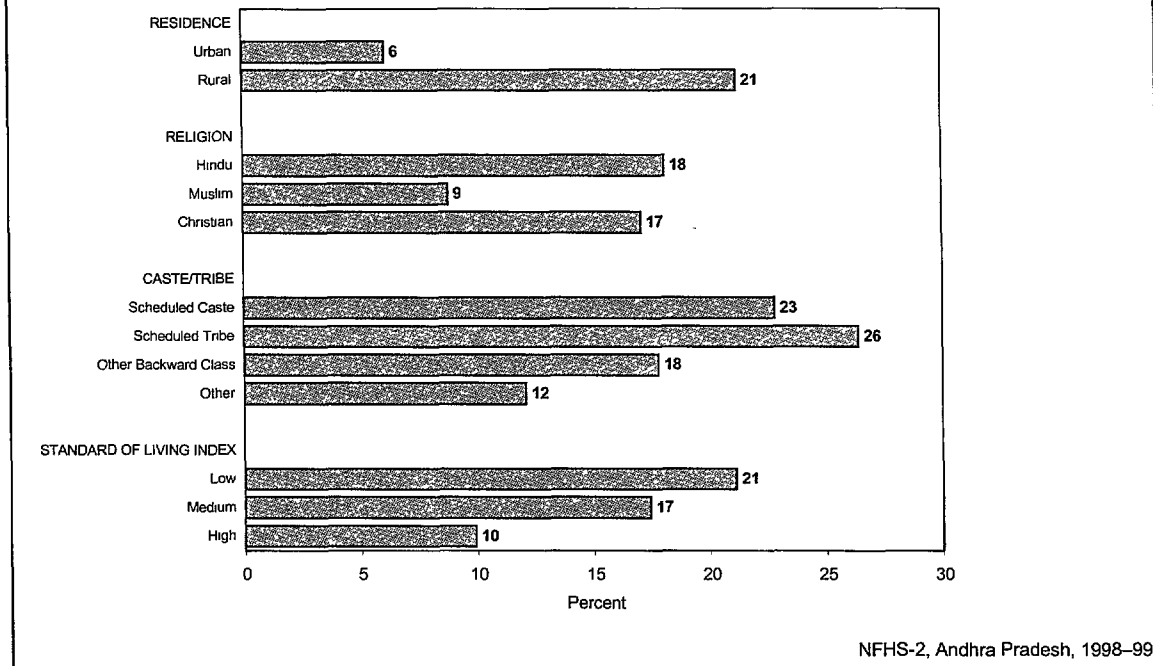
9.2 Contacts at Home with Health and Family Planning Workers

Under the family welfare programme, health or family planning workers are required to regularly visit each household in their assigned area. During these contacts the female health or family planning worker is required to monitor various aspects of the health of women and children, provide information related to health and family planning, counsel and motivate women to adopt appropriate health and family planning practices, and deliver other selected services. These contacts are also important for enhancing the credibility of services and establishing necessary rapport with the clients. Only 17 percent of women in Andhra Pradesh, however, report that they received a home visit from a health or family planning worker during the 12 months preceding

Table 9.2. Home visits by a health or family planning worker					
Percentage of ever-married women who had at least one home visit by a health or family planning worker in the 12 months preceding the survey and, among women who had home visits, median number of visits and median number of months since last visit by selected background characteristics, Andhra Pradesh, 1998–99					
Background characteristic	Percentage with at least one visit	Number of women	Median number of visits ¹	Median months since last visit ¹	Number of women with home visit
Age					
15–24	24.7	1,198	3.8	1.5	296
25–34	16.0	1,410	3.9	1.7	226
35–49	12.7	1,424	4.2	1.5	181
Residence					
Urban	6.1	1,002	3.4	2.4	61
Rural	21.2	3,030	3.9	1.5	642
Education					
Illiterate	17.8	2,574	3.9	1.5	459
Literate, < middle school complete	19.0	829	3.9	1.7	158
Middle school complete	19.2	194	(4.5)	(1.2)	37
High school complete and above	11.3	435	(3.2)	(1.4)	49
Religion					
Hindu	18.1	3,522	4.0	1.6	639
Muslim	8.8	268	*	*	24
Christian	17.1	238	(3.4)	(1.8)	41
Caste/tribe					
Scheduled caste	22.8	798	3.8	1.6	182
Scheduled tribe	26.4	194	3.6	1.3	51
Other backward class	17.8	1,783	4.2	1.7	318
Other	12.1	1,248	3.6	1.4	151
Standard of living index					
Low	21.1	1,485	3.9	1.6	314
Medium	17.4	1,862	3.9	1.5	323
High	9.9	667	3.6	2.1	66
Number of children ever born					
0	10.0	468	(3.9)	(1.8)	47
1	23.4	564	3.5	1.5	132
2	18.2	1,018	4.0	1.6	186
3	17.1	853	4.2	1.4	146
4	16.7	506	3.7	2.1	84
5+	17.5	624	4.2	1.4	109
Family planning status					
Sterilized	16.1	2,106	4.2	1.6	340
Using method other than sterilization	14.5	96	*	*	14
Nonuser	19.1	1,830	3.7	1.5	350
Total	17.4	4,032	3.9	1.6	703
Note: Total includes 1 woman with no religion and small number of women with missing information on religion, caste/tribe, and the standard of living index, who are not shown separately.					
() Based on 25–49 unweighted cases					
*Median not shown; based on fewer than 25 unweighted cases					
¹ For women who received at least one visit					

the survey (Table 9.2). Younger women are more likely to report a home visit than are older women.

Figure 9.1
Home Visit by a Health or Family Planning Worker
by Selected Background Characteristics



Twenty-five percent of women age 15–24 reported at least one home visit compared with only 13 percent of women 35 years and older. Rural women are more than three times as likely to report a home visit from a health or family planning worker as are urban women (Figure 9.1). Home visits are reported more often by women who are illiterate or have a moderate level of education than by women who have completed at least high school. This difference is expected because more educated women are more likely to live in urban areas where home visits are less common.

The likelihood of a home visit decreases as the standard of living of the household increases. Muslim women (9 percent) are less likely to report a home visit than either Hindu (18 percent) or Christian (17 percent) women. Home visits are more common among scheduled-caste and scheduled-tribe women than among either women from other backward classes or other women. Women with no children are less likely than women with one or more children to receive a home visit. Home visits are more common for nonusers of contraception than for users.

Women who reported a visit by a health or family planning worker during the 12 months preceding the survey were asked the frequency of the visits during the past 12 months and the number of months since the last visit. These women, on average, received four home visits over the year with the median duration since the last visit of 1.6 months (Table 9.2). The average number of home visits and the duration since the last visit do not vary substantially according to any of the background characteristics measured. In other words, although some groups are much more likely to be visited by a health worker than others, among women who were visited the frequency of visits does not vary widely.

9.3 Quality of Home Visits

The quality of the care provided during home visits can be assessed in terms of client satisfaction with the services received during the visit. Each woman who reported that a health or family planning worker had visited her during the 12 months preceding the survey was asked about the quality of care received. Questions were asked with reference only to the most recent home visit. The questions covered how the worker talked to the woman during the visit and whether the worker spent enough time with her. Table 9.3 provides this information by the type of services received and whether the worker was from the private or public sector.

Most of the recent home visits were provided by public-sector health or family planning workers; private-sector health workers provided only 5 percent of the most recent home visits. A large majority of women who were visited at home (88 percent) reported that they received services related to health and 15 percent reported that they received family planning services.

Irrespective of the type of service received, almost all women (95 percent or more) who were visited by a public-sector health or family planning worker were satisfied that the worker had spent enough time with them. The proportion of women satisfied with the time the worker spent was slightly lower for visits by a private-sector health or family planning worker (91 percent) than a public-sector worker (95 percent). In general, women had only a few complaints about the way worker talked to them. About three-fourths (73 percent) of the women who received family planning or health services reported that the worker talked to them nicely; less than 2 percent said that the worker did not talk to them nicely. Women who received family planning services gave workers a slightly better assessment than did women who received health services.

9.4 Matters Discussed During Home Visits or Visits to Health Facilities

Women who were visited at home by a health or family planning worker, as well as those who visited a health facility during the 12 months preceding the survey, were asked about the different topics discussed with the workers during any of these visits. Table 9.4 shows the percentage of women who discussed specific topics during all home visits or visits to a health facility during the past 12 months.

The major focus of home visits was treatment of health problems, immunizations, and childcare. In addition, 14 percent of women mentioned that family planning was discussed during home visits and 11 percent reported having discussions about antenatal care. Although family planning is not often discussed during a home visit, discussions about family planning are more common for women who were pregnant or had children under age three years than for other women. Twenty-one percent of these women mentioned having discussions about family planning during home visits. Women who were pregnant or women with children under age three were also much more likely than other women to have talked about immunizations and somewhat more likely to have talked about antenatal and delivery care, but less likely to have discussed health problems.

Visits to health facilities are largely for treatment of health problems (70 percent) or childcare (40 percent). Only 2 percent of the women say that they discussed family planning during the visits. Even among currently pregnant women or women with children under age

Table 9.3 Quality of home visit												
Quality of care indicators for last home visit by a health or family planning worker during the past 12 months, according to type of health worker and type of services received during the visit, Andhra Pradesh, 1998–99												
Quality indicator	Type of health worker and type of services received											
	Public-sector worker				Private-sector/NGO/trust worker				Total			
	Family planning	Health	Family planning or health	Neither family planning nor health	Family planning	Health	Family planning or health	Neither family planning nor health	Family planning	Health	Family planning or health	Neither family planning nor health
Percentage who said worker spent enough time with them	97.0	95.1	95.4	(94.0)	*	(90.4)	(90.7)	*	97.0	94.9	95.1	(94.3)
Percentage who said worker talked to them:												
Nicely	77.3	72.9	73.6	(56.6)	*	(54.9)	(56.3)	*	76.7	72.0	72.8	(53.6)
Somewhat nicely	22.7	25.3	24.8	(43.4)	*	(41.8)	(40.5)	*	23.3	26.2	25.5	(46.4)
Not nicely	0.0	1.6	1.4	(0.0)	*	(3.3)	(3.2)	*	0.0	1.6	1.5	(0.0)
Missing	0.0	0.2	0.2	(0.0)	*	(0.0)	(0.0)	*	0.0	0.2	0.1	(0.0)
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women visited at home	103	585	635	34	2	31	32	2	105	617	667	36
Note: Cases where the source of service was neither the public sector nor the private sector/NGO/trust are excluded from the table. The number of women receiving family planning and health services add to more than the number receiving any family planning or health visit because some visits were for both family planning and health. NGO: Nongovernmental organization () Based on 25–49 unweighted cases *Percentage not shown; based on fewer than 25 unweighted cases												

Table 9.4 Matters discussed during contacts with a health or family planning worker

Among ever-married women who had at least one contact with a health or family planning worker in the 12 months preceding the survey, the percentage who discussed specific topics with the health or family planning worker, Andhra Pradesh, 1998–99

Topic discussed	Pregnant women or women with children under age 3	Other women		Total
		Current contraceptive users	Current nonusers	
During home visit				
Family planning	20.6	6.6	8.8	14.0
Breastfeeding	3.9	0.0	0.8	2.1
Supplementary feeding	1.2	0.5	1.5	1.0
Immunization	51.3	12.4	16.3	32.6
Nutrition	3.4	2.3	0.0	2.4
Disease prevention	0.8	3.8	3.0	2.1
Treatment of health problem	31.9	73.5	67.7	51.6
Antenatal care	17.7	0.5	7.9	10.5
Delivery care	14.5	0.9	3.7	8.2
Postpartum care	4.1	0.5	0.0	2.2
Childcare	32.7	30.4	23.9	30.3
Sanitation/cleanliness	0.3	2.9	2.9	1.6
Oral rehydration	0.3	0.0	0.0	0.1
Other	1.1	0.0	0.0	0.6
Number of women	351	214	138	703
During visit to health facility				
Family planning	4.8	0.4	0.2	1.8
Breastfeeding	1.0	0.1	0.2	0.4
Supplementary feeding	0.8	0.0	0.2	0.3
Immunization	17.8	0.5	0.3	6.1
Nutrition	1.3	0.2	0.6	0.7
Disease prevention	2.3	2.5	2.2	2.4
Treatment of health problem	45.2	80.3	86.4	70.4
Antenatal care	20.9	0.5	1.7	7.4
Delivery care	18.3	0.4	1.5	6.5
Postpartum care	4.6	0.2	0.4	1.7
Childcare	53.9	37.3	23.9	39.5
Sanitation/cleanliness	0.2	0.3	0.0	0.2
Oral rehydration	0.3	0.1	0.0	0.1
Other	0.0	0.2	0.1	0.1
Number of women	905	1,197	676	2,777

Note: Percentages may sum to more than 100.0 because of multiple responses.

three, only 5 percent report having discussed family planning. More than half of these women discussed childcare, 45 percent discussed treatment of a health problem, 21 percent discussed antenatal care, and 18 percent discussed delivery care. These data suggest that delivery of health and family planning services in Andhra Pradesh is not well integrated. Indeed, health facilities and workers in the process of providing health and childcare services are missing the opportunity to discuss family planning with even the women who may be most in need of such services. It is also evident that many important health-related topics (feeding practices, nutrition, disease prevention, sanitation, and oral rehydration) are rarely discussed during either home visits or visits to a health facility.

Table 9.5 Quality of care during the most recent visit to a health facility									
Among ever-married women, indicators of quality of care during the most recent visit to a health facility in the 12 months preceding the survey by sector of most recent visit and residence, Andhra Pradesh, 1998–99									
Quality indicator	Public sector			Private sector/ NGO/trust			Total		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Percentage who received the service they went for	98.4	98.0	98.1	99.4	99.7	99.6	99.3	99.4	99.4
Median waiting time (minutes)	29.7	29.5	29.6	29.1	29.4	29.3	29.2	29.4	29.4
Percentage who said the staff spent enough time with them	90.8	94.0	93.2	98.2	97.8	97.9	97.1	97.1	97.1
Percentage who said the staff talked to them:									
Nicely	44.6	61.8	57.7	73.2	71.0	71.6	68.8	69.4	69.3
Somewhat nicely	47.1	34.5	37.5	26.5	28.2	27.8	29.7	29.3	29.4
Not nicely	8.4	3.7	4.8	0.3	0.7	0.6	1.5	1.3	1.3
Percentage who said the staff respected their need for privacy ¹	82.1	79.6	80.2	92.4	82.5	85.2	90.9	82.0	84.4
Percentage who rated facility as:									
Very clean	45.6	54.0	51.9	74.3	70.5	71.5	69.9	67.6	68.2
Somewhat clean	47.7	43.4	44.5	25.0	28.5	27.5	28.5	31.1	30.4
Not clean	6.7	2.6	3.6	0.7	1.0	1.0	1.7	1.3	1.4
Number of women	113	357	470	631	1,674	2,305	744	2,031	2,775
Number of women who said they needed privacy	79	246	325	461	1,214	1,675	540	1,460	2,000
Note: Cases where the source of service was neither the public sector nor the private sector/NGO/trust are excluded from the table.									
NGO: Nongovernmental organization									
¹ Among women who said they needed privacy									

9.5 Quality of Services Received at the Last Visit to a Health Facility

NFHS-2 asked women who had visited a health facility in the 12 months preceding the survey a number of questions to ascertain their perception of the quality of care they received during their most recent visit. Specific dimensions covered were: whether women received the service they went for, the waiting time before receiving the service (or before finding out that the service was not available), whether the staff at the health facility spent enough time with them, whether the staff talked nicely to them, and whether the staff respected their privacy, if they needed privacy. Women were also asked their opinion regarding the cleanliness of the facility.

Almost all respondents (99 percent) said that they received the services for which they had visited the facility (Table 9.5). The median waiting time to receive services was about 30 minutes. The waiting time did not differ between public and private facilities or between facilities visited by rural women and urban women. Satisfaction with the amount of time the staff spent with the woman was generally high (97 percent), but was slightly lower in the public sector (93 percent) than in the private sector (98 percent).

Table 9.6 Family planning discussions with a health or family planning worker			
Percentage of ever-married women who reported ever discussing specific contraceptive methods with health or family planning workers by residence, Andhra Pradesh, 1998–99			
Method	Urban	Rural	Total
Pill	3.9	3.6	3.7
Condom	2.3	1.8	1.9
IUD	4.8	3.3	3.6
Female sterilization	31.7	33.5	33.0
Male sterilization	7.2	7.9	7.7
Rhythm/safe period	0.1	0.4	0.4
Withdrawal	0.0	0.1	0.1
Other method	0.1	0.2	0.2
No method/no contact	65.2	64.5	64.7
Number of women	1,002	3,030	4,032
Note: Percentages may add to more than 100.0 because more than one method may have been discussed.			

The private sector was also rated higher than the public sector on all of the other indicators of quality. Seventy-two percent of women who received services in a private-sector facility said that the staff talked to them nicely compared with 58 percent of women who received services in a public-sector facility. Consistent with this, only 1 percent of women who visited a private-sector facility said that the staff did not talk to them nicely compared with 5 percent for women who visited a public-sector facility. The greatest dissatisfaction was expressed by urban women who visited public-sector facilities (8 percent).

Among women who wanted privacy during their visit, 84 percent were satisfied that the staff respected their need for privacy. More than 90 percent of urban women who visited health facilities said that the staff respected their need for privacy compared with 82 percent of rural women. Satisfaction with the amount of privacy afforded to the client was slightly higher for visits to private-sector facilities (85 percent) than public-sector facilities (80 percent).

Private-sector facilities are also perceived to be cleaner than public-sector facilities. Seventy-two percent of women who visited a private-sector facility said that the facility was very clean compared with 52 percent of women who visited a public-sector facility.

9.6 Family Planning Information and Advice Received

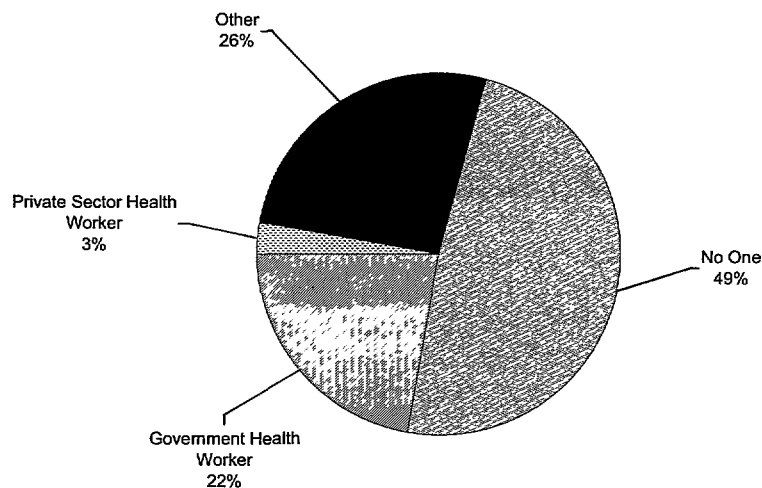
To gain a better understanding of the information provided to women about different contraceptive methods, all eligible women were asked to recollect all the specific methods that had ever been discussed during any of the contacts they had ever had with a health or family planning worker. Overall, 65 percent of women said that they had either no contact or no discussion about any method of family planning with health or family planning personnel (Table 9.6). Among those who discussed contraception, by far the most frequently discussed method was sterilization, particularly female sterilization. Less than 4 percent of women mentioned ever discussing pills or IUDs. Discussions about condoms or traditional methods such as rhythm or withdrawal were also rare. The results for urban and rural areas are very similar.

Table 9.7 Motivation to use family planning							
Percent distribution of current users of modern contraceptive methods by type of person who motivated them to use the method, according to residence, Andhra Pradesh, 1998–99							
Current method	Type of person who motivated the user to use current method					Total percent	Number of users
	Government health worker	Private-sector health worker	NGO worker	Other	No one		
URBAN							
Condom	*	*	*	*	*	100.0	17
Female sterilization	12.5	2.3	0.0	29.4	55.7	100.0	482
Male sterilization	(6.2)	(4.0)	(0.0)	(20.5)	(69.3)	100.0	46
All modern methods	12.2	4.3	0.0	29.1	54.4	100.0	573
RURAL							
Condom	*	*	*	*	*	100.0	9
Female sterilization	25.6	2.2	0.1	26.1	46.1	100.0	1,464
Male sterilization	26.5	0.9	0.9	16.6	55.1	100.0	114
All modern methods	25.8	2.4	0.1	25.2	46.4	100.0	1,602
TOTAL							
Condom	(15.1)	(29.8)	(0.0)	(33.0)	(22.0)	100.0	26
Female sterilization	22.3	2.2	0.1	26.9	48.5	100.0	1,946
Male sterilization	20.7	1.8	0.6	17.7	59.1	100.0	160
All modern methods	22.2	2.9	0.1	26.3	48.5	100.0	2,175
Note: 'All modern methods' includes pill and IUD users who are not shown separately because there are fewer than 25 unweighted cases each. NGO: Nongovernmental organization () Based on 25–49 unweighted cases *Percentage not shown; based on fewer than 25 unweighted cases							

9.7 Person Motivating Users of a Modern Contraceptive Method

To help understand the dynamics of adoption of contraceptive methods and the roles that different persons play, NFHS-2 asked current users of modern methods who had motivated them to use their current method. In Andhra Pradesh almost half (49 percent) of the current users of a modern method said that they were not motivated by anyone, but rather they adopted the method on their own (Table 9.7 and Figure 9.2). Only 22 percent said that a government worker was the one who mainly motivated them and 26 percent reported that the motivator was someone other than a government, private, or NGO worker. As expected, the role of government workers was much more important for motivating users in rural areas than in urban areas. Users in urban areas are more likely than rural users to be self-motivated. It is noteworthy that among the acceptors of female sterilization, 49 percent said that it was their own decision to use the method, and no one else had motivated them. Among women whose husbands had accepted sterilization, 59 percent stated that no one had motivated their husband to get sterilized.

Figure 9.2
Motivator for Current Users of Modern Contraceptive Methods



NFHS-2, Andhra Pradesh, 1998-99

Table 9.8 Discussions about alternative methods of family planning

Percentage of current users of modern contraceptive methods who were told about at least one other method by the sector of the person who motivated them to use the current method and residence, Andhra Pradesh, 1998-99

Sector of motivator	Urban	Rural	Total	Number of users
Public health sector	16.1	9.4	10.4	483
Private health sector	34.5	7.8	18.1	63
Other	5.1	2.5	3.3	571
Total	10.8	6.1	7.2	1,119

Note: Table excludes women who said that no one motivated them to use their current method. Total includes 2 users of modern methods who were motivated by a worker from a nongovernmental organization, who are not shown separately.

9.8 Quality of Care of Family Planning Services

NFHS-2 investigated several other aspects of quality of care. Each current user of a modern family planning method was asked whether the person who motivated her to use her current method informed her about alternative methods of family planning; whether she was told by a health or family planning worker about the possible side effects of the method at the time that she accepted the method; and whether she received any follow-up care either at home or in a health facility after she accepted the method. Tables 9.8 and 9.9 present the results of this investigation.

An important indication of the quality of family planning services is whether women are informed about a variety of methods and are allowed to make an informed choice about the

Table 9.9 Information on side effects and follow-up for current method			
Percentage of current users of modern contraceptive methods who were told about side effects or other problems of the current method at the time of accepting the method and percentage who received follow-up services after accepting the method by current method and residence, Andhra Pradesh, 1998–99			
Information/follow-up	Urban	Rural	Total
Told about side effects			
Sterilization	12.2	13.5	13.2
Other modern method	(16.6)	*	16.7
Any modern method	12.6	13.5	13.3
Received follow-up			
Sterilization	81.5	80.4	80.7
Other modern method	(52.1)	*	55.9
Any modern method	79.2	80.2	79.9
() Based on 25–49 unweighted cases			
*Percentage not shown; based on fewer than 25 unweighted cases			

method most suited to their family planning and reproductive health needs. Women who reported that someone had motivated them to use family planning were asked whether the motivator told them about alternate methods that they could use. Only 7 percent of users of modern contraceptive methods who were motivated by someone were informed about at least one alternative method (Table 9.8). Only 10 percent of users who were motivated by a worker in the public sector received such information, compared with 18 percent of users who were motivated by a private-sector worker. Users in urban areas were more likely than users in rural areas to be told about other methods, especially if the person who motivated them was from the private health sector.

Another important element of informed contraceptive choice is being fully informed about any side effects associated with the method. Table 9.9 shows the percentage of current users of modern contraception who were told about side effects by a health or family planning worker at the time they accepted their current method. Women were also asked if they received follow-up services after they had accepted the method.

In Andhra Pradesh, only 13 percent of users of any modern method were informed about possible side effects of their current method at the time of adopting the method. Eighty-seven percent of acceptors of sterilization report that they were not informed about side effects. This was true for users in rural as well as urban areas. Among the small proportion of users of modern methods other than sterilization, 83 percent of women were not informed of side effects. Given the small number of women who use a modern method other than sterilization, the difference by residence cannot be examined for such women. Nonetheless, it is clear that both public and private health and family planning workers in Andhra Pradesh are not providing couples with the information they need to make an informed choice about contraceptive methods.

The situation is much better with respect to follow-up services. Among sterilization users, 80 percent in rural areas and 82 percent in urban areas received follow-up services. Even so, this implies that one in five users of sterilization had no follow-up. Slightly more than half (56 percent) of users of other modern methods received follow-up services.

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APPENDIX A

ESTIMATES OF SAMPLING ERRORS

Two types of errors affect the estimates from a sample survey: (1) nonsampling errors and (2) sampling errors. Nonsampling errors are the result of errors committed during data collection and data processing, such as failure to locate and interview the correct household, misunderstanding of the questions on the part of either the interviewer or the respondent, and data entry errors. Although numerous efforts were made during the implementation of NFHS-2 to minimize nonsampling errors, they are impossible to avoid and difficult to evaluate statistically.

Sampling errors, on the other hand, can be evaluated statistically. The sample of women selected in NFHS-2 is only one of many samples that could have been selected from the same population, using the same design and expected sample size. Each of these samples would yield results that differ somewhat from the results of the actual sample selected. The sampling error is a measure of the variability among all possible samples. Although the degree of variability is not known exactly, it can be estimated from the survey results.

The sampling error is usually measured by the *standard error* for a particular statistic (for example, a mean or percentage), which is the square root of the variance. The standard error can be used to calculate confidence intervals within which the true value for the population can reasonably be assumed to fall. For example, for any given statistic calculated from a sample survey, the value of that statistic will fall within a range, calculated as the value of the statistic plus or minus two times the standard error of that statistic in 95 percent of all possible samples of identical size and design.

If the sample of women had been selected as a simple random sample, it would have been possible, for many statistics, to use straightforward formulas for calculating sampling errors. However, the NFHS-2 sample is the result of a multi-stage stratified sample design, and it is therefore necessary to use more complex formulas. The computer software used to calculate sampling errors for NFHS-2 is ISSA (the Integrated System for Survey Analysis). The linear Taylor series approximation method for variance estimation is used for estimates of means, proportions and ratios. The JACKKNIFE repeated replication method is used with ISSA for variance estimation for more complex statistics such as fertility and mortality rates.

The ISSA package treats any percentage or average as a ratio estimate, $r = y/x$, where y represents the sample value for variable y , and x represents the number of cases in the group or subgroup under consideration. The variance of r is computed using the formula given below, with the standard error being the square root of the variance:

$$\text{var}(r) = \frac{1-f}{x^2} \sum_{h=1}^H \left[\frac{m_h}{m_h - 1} \left(\sum_{i=1}^{m_h} z_{hi}^2 - \frac{z_h^2}{m_h} \right) \right]$$

in which

$$z_{hi} = y_{hi} - rx_{hi}$$

$$z_h = y_h - rx_h$$

where

h = the stratum that varies from 1 to H,

m_h = the total number of PSUs selected in the h^{th} stratum,

y_{hi} = the sum of the values of variable y in PSU i in the h^{th} stratum,

x_{hi} = the sum of the number of cases in PSU i in the h^{th} stratum,

f = the overall sampling fraction, which is so small that the program ignores it.

In addition to the standard error, ISSA computes the design effect (DEFT) for each estimate, which is defined as the ratio of the standard error using the given sample design to the standard error that would result if a simple random sample had been used. A DEFT value of 1.0 indicates that the sample design is as efficient as a simple random sample, while a value greater than 1.0 indicates the increase in the sampling error due to the use of a more complex and less statistically efficient design. ISSA also computes the relative error and confidence limits for the estimates.

Sampling errors for NFHS-2 are calculated for selected variables considered to be of primary interest. The results in this appendix are presented for the state as a whole and for urban and rural areas separately, except for the variable on salt iodization for which the results are shown separately for large cities, small cities, towns, and rural areas. For each variable, the type of statistic (mean, proportion, ratio, or rate) and the base population are given in Table A.1. Table A.2 presents the value of the statistic (R), its standard error (SE), the relative standard error (SE/R), and the 95 percent confidence limits ($R \pm 2SE$), for each variable. In addition, for all variables except the fertility and mortality rates, the table shows the unweighted number of cases (N), the weighted number of cases (WN), the standard error assuming a simple random sample (SER), and the design effect (DEFT).

Table A.1 List of selected variables for sampling errors, Andhra Pradesh, 1998–99

Variable	Estimate	Base population
Sex ratio	Ratio	Household <i>de facto</i> population
Illiterate	Proportion	Household <i>de facto</i> population age 6 and above
Has tuberculosis	Rate	1,000 household <i>de jure</i> population
Salt iodized at 15 ppm or more	Proportion	Households
Illiterate	Proportion	Ever-married women 15–49
High school complete and above	Proportion	Ever-married women 15–49
Currently married	Proportion	Ever-married women 15–49
Number of children ever born	Mean	Currently married women 15–49
Number of children surviving	Mean	Currently married women 15–49
Have ever used any method	Proportion	Currently married women 15–49
Currently using any method	Proportion	Currently married women 15–49
Currently using any modern method	Proportion	Currently married women 15–49
Currently using pills	Proportion	Currently married women 15–49
Currently using IUD	Proportion	Currently married women 15–49
Currently using condoms	Proportion	Currently married women 15–49
Currently using female sterilization	Proportion	Currently married women 15–49
Currently using male sterilization	Proportion	Currently married women 15–49
Currently using rhythm/safe period	Proportion	Currently married women 15–49
Using public source for modern method	Proportion	Current users of modern methods
Do not want any more children	Proportion	Currently married women 15–49
Want to delay birth at least 2 years	Proportion	Currently married women 15–49
Ideal number of children	Mean	Ever-married women 15–49
Ideal number of sons	Mean	Ever-married women 15–49
Ideal number of daughters	Mean	Ever-married women 15–49
Visited by health/family planning worker	Proportion	Ever-married women 15–49
Received no antenatal care	Proportion	Births in the past 3 years
Received 3 or more months of iron and folic acid tablets or syrup	Proportion	Births in the past 3 years
Received medical assistance during delivery	Proportion	Births in the past 3 years
Received postpartum care	Proportion	Noninstitutional births in the past 3 years
Had diarrhoea in the past 2 weeks	Proportion	Children under 3 years old
Treated with ORS packets	Proportion	Children under 3 with diarrhoea in past 2 weeks
Taken to a health facility/provider for diarrhoea	Proportion	Children under 3 with diarrhoea in past 2 weeks
Showing a vaccination card	Proportion	Children 12–23 months
Received BCG vaccination	Proportion	Children 12–23 months
Received DPT vaccination (3 doses)	Proportion	Children 12–23 months
Received polio vaccination (3 doses)	Proportion	Children 12–23 months
Received measles vaccination	Proportion	Children 12–23 months
Fully vaccinated	Proportion	Children 12–23 months
Received Vitamin A	Proportion	Children 12–35 months
Had reproductive health problem	Proportion	Currently married women 15–49
Not involved in decisionmaking	Proportion	Ever-married women 15–49
Ever beaten or physically mistreated	Proportion	Ever-married women 15–49
Not worked in past 12 months	Proportion	Ever-married women 15–49
Anaemic women	Proportion	Ever-married women 15–49
Anaemic children	Proportion	Children under 3 years old
Fertility rates	Rate	All women, population
Mortality rates	Rate	Births, population

Table A.2 Sampling errors, Andhra Pradesh, 1998-99

Variable/ residence	Value (R)	Standard error (SE)	Number of cases		Standard error assuming SRS (SER)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits	
			Unweighted (N)	Weighted (WN)				R-2SE	R+2SE
Sex ratio (Household <i>de facto</i> population)									
Urban	954	19.788	2535	2406	20.726	0.955	0.021	914	993
Rural	995	13.455	6698	6820	12.946	1.039	0.014	968	1021
Total	984	11.381	9233	9226	10.993	1.035	0.012	961	1007
Illiterate (Household <i>de facto</i> population age 6 and above)									
Urban	0.239	0.019	4354	4133	0.006	3.003	0.081	0.200	0.277
Rural	0.504	0.012	11663	11875	0.005	2.501	0.023	0.480	0.527
Total	0.435	0.015	16017	16008	0.004	3.759	0.034	0.406	0.465
Has tuberculosis (1,000 household <i>de jure</i> population)									
Urban	2.988	1.006	5033	4778	0.769	1.307	0.337	0.977	5.000
Rural	6.948	0.958	13420	13663	0.717	1.336	0.138	5.031	8.864
Total	5.922	0.766	18453	18441	0.565	1.356	0.129	4.391	7.453
Salt iodized at 15 ppm or more (Households)									
Large city	0.664	0.039	128	121	0.042	0.925	0.058	0.587	0.742
Small city	0.435	0.062	445	424	0.024	2.641	0.143	0.311	0.559
Town	0.468	0.084	445	422	0.024	3.547	0.180	0.300	0.636
Rural	0.206	0.015	2854	2906	0.008	2.020	0.074	0.176	0.237
Total	0.274	0.019	3872	3872	0.007	2.659	0.070	0.236	0.312
Illiterate (Ever-married women age 15-49)									
Urban	0.403	0.034	1068	1002	0.015	2.249	0.084	0.335	0.471
Rural	0.716	0.015	2964	3030	0.008	1.834	0.021	0.686	0.747
Total	0.638	0.019	4032	4032	0.008	2.505	0.030	0.601	0.676
High school complete and above (Ever-married women age 15-49)									
Urban	0.272	0.033	1068	1002	0.014	2.408	0.121	0.206	0.338
Rural	0.054	0.004	2964	3030	0.004	1.050	0.081	0.045	0.062
Total	0.108	0.013	4032	4032	0.005	2.609	0.118	0.082	0.133
Currently married (Ever-married women age 15-49)									
Urban	0.918	0.011	1068	1002	0.008	1.307	0.012	0.896	0.940
Rural	0.916	0.006	2964	3030	0.005	1.234	0.007	0.903	0.928
Total	0.916	0.005	4032	4032	0.004	1.242	0.006	0.905	0.927
Number of children ever born (Currently married women age 15-49)									
Urban	2.577	0.086	980	920	0.055	1.556	0.033	2.406	2.749
Rural	2.764	0.048	2714	2775	0.037	1.289	0.017	2.669	2.859
Total	2.717	0.042	3694	3695	0.031	1.365	0.016	2.633	2.802
Number of children surviving (Currently married women age 15-49)									
Urban	2.381	0.093	980	920	0.052	1.795	0.039	2.196	2.566
Rural	2.377	0.037	2714	2775	0.030	1.219	0.015	2.304	2.451
Total	2.378	0.036	3694	3695	0.026	1.372	0.015	2.307	2.450
Have ever used any method (Currently married women age 15-49)									
Urban	0.662	0.023	980	920	0.015	1.551	0.035	0.616	0.709
Rural	0.591	0.014	2714	2775	0.009	1.500	0.024	0.563	0.620
Total	0.609	0.012	3694	3695	0.008	1.550	0.020	0.584	0.634

Table A.2 Sampling errors, Andhra Pradesh, 1998–99 (contd.)

Variable/ residence	Value (R)	Standard error (SE)	Number of cases		Standard error assuming SRS (SER)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits	
			Unweighted (N)	Weighted (WN)				R-2SE	R+2SE
Currently using any method (Currently married women age 15–49)									
Urban	0.634	0.024	980	920	0.015	1.569	0.038	0.585	0.682
Rural	0.583	0.014	2714	2775	0.009	1.485	0.024	0.555	0.612
Total	0.596	0.012	3694	3695	0.008	1.522	0.021	0.571	0.621
Currently using any modern method (Currently married women age 15–49)									
Urban	0.623	0.025	980	920	0.015	1.598	0.040	0.573	0.672
Rural	0.578	0.014	2714	2775	0.009	1.476	0.024	0.550	0.606
Total	0.589	0.012	3694	3695	0.008	1.516	0.021	0.564	0.613
Currently using pills (Currently married women age 15–49)									
Urban	0.014	0.004	980	920	0.004	1.027	0.273	0.006	0.022
Rural	0.003	0.001	2714	2775	0.001	0.975	0.368	0.001	0.004
Total	0.005	0.001	3694	3695	0.001	1.070	0.237	0.003	0.008
Currently using IUD (Currently married women age 15–49)									
Urban	0.016	0.007	980	920	0.004	1.617	0.402	0.003	0.029
Rural	0.003	0.001	2714	2775	0.001	1.317	0.462	0.000	0.006
Total	0.006	0.002	3694	3695	0.001	1.545	0.319	0.002	0.010
Currently using condoms (Currently married women age 15–49)									
Urban	0.018	0.004	980	920	0.004	0.998	0.233	0.010	0.027
Rural	0.003	0.001	2714	2775	0.001	1.066	0.357	0.001	0.006
Total	0.007	0.002	3694	3695	0.001	1.110	0.217	0.004	0.010
Currently using female sterilization (Currently married women age 15–49)									
Urban	0.524	0.024	980	920	0.016	1.533	0.047	0.475	0.573
Rural	0.528	0.014	2714	2775	0.010	1.475	0.027	0.499	0.556
Total	0.527	0.012	3694	3695	0.008	1.483	0.023	0.502	0.551
Currently using male sterilization (Currently married women age 15–49)									
Urban	0.050	0.010	980	920	0.007	1.470	0.205	0.029	0.070
Rural	0.041	0.007	2714	2775	0.004	1.887	0.175	0.027	0.055
Total	0.043	0.006	3694	3695	0.003	1.778	0.138	0.031	0.055
Currently using rhythm/safe period (Currently married women age 15–49)									
Urban	0.010	0.003	980	920	0.003	0.991	0.312	0.004	0.017
Rural	0.002	0.001	2714	2775	0.001	0.981	0.437	0.000	0.003
Total	0.004	0.001	3694	3695	0.001	1.036	0.271	0.002	0.006
Using public source for modern method (Current users of modern methods)									
Urban	0.649	0.033	610	573	0.019	1.711	0.051	0.582	0.715
Rural	0.834	0.017	1570	1602	0.009	1.852	0.021	0.799	0.868
Total	0.785	0.017	2180	2175	0.009	1.975	0.022	0.750	0.820
Do not want any more children (Currently married women age 15–49)									
Urban	0.142	0.017	980	920	0.011	1.496	0.118	0.108	0.175
Rural	0.092	0.006	2714	2775	0.006	1.113	0.067	0.080	0.105
Total	0.105	0.007	3694	3695	0.005	1.314	0.063	0.091	0.118
Want to delay birth at least 2 years (Currently married women age 15–49)									
Urban	0.077	0.010	980	920	0.009	1.178	0.130	0.057	0.097
Rural	0.075	0.006	2714	2775	0.005	1.144	0.077	0.063	0.086
Total	0.075	0.005	3694	3695	0.004	1.147	0.066	0.065	0.085

Table A.2 Sampling errors, Andhra Pradesh, 1998–99 (contd.)

Variable/ residence	Value (R)	Standard error (SE)	Number of cases		Standard error assuming SRS (SER)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits	
			Unweighted (N)	Weighted (WN)				R-2SE	R+2SE
Ideal number of children (Ever-married women age 15–49)									
Urban	2.324	0.064	839	788	0.031	2.069	0.028	2.195	2.453
Rural	2.427	0.034	2340	2395	0.018	1.890	0.014	2.359	2.496
Total	2.402	0.031	3179	3183	0.016	1.970	0.013	2.340	2.463
Ideal number of sons (Ever-married women age 15–49)									
Urban	0.942	0.048	838	787	0.026	1.814	0.051	0.846	1.038
Rural	1.081	0.027	2338	2393	0.016	1.622	0.025	1.028	1.134
Total	1.046	0.024	3176	3180	0.014	1.732	0.023	0.998	1.095
Ideal number of daughters (Ever-married women age 15–49)									
Urban	0.790	0.044	838	787	0.023	1.903	0.056	0.702	0.878
Rural	0.835	0.021	2338	2393	0.013	1.644	0.026	0.792	0.878
Total	0.824	0.020	3176	3180	0.011	1.725	0.024	0.785	0.863
Visited by health/family planning worker (Ever-married women age 15–49)									
Urban	0.061	0.011	1068	1002	0.007	1.497	0.180	0.039	0.083
Rural	0.212	0.013	2964	3030	0.008	1.750	0.062	0.186	0.238
Total	0.174	0.012	4032	4032	0.006	1.976	0.068	0.151	0.198
Received no antenatal care (Births in past 3 years)									
Urban	0.007	0.005	301	283	0.005	1.010	0.708	0.000	0.016
Rural	0.095	0.015	829	846	0.011	1.347	0.154	0.066	0.124
Total	0.073	0.012	1130	1129	0.008	1.411	0.160	0.050	0.096
Received 3 or more months of iron and folic acid tablets or syrup (Births in past 3 years)									
Urban	0.898	0.025	267	251	0.019	1.360	0.028	0.848	0.948
Rural	0.861	0.018	652	666	0.014	1.308	0.021	0.825	0.896
Total	0.871	0.015	919	917	0.011	1.329	0.017	0.841	0.900
Received medical assistance during delivery (Births in past 3 years)									
Urban	0.853	0.029	301	283	0.020	1.400	0.034	0.796	0.910
Rural	0.585	0.030	829	846	0.018	1.631	0.051	0.526	0.645
Total	0.652	0.026	1130	1129	0.015	1.709	0.039	0.601	0.704
Received postpartum care (Noninstitutional births in past 3 years)									
Urban	0.421	0.052	64	61	0.062	0.836	0.124	0.317	0.525
Rural	0.452	0.030	494	507	0.022	1.337	0.066	0.392	0.512
Total	0.449	0.027	558	567	0.021	1.297	0.061	0.394	0.503
Had diarrhoea in the past 2 weeks (Children under 3 years old)									
Urban	0.161	0.023	280	263	0.022	1.026	0.140	0.116	0.206
Rural	0.147	0.014	766	782	0.013	1.120	0.098	0.118	0.176
Total	0.150	0.012	1046	1045	0.011	1.094	0.080	0.126	0.175
Treated with ORS packets (Children under 3 with diarrhoea in past 2 weeks)									
Urban	0.421	0.072	45	42	0.078	0.918	0.170	0.277	0.565
Rural	0.387	0.051	112	115	0.046	1.119	0.133	0.284	0.489
Total	0.396	0.042	157	157	0.040	1.058	0.106	0.312	0.480
Taken to a health facility/provider for diarrhoea (Children under 3 with diarrhoea in past 2 weeks)									
Urban	0.823	0.053	45	42	0.058	0.926	0.065	0.717	0.930
Rural	0.641	0.055	112	115	0.045	1.211	0.085	0.531	0.751
Total	0.690	0.044	157	157	0.037	1.172	0.063	0.603	0.777

Table A.2 Sampling errors, Andhra Pradesh, 1998–99 (contd.)

Variable/ residence	Value (R)	Standard error (SE)	Number of cases		Standard error assuming SRS (SER)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits	
			Unweighted (N)	Weighted (WN)				R-2SE	R+2SE
Showing a vaccination card (Children 12–23 months)									
Urban	0.533	0.055	105	99	0.049	1.133	0.103	0.423	0.643
Rural	0.371	0.038	279	285	0.029	1.288	0.101	0.296	0.446
Total	0.413	0.032	384	384	0.025	1.255	0.077	0.349	0.476
Received BCG vaccination (Children 12–23 months)									
Urban	0.943	0.020	105	99	0.023	0.880	0.021	0.903	0.983
Rural	0.888	0.021	279	285	0.019	1.113	0.024	0.846	0.930
Total	0.902	0.017	384	384	0.015	1.087	0.018	0.869	0.935
Received DPT vaccination (3 doses) (Children 12–23 months)									
Urban	0.858	0.032	105	99	0.034	0.951	0.038	0.793	0.923
Rural	0.773	0.030	279	285	0.025	1.195	0.039	0.713	0.833
Total	0.795	0.024	384	384	0.021	1.161	0.030	0.747	0.843
Received polio vaccination (3 doses) (Children 12–23 months)									
Urban	0.857	0.033	105	99	0.034	0.972	0.039	0.791	0.924
Rural	0.802	0.029	279	285	0.024	1.212	0.036	0.744	0.860
Total	0.816	0.023	384	384	0.020	1.169	0.028	0.770	0.862
Received measles vaccination (Children 12–23 months)									
Urban	0.791	0.042	105	99	0.040	1.058	0.053	0.707	0.874
Rural	0.598	0.034	279	285	0.029	1.156	0.057	0.530	0.666
Total	0.647	0.029	384	384	0.024	1.176	0.044	0.590	0.705
Fully vaccinated (Children 12–23 months)									
Urban	0.733	0.043	105	99	0.043	0.990	0.058	0.648	0.819
Rural	0.536	0.037	279	285	0.030	1.220	0.068	0.463	0.609
Total	0.587	0.030	384	384	0.025	1.202	0.052	0.526	0.647
Received Vitamin A (Children 12–35 months)									
Urban	0.294	0.028	194	182	0.034	0.842	0.097	0.237	0.351
Rural	0.231	0.027	495	505	0.019	1.432	0.117	0.177	0.285
Total	0.248	0.021	689	687	0.017	1.287	0.086	0.205	0.291
Had reproductive health problem (Currently married women age 15–49)									
Urban	0.474	0.033	980	920	0.016	2.095	0.071	0.407	0.540
Rural	0.488	0.017	2714	2775	0.010	1.799	0.035	0.454	0.523
Total	0.485	0.015	3694	3695	0.008	1.867	0.032	0.454	0.515
Not involved in decisionmaking (Ever-married women age 15–49)									
Urban	0.067	0.009	1068	1002	0.008	1.196	0.137	0.049	0.085
Rural	0.076	0.006	2964	3030	0.005	1.279	0.082	0.063	0.088
Total	0.074	0.005	4032	4032	0.004	1.261	0.070	0.063	0.084
Ever beaten or physically mistreated (Ever-married women age 15–49)									
Urban	0.167	0.021	1068	1002	0.011	1.862	0.127	0.124	0.209
Rural	0.254	0.014	2964	3030	0.008	1.766	0.056	0.225	0.282
Total	0.232	0.012	4032	4032	0.007	1.873	0.054	0.207	0.257
Not worked in past 12 months (Ever-married women age 15–49)									
Urban	0.737	0.029	1068	1002	0.013	2.165	0.040	0.679	0.795
Rural	0.305	0.021	2964	3030	0.008	2.437	0.068	0.264	0.347
Total	0.413	0.024	4032	4032	0.008	3.108	0.058	0.365	0.461

Table A.2 Sampling errors, Andhra Pradesh, 1998-99 (contd.)

Variable/ residence	Value (R)	Standard error (SE)	Number of cases		Standard error assuming SRS (SER)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits	
			Unweighted (N)	Weighted (WN)				R-2SE	R+2SE
Anaemic women (Ever-married women age 15-49)									
Urban	0.474	0.026	1012	959	0.016	1.661	0.055	0.422	0.526
Rural	0.506	0.017	2847	2900	0.009	1.808	0.033	0.472	0.540
Total	0.498	0.014	3859	3859	0.008	1.776	0.029	0.469	0.527
Anaemic children (Children under 3 years old)									
Urban	0.695	0.046	203	192	0.032	1.432	0.067	0.602	0.788
Rural	0.733	0.021	554	564	0.019	1.090	0.028	0.692	0.774
Total	0.723	0.019	757	756	0.016	1.194	0.027	0.684	0.762

Table A.2 Sampling errors, Andhra Pradesh, 1998–99 (contd.)					
Variable/ residence	Value (R)	Standard error (SE)	Relative error (SE/R)	Confidence limits	
				R-2SE	R+2SE
Total fertility rate (Women age 15–49)					
Urban	2.065	0.127	0.061	1.811	2.319
Rural	2.318	0.078	0.034	2.161	2.475
Total	2.247	0.066	0.029	2.115	2.380
Age-specific fertility rate (Women age 15–19)					
Urban	0.099	0.011	0.107	0.078	0.120
Rural	0.144	0.068	0.047	0.131	0.158
Total	0.132	0.058	0.044	0.120	0.143
Age-specific fertility rate (Women age 20–24)					
Urban	0.189	0.014	0.075	0.160	0.217
Rural	0.186	0.009	0.050	0.168	0.205
Total	0.186	0.008	0.041	0.171	0.202
Age-specific fertility rate (Women age 25–29)					
Urban	0.093	0.012	0.130	0.069	0.118
Rural	0.085	0.007	0.088	0.070	0.100
Total	0.087	0.006	0.073	0.074	0.100
Age-specific fertility rate (Women age 30–34)					
Urban	0.026	0.008	0.298	0.010	0.041
Rural	0.031	0.005	0.170	0.020	0.041
Total	0.029	0.004	0.147	0.021	0.038
Age-specific fertility rate (Women age 35–39)					
Urban	0.007	0.004	0.562	0.000	0.014
Rural	0.014	0.004	0.276	0.006	0.022
Total	0.012	0.003	0.249	0.006	0.018
Age-specific fertility rate (Women age 40–44)					
Urban	0.000	0.000	NC	0.000	0.000
Rural	0.003	0.002	0.575	0.000	0.007
Total	0.003	0.001	0.575	0.000	0.005

Table A.2 Sampling errors, Andhra Pradesh, 1998–99 (contd.)					
Variable/ residence	Value (R)	Standard error (SE)	Relative error (SE/R)	Confidence limits	
				R-2SE	R+2SE
Neonatal mortality (5-year period preceding survey)					
Urban	36.783	9.308	0.253	18.168	55.399
Rural	46.113	6.032	0.131	34.050	58.177
Total	43.779	5.080	0.116	33.618	53.939
Infant mortality ${}_1q_0$ (5-year period preceding survey)					
Urban	49.238	11.498	0.234	26.242	72.234
Rural	71.413	7.550	0.106	56.313	86.512
Total	65.839	6.410	0.097	53.019	78.659
Child mortality ${}_4q_1$ (5-year period preceding survey)					
Urban	14.035	6.314	0.450	1.407	26.663
Rural	23.402	3.591	0.153	16.221	30.584
Total	21.037	3.101	0.147	14.835	27.239
Under-five mortality ${}_5q_0$ (5-year period preceding survey)					
Urban	62.582	14.039	0.224	34.504	90.659
Rural	93.144	8.241	0.088	76.663	109.625
Total	85.491	7.194	0.084	71.102	99.880
Crude death rate (Based on household questionnaire)					
Urban	7.721	0.855	0.111	6.010	9.431
Rural	11.768	0.733	0.062	10.301	13.234
Total	10.731	0.628	0.059	9.475	11.988
Crude birth rate (Based on birth history)					
Urban	21.426	1.218	0.057	18.989	23.863
Rural	21.353	0.732	0.034	19.890	22.817
Total	21.364	0.642	0.030	20.079	22.649
NC: Not calculated because denominator is 0.000					
SRS: Simple random sample					

APPENDIX B

DATA QUALITY TABLES

The purpose of this appendix is to provide the data user with an overview of the general quality of the NFHS-2 data. Whereas Appendix A is concerned with sampling errors and their effects on the survey results, the tables in this appendix refer to possible *nonsampling* errors: for example, digit preference; rounding or heaping on certain ages or dates; omission of events occurring further in the past; deliberate distortion of information by some interviewers in an attempt to lighten their work loads; noncooperation of the respondent in providing information; or refusal to have children measured for height and weight or tested for anaemia. A description of the likely magnitude of such nonsampling errors is provided in the following paragraphs.

The distribution of the *de facto* household population by single years of age and sex is presented in Table B.1. In many (but not all) cases, the respondent was the head of the household. It is well documented that ages are poorly reported in most parts of India. Ages are of little relevance to much of the rural population in particular, and no amount of probing will ensure that ages are properly recorded. In interviewer training for NFHS-2, a great deal of emphasis was placed on obtaining as accurate information as possible on ages and dates of events. Nevertheless, it is clear that age reporting in NFHS-2 shares the same problems inherent in all Indian censuses and surveys. Heaping on ages ending in 0 and 5 is considerable and is particularly severe in the older age groups. Also, the typical pattern of heaping on ages 10 and 12 is evident. However, the NFHS-2 age data are evidently of considerably better quality than age data from other sources. This can be seen, for example, by comparing the degree of age heaping in NFHS-2 with that in the 1991 Census. Age reporting appears to be particularly better in NFHS-2 than in the 1991 Census at the young adult ages. Another measure of the quality of the NFHS-2 age data is the percentage of persons whose ages were recorded as not known or missing. In Andhra Pradesh, information on age was available for all 18,305 persons listed on the household schedules.

Table B.2 examines the possibility that some eligible women (that is, ever-married women age 15–49) were not properly identified in NFHS-2. In some surveys, interviewers may try to reduce their workload by pushing women out of the eligible age range or recording ever-married women as never married so that they will not have to be interviewed. If such practices were being followed to a noticeable extent, Table B.2 would normally show (1) a shortage of ever-married women in the 45–49 age group and an excess in the 50–54 age group or (2) an unusually low proportion of ever-married women by age. Neither of these patterns is evident in the NFHS-2 data. It can therefore be concluded that there was no concerted effort to misidentify eligible women in NFHS-2 in Andhra Pradesh.

One traditional measure of the quality of data is the extent to which information is missing on key variables. Although completeness of responses does not necessarily indicate that the results are accurate, the existence of missing information for a large number of cases would suggest that data collection was not carried out with sufficient care. In NFHS-2 in Andhra Pradesh, the extent of missing information is very low for age at death, age at first marriage, woman's education, and prevalence of diarrhoea in the two weeks preceding the survey (Table

Table B.1 Household age distribution

Single-year age distribution of *de facto* household population by sex (weighted), Andhra Pradesh, 1998–99

Age	Male		Female		Age	Male		Female	
	Number	Percent	Number	Percent		Number	Percent	Number	Percent
< 1	218	2.4	192	2.1	37	78	0.8	79	0.9
1	180	2.0	187	2.1	38	141	1.5	134	1.5
2	141	1.5	175	1.9	39	69	0.7	84	0.9
3	170	1.8	155	1.7	40	218	2.4	147	1.6
4	222	2.4	203	2.2	41	68	0.7	74	0.8
5	249	2.7	205	2.3	42	100	1.1	88	1.0
6	237	2.6	194	2.1	43	48	0.5	79	0.9
7	250	2.7	209	2.3	44	52	0.6	41	0.4
8	232	2.5	215	2.4	45	197	2.1	112	1.2
9	208	2.3	194	2.1	46	67	0.7	78	0.9
10	220	2.4	248	2.7	47	48	0.5	57	0.6
11	193	2.1	190	2.1	48	70	0.8	100	1.1
12	240	2.6	260	2.9	49	42	0.5	78	0.9
13	163	1.8	185	2.0	50	126	1.4	37	0.4
14	208	2.3	169	1.9	51	52	0.6	52	0.6
15	215	2.3	184	2.0	52	58	0.6	93	1.0
16	200	2.2	208	2.3	53	39	0.4	66	0.7
17	170	1.8	136	1.5	54	41	0.4	70	0.8
18	222	2.4	243	2.7	55	129	1.4	110	1.2
19	136	1.5	163	1.8	56	46	0.5	69	0.8
20	204	2.2	243	2.7	57	19	0.2	48	0.5
21	155	1.7	149	1.6	58	51	0.6	53	0.6
22	163	1.8	184	2.0	59	37	0.4	33	0.4
23	149	1.6	173	1.9	60	171	1.9	141	1.6
24	144	1.6	153	1.7	61	27	0.3	42	0.5
25	234	2.5	238	2.6	62	40	0.4	48	0.5
26	150	1.6	173	1.9	63	53	0.6	40	0.4
27	115	1.2	133	1.5	64	24	0.3	29	0.3
28	161	1.7	178	2.0	65	82	0.9	86	0.9
29	114	1.2	110	1.2	66	21	0.2	28	0.3
30	244	2.6	206	2.3	67	22	0.2	16	0.2
31	100	1.1	103	1.1	68	27	0.3	30	0.3
32	126	1.4	132	1.5	69	19	0.2	13	0.1
33	69	0.8	99	1.1	70+	304	3.3	217	2.4
34	104	1.1	111	1.2					
35	236	2.6	200	2.2	Total	9,226	100.0	9,079	100.0
36	99	1.1	109	1.2					

Note: The *de facto* population includes residents and nonresidents who slept in the household the night before the interview.

B.3). Missing information is highest for the month of birth of children born in the past 15 years. It is important to note, however, that the year is reported in every case in which the month is missing. Data on height and weight of children, woman's haemoglobin level, and child's haemoglobin level are available for approximately 95 percent of the members of the respective reference groups, which is acceptable. The response rate is particularly acceptable for the height and weight data since in any survey many children cannot be measured because they are not at home or they are ill at the time of the survey. In some cases when the child was at home, either the child refused to be measured or the mother refused to allow the child to be measured because of cultural beliefs, and no amount of persuasion could change their mind.

Table B.2 Age distribution of eligible and interviewed women					
Percent distribution of the <i>de facto</i> household population of women age 10–54 and of interviewed women age 15–49 and percentage of eligible women who were interviewed (weighted), Andhra Pradesh, 1998–99					
Age	All women	Ever-married women	Interviewed women		Percent interviewed
			Number	Percent	
10–14	1,052	7	NA	NA	NA
15–19	934	416	402	10.0	96.6
20–24	901	799	783	19.4	98.0
25–29	832	809	801	19.9	99.0
30–34	651	639	622	15.4	97.3
35–39	606	600	593	14.7	98.8
40–44	428	420	415	10.3	98.8
45–49	424	421	415	10.3	98.6
50–54	318	316	NA	NA	NA
15–49	4,776	4,105	4,031	100.0	98.2

Note: The *de facto* population includes all residents and nonresidents who slept in the household the night before the interview. For all columns, the age distribution is taken from ages reported on the Household Questionnaire.
NA: Not applicable

Table B.3 Completeness of reporting			
Percentage of observations missing information for selected demographic and health questions (weighted), Andhra Pradesh, 1998–99			
Subject	Reference group	Percentage missing information	Number of cases
Birth date	Births in past 15 years		
Month only		10.37	6,415
Month and year		0.00	6,415
Age at death	Deaths to births in past 15 years	0.16	619
Age at first marriage	Ever-married women age 15–49	0.28	4,032
Woman's education	Ever-married women age 15–49	0.00	4,032
Anthropometry	Living children age 0–35 months		
Height		5.37	1,065
Weight		4.69	1,065
Height or weight		5.37	1,065
Woman's haemoglobin level	Ever-married women age 15–49	4.28	4,032
Child's haemoglobin level	Living children age 6–35 months	4.94	863
Diarrhoea in past 2 weeks	Living children age 1–35 months	0.19	1,045

Table B.4 Births by calendar year

Distribution of births by calendar year for living (L), dead (D), and all (T) children, according to reporting completeness, sex ratio at birth, and ratio of births by calendar year (weighted), Andhra Pradesh, 1998–99

Calendar year	Number of births			Percent with complete birth date ¹			Sex ratio at birth ²			Calendar year ratio ³		
	L	D	T	L	D	T	L	D	T	L	D	T
1999	16	1	17	100.0	100.0	100.0	621	0	562	NA	NA	NA
1998	382	22	404	99.5	100.0	99.5	847	829	846	NC	NC	NC
1997	370	26	396	98.6	100.0	98.7	1,084	1,026	1,080	NC	NC	NC
1996	314	20	334	98.7	94.8	98.5	1,154	6,113	1,248	92.3	78.4	91.3
1995	310	25	335	97.0	83.7	96.0	788	794	789	86.9	75.8	85.9
1994	399	47	446	93.1	69.6	90.6	993	1,078	1,001	107.2	141.6	110.0
1993	434	41	475	94.2	63.2	91.6	774	672	765	105.9	86.2	103.9
1992	421	48	469	93.5	76.6	91.8	820	1,367	864	99.0	113.7	100.3
1991	417	43	460	91.2	67.5	89.0	859	795	853	99.1	80.2	97.0
1990	420	60	480	91.0	69.3	88.3	1,003	1,202	1,025	105.5	130.6	108.1
1989	379	49	428	87.7	66.7	85.3	906	778	891	90.1	89.6	90.0
1988	422	49	471	88.3	58.4	85.2	925	1,532	974	111.4	107.5	111.0
1993–97	1,826	159	1,985	96.1	78.4	94.7	940	1,074	950	NA	NA	NA
1988–92	2,059	248	2,306	90.4	67.7	88.0	900	1,103	920	NA	NA	NA
1983–87	1,886	236	2,122	86.3	61.1	83.5	1,016	797	989	NA	NA	NA
1978–82	1,604	276	1,881	84.7	62.3	81.4	932	903	928	NA	NA	NA
1977 or earlier	1,754	475	2,229	80.0	54.3	74.5	866	973	888	NA	NA	NA
All	9,527	1,417	10,945	88.2	62.8	84.9	926	955	930	NA	NA	NA

NA: Not applicable

NC: Not calculated because full-year data were not collected for 1998 and 1999 (the survey began during 1998)

¹Both year and month of birth given

² $(B_f/B_m) \times 1000$, where B_f and B_m are the numbers of female and male births, respectively

³ $[2B_x / (B_{x-1} + B_{x+1})] \times 100$, where B_x is the number of births in calendar year x

Another measure of data quality is the completeness and accuracy of information on births. Table B.4 examines the distribution of births by calendar year to identify any unusual patterns which may indicate that births have been omitted or that the ages of children have been displaced. Overall, 88 percent of living children listed in the birth history had complete birth dates recorded, as did 63 percent of children who had died. The completeness of data on birth dates for living children is satisfactory overall and is excellent in recent years. The completeness for nonsurviving children is less satisfactory, but again better in the past few years. The annual data on the number of births can be examined to see if there is an abnormally large decline in the number of births after January 1995, the cutoff point for the health questions and measurements made on young children in the survey. It is typical for the annual number of births to fluctuate somewhat, so small annual fluctuations are to be expected. However, the sharp drop in the annual number of births between the years just before the cutoff point and the years just after the cutoff point suggest that there has been some omission of recent births or displacement of birth dates which could result in an underestimate of fertility rates for recent years.

Many surveys that include both demographic information and health information for children below a specified age have been subject to a substantial amount of age displacement. In particular, there is often a tendency for interviewers to 'age' children out of the eligible period for asking health questions. This problem was well known before NFHS-2 began; therefore, interviewer training stressed this issue to try to reduce the extent of biases due to age displacement. Apparently, the training was not entirely successful in avoiding this type of problem, however.

Table B.5 presents information on the reporting of age at death in days. Results from the table suggest that early infant deaths have not been seriously underreported in Andhra Pradesh, because the ratios of deaths under seven days to all neonatal deaths are quite high (a ratio of less than 25 percent is often used as a guideline to indicate underreporting of early neonatal deaths). The ratios are 79 for 0–4 years, 83 for 5–9 years and 78 for 10–14 years preceding the survey. Also, in Andhra Pradesh there appears to be little of the common tendency to overreport age at death at multiples of 5 days, except perhaps at age 15 days).

Table B.6 shows the percentage of infant deaths that occurred during the neonatal period. These percentages are also quite high and nearly constant over time, suggesting that there is no major omission of early deaths.

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

Table B.5 Reporting of age at death in days				
Distribution of reported deaths under 1 month of age by age at death in days and the percentage of neonatal deaths reported to occur at ages 0–6 days, for births occurring during five-year periods preceding the survey (weighted), Andhra Pradesh, 1998–99				
Age at deaths (days)	Years preceding survey			
	0–4	5–9	10–14	0–14
< 1	28	46	44	118
1	14	26	23	63
2	5	5	9	19
3	14	8	9	31
4	1	3	4	8
5	3	5	6	14
6	2	2	3	7
7	5	7	2	14
8	0	0	1	1
9	1	6	3	10
10	2	1	3	6
11	2	0	1	3
12	0	0	1	1
13	0	1	3	4
14	0	1	0	1
15	2	2	3	7
16	1	0	0	1
17	1	0	1	2
18	0	0	0	0
19	0	0	0	0
20	0	0	2	2
21	1	1	1	3
22	0	0	0	0
23	0	0	0	0
24	0	0	1	1
25	1	0	1	2
26	0	0	0	0
27	0	0	1	1
28	0	0	3	3
29	1	0	0	1
30	1	0	1	2
Missing	0	1	0	1
0–30	85	114	127	327
Percent early neonatal ¹	78.8	83.1	77.5	79.8

¹Deaths during the first 6 days divided by deaths during the first 30 days

Examination of the distribution of deaths under age two years during the 15 years before the survey by month of death (Table B.6) indicates there may be very slight heaping of deaths at 3, 7, 12, and 18 months of age. However, there is no real indication of heaping for deaths during the past 10 years. Digit preference appears not to be serious enough to alter substantially the mortality rates calculated here. Because the extent of heaping on 12 months is minor, probably due to the strong emphasis on this potential problem during training of the interviewers, adjustment of the infant and child mortality rates is unnecessary.

Table B.6 Reporting of age at death in months

Distribution of reported deaths under two years of age by age at death in months and the percentage of infant deaths reported to occur at age under one month, for births occurring during five-year periods preceding the survey (weighted), Andhra Pradesh, 1998–99

Age at deaths (months)	Years preceding survey			
	0–4	5–9	10–14	0–14
< 1	85	116	127	329
1	6	9	7	22
2	6	10	8	24
3	7	12	10	30
4	1	8	2	11
5	5	4	2	11
6	2	2	2	6
7	1	4	7	12
8	4	2	4	10
9	1	3	2	6
10	0	3	5	8
11	0	4	5	9
12	3	4	6	13
13	3	3	4	10
14	2	3	1	6
15	0	2	1	3
16	1	2	0	3
17	0	0	1	1
18	0	2	2	4
19	0	0	0	0
20	1	1	0	2
21	0	0	0	0
22	0	0	0	0
23	0	1	0	1
1 year	1	1	0	2
0–11	119	178	182	479
Percent neonatal ¹	71.8	65.1	69.9	68.6

¹Deaths during the first month divided by deaths during the first year

This brief check on internal consistency of the Andhra Pradesh NFHS-2 childhood mortality data suggests that there is no serious underreporting of deaths during the time periods for which mortality rates are estimated.

APPENDIX C

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APPENDIX D
SURVEY INSTRUMENTS

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NATIONAL FAMILY HEALTH SURVEY, 1998-99 (NFHS-2)
HOUSEHOLD QUESTIONNAIRE

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IDENTIFICATION																																														
STATE _____	<table border="1"> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> </table>																																													
DISTRICT _____																																														
TEHSIL/TALUK _____																																														
CITY/TOWN/VILLAGE _____																																														
URBAN/RURAL (urban=1, rural=2).....																																														
LARGE CITY/SMALL CITY/TOWN/RURAL AREA..... (large city=1, small city=2, town=3, rural area=4)																																														
PSU NUMBER.....																																														
HOUSEHOLD NUMBER.....																																														
NAME OF HOUSEHOLD HEAD _____																																														
ADDRESS OF HOUSEHOLD _____																																														

INTERVIEWER VISITS																
	1	2	3	FINAL VISIT												
DATE	_____	_____	_____	DAY <table border="1"><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table> MONTH <table border="1"><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table> YEAR <table border="1"><tr><td>1</td><td>9</td></tr><tr><td></td><td></td></tr></table>									1	9		
1	9															
INTERVIEWER'S NAME	_____	_____	_____	NAME CODE <table border="1"><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>												
RESULT*	_____	_____	_____	RESULT CODE <table border="1"><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>												
NEXT VISIT: DATE TIME	_____	_____	_____	TOTAL NUMBER OF VISITS <table border="1"><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>												
*RESULT CODES: 1 COMPLETED 2 NO HOUSEHOLD MEMBER AT HOME OR NO COMPETENT RESPONDENT AT HOME AT THE TIME OF VISIT 3 ENTIRE HOUSEHOLD ABSENT FOR EXTENDED PERIOD 4 POSTPONED 5 REFUSED 6 DWELLING VACANT OR ADDRESS NOT A DWELLING 7 DWELLING DESTROYED 8 DWELLING NOT FOUND 9 OTHER _____ (SPECIFY)				TOTAL PERSONS IN HOUSEHOLD <table border="1"><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table> TOTAL ELIGIBLE WOMEN <table border="1"><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table> LINE NO. OF RESP. TO HOUSEHOLD SCHEDULE <table border="1"><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>												

DATE	SUPERVISOR <table border="1"><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>					FIELD EDITOR <table border="1"><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>					OFFICE EDITOR <table border="1"><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>					KEYED BY <table border="1"><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>				
NAME																				

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HOUSEHOLD SCHEDULE

1	RECORD THE TIME.	HOUR..... <table border="1" style="display:inline-table; width:40px; height:20px; vertical-align: middle;"> <tr><td style="width:20px; height:20px;"></td><td style="width:20px; height:20px;"></td></tr> </table>			Now I would like some information about the people who usually live in your household or who are staying with you now.
		MINUTES..... <table border="1" style="display:inline-table; width:40px; height:20px; vertical-align: middle;"> <tr><td style="width:20px; height:20px;"></td><td style="width:20px; height:20px;"></td></tr> </table>			

LINE NO.	USUAL RESIDENTS AND VISITORS	RELATIONSHIP TO HEAD OF HOUSEHOLD	RESIDENCE		SEX		AGE	IF AGE 6 YEARS OR OLDER								
								MARITAL STATUS		ELIGIBILITY	EDUCATION					
											IF NEVER ATTENDED SCHOOL	IF EVER ATTENDED SCHOOL		IF AGE LESS THAN 18 YEARS		IF NOT IN SCHOOL
(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)		(13)	(14)	(15)	(16)	

LINE NO.	USUAL RESIDENTS AND VISITORS	RELATIONSHIP TO HEAD OF HOUSEHOLD	RESIDENCE		SEX		AGE	IF AGE 6 YEARS OR OLDER								
			YES NO	YES NO	M F	IN YEARS		CM	NG	S	DS	D	W	NM	YES NO	YES NO
01			1 2	1 2	1 2			1 2 3 4 5 6 7	01	1 2	1 2			1 2		
02			1 2	1 2	1 2			1 2 3 4 5 6 7	02	1 2	1 2			1 2		
03			1 2	1 2	1 2			1 2 3 4 5 6 7	03	1 2	1 2			1 2		
04			1 2	1 2	1 2			1 2 3 4 5 6 7	04	1 2	1 2			1 2		
05			1 2	1 2	1 2			1 2 3 4 5 6 7	05	1 2	1 2			1 2		
06			1 2	1 2	1 2			1 2 3 4 5 6 7	06	1 2	1 2			1 2		
07			1 2	1 2	1 2			1 2 3 4 5 6 7	07	1 2	1 2			1 2		
08			1 2	1 2	1 2			1 2 3 4 5 6 7	08	1 2	1 2			1 2		

HOUSEHOLD SCHEDULE (CONTINUED)

(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
			YES NO	YES NO	M F	IN YEARS	CM NG S DS D W NM		YES NO	YES NO	REASON	GRADE	YES NO	REASON
09			1 2	1 2	1 2		1 2 3 4 5 6 7	09	1 2	1 2			1 2	
10			1 2	1 2	1 2		1 2 3 4 5 6 7	10	1 2	1 2			1 2	
11			1 2	1 2	1 2		1 2 3 4 5 6 7	11	1 2	1 2			1 2	
12			1 2	1 2	1 2		1 2 3 4 5 6 7	12	1 2	1 2			1 2	
13			1 2	1 2	1 2		1 2 3 4 5 6 7	13	1 2	1 2			1 2	
14			1 2	1 2	1 2		1 2 3 4 5 6 7	14	1 2	1 2			1 2	
15			1 2	1 2	1 2		1 2 3 4 5 6 7	15	1 2	1 2			1 2	
16			1 2	1 2	1 2		1 2 3 4 5 6 7	16	1 2	1 2			1 2	

TICK HERE IF CONTINUATION SHEET USED

TOTAL NUMBER OF ELIGIBLE WOMEN

* CODES FOR Q.4

- RELATIONSHIP TO HEAD OF HOUSEHOLD:
- 01= HEAD
 - 02= WIFE OR HUSBAND
 - 03= SON OR DAUGHTER
 - 04= SON-IN-LAW OR DAUGHTER-IN-LAW
 - 05= GRANDCHILD
 - 06= PARENT
 - 07= PARENT-IN-LAW
 - 08= BROTHER OR SISTER
 - 09= BROTHER-IN-LAW OR SISTER-IN-LAW
 - 10= NIECE OR NEPHEW
 - 11= OTHER RELATIVE
 - 12= ADOPTED/FOSTER CHILD
 - 13= NOT RELATED

** CODES FOR Q.8

- 00= AGE LESS THAN ONE YEAR
- 95= AGE 95 YEARS OR MORE

*** CODES FOR Q.9

- MARITAL STATUS:
- 1= CURRENTLY MARRIED
 - 2= MARRIED, BUT GAUNA NOT PERFORMED
 - 3= SEPARATED
 - 4= DESERTED
 - 5= DIVORCED
 - 6= WIDOWED
 - 7= NEVER MARRIED

****CODES FOR Q.13

- 01= SCHOOL TOO FAR AWAY
- 02= TRANSPORT NOT AVAILABLE
- 03= EDUCATION NOT CONSIDERED NECESSARY
- 04= REQUIRED FOR HOUSEHOLD WORK
- 05= REQUIRED FOR WORK ON FARM/FAMILY BUSINESS
- 06= REQUIRED FOR OUTSIDE WORK FOR PAYMENT IN CASH OR KIND
- 07= COST TOO MUCH
- 08= NO PROPER SCHOOL FACILITIES FOR GIRLS
- 09= REQUIRED FOR CARE OF SIBLINGS
- 10= NOT INTERESTED IN STUDIES
- 96= OTHER
- 98= DK

*****CODES FOR Q.14

- GRADE:
- 00= LESS THAN 1 YEAR COMPLETED

*****CODES FOR Q.16

- 01= SCHOOL TOO FAR AWAY
- 02= TRANSPORT NOT AVAILABLE
- 03= FURTHER EDUCATION NOT CONSIDERED NECESSARY
- 04= REQUIRED FOR HOUSEHOLD WORK
- 05= REQUIRED FOR WORK ON FARM/FAMILY BUSINESS
- 06= REQUIRED FOR OUTSIDE WORK FOR PAYMENT IN CASH OR KIND
- 07= COST TOO MUCH
- 08= NO PROPER SCHOOL FACILITIES FOR GIRLS
- 09= REQUIRED FOR CARE OF SIBLINGS
- 10= NOT INTERESTED IN STUDIES
- 11= REPEATED FAILURES
- 12= GOT MARRIED
- 96= OTHER
- 98= DK

PSU NO. _____

HH NO. _____

LINE NO.	IF AGE 6 YEARS OR OLDER		AFTER COMPLETING COLUMNS 1-18 FOR ALL LISTED PERSONS, ASK:									
	OCCUPATION		Does anyone listed suffer from:			Did anyone listed suffer from malaria at any time during the last <u>three</u> months?	Did anyone listed suffer from jaundice at any time during the last <u>twelve</u> months?	Does anyone listed:			Has any (other) person listed ever smoked regularly?	
	What kind of work does (NAME) do most of the time? (17)	IF WORKING	Asthma?	Tuberculosis?	IF SUFFERS FROM TUBERCULOSIS			Chew paan masala or tobacco?	Drink alcohol?	Smoke?		
		Does (NAME) earn cash for this work? (18)	RECORD FOR EACH PERSON (19)	RECORD FOR EACH PERSON (20)	Has (NAME) received medical treatment for tuberculosis? (21)	RECORD FOR EACH PERSON (22)	RECORD FOR EACH PERSON (23)	RECORD FOR EACH PERSON (24)	RECORD FOR EACH PERSON (25)	RECORD FOR EACH PERSON (26)	RECORD FOR CURRENT NONSMOKERS ONLY (27)	
		YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO DK	
01		1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2 3	
02		1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2 3	
03		1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2 3	
04		1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2 3	
05		1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2 3	
06		1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2 3	
07		1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2 3	
08		1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2 3	

PSU NO. _____

HH NO. _____

	(17)	(18)		(19)		(20)		(21)		(22)		(23)		(24)		(25)		(26)		(27)		
		YES	NO	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO	DK
09	<input type="checkbox"/>	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	3
10	<input type="checkbox"/>	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	3
11	<input type="checkbox"/>	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	3
12	<input type="checkbox"/>	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	3
13	<input type="checkbox"/>	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	3
14	<input type="checkbox"/>	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	3
15	<input type="checkbox"/>	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	3
16	<input type="checkbox"/>	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	3

28 Just to make sure that I have a complete listing:

1) Are there any other persons such as small children or infants that we have not listed?

YES → ENTER EACH IN TABLE NO

2) In addition, are there any other people who may not be members of your family, such as domestic servants, lodgers or friends who usually live here?

YES → ENTER EACH IN TABLE NO

3) Do you have any guests or temporary visitors staying here, or anyone else who stayed here last night?

YES → ENTER EACH IN TABLE NO

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
29	<p>When members of your household get sick, where do they generally go for treatment?</p>	<p>PUBLIC MEDICAL SECTOR GOVT./MUNICIPAL HOSPITAL.....11 GOVT. DISPENSARY.....12 UHC/UHP/UFWC.....13 CHC/RURAL HOSPITAL/PHC.....14 SUB-CENTRE.....15 GOVT. MOBILE CLINIC.....16 GOVT. PARAMEDIC.....17 OTHER PUBLIC SECTOR HEALTH FACILITY.....18</p> <p>NGO/TRUST HOSPITAL/CLINIC.....21 NGO WORKER.....22</p> <p>PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC.....31 PVT. DOCTOR.....32 PVT. MOBILE CLINIC.....33 PVT. PARAMEDIC.....34 VAIDYA/HAKIM/HOMEOPATH.....35 TRADITIONAL HEALER.....36 PHARMACY/DRUGSTORE.....37 DAI (TBA)38 OTHER PRIVATE SECTOR HEALTH FACILITY.....39</p> <p>OTHER SHOP.....41 HOME TREATMENT.....42</p> <p>OTHER _____ 96 (SPECIFY)</p>	
30	<p>What is the main source of drinking water for members of your household?</p>	<p>PIPED WATER PIPED INTO RESIDENCE/YARD/PLOT.....11 → 32 PUBLIC TAP.....12</p> <p>GROUND WATER HANDPUMP IN RESIDENCE/ YARD/PLOT.....21 → 32 PUBLIC HANDPUMP.....22</p> <p>WELL WATER WELL IN RESIDENCE/YARD/PLOT COVERED WELL.....31 OPEN WELL.....32 → 32 PUBLIC WELL COVERED WELL.....33 OPEN WELL.....34</p> <p>SURFACE WATER SPRING.....41 RIVER/STREAM.....42 POND/LAKE.....43 DAM.....44</p> <p>RAINWATER.....51 TANKER TRUCK.....61</p> <p>OTHER _____ 96 (SPECIFY)</p>	
31	<p>How long does it take to go there, get water, and come back in one trip?</p>	<p>MINUTES..... <input type="text"/> <input type="text"/> <input type="text"/></p>	
32	<p>What do you do to purify drinking water, if anything?</p> <p>RECORD ALL MENTIONED.</p>	<p>STRAIN BY CLOTH.....A ALUM.....B WATER FILTER.....C BOILING.....D ELECTRONIC PURIFIER.....E NOTHING.....F</p> <p>OTHER _____ X (SPECIFY)</p>	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
33	What kind of toilet facility does your household have?	FLUSH TOILET OWN FLUSH TOILET.....11 SHARED FLUSH TOILET.....12 PUBLIC FLUSH TOILET.....13 PIT TOILET/LATRINE OWN PIT TOILET/LATRINE.....21 SHARED PIT TOILET/LATRINE.....22 PUBLIC PIT TOILET/LATRINE.....23 NO FACILITY/BUSH/FIELD.....31 OTHER _____ 96 (SPECIFY)	
34	What is the main source of lighting for your household?	ELECTRICITY.....1 KEROSENE.....2 GAS.....3 OIL.....4 OTHER _____ 6 (SPECIFY)	
35	How many rooms are there in your household?	ROOMS..... <input type="text"/> <input type="text"/>	
36	Do you have a separate room which is used as a kitchen?	YES.....1 NO.....2	
37	What type of fuel does your household mainly use for cooking?	WOOD.....01 CROP RESIDUES.....02 DUNG CAKES.....03 COAL/COKE/LIGNITE.....04 CHARCOAL.....05 KEROSENE.....06 ELECTRICITY.....07 LIQUID PETROLEUM GAS.....08 BIO-GAS.....09 OTHER _____ 96 (SPECIFY)	
38	What other types of fuel does your household commonly use for cooking or heating? RECORD ALL MENTIONED.	WOOD.....A CROP RESIDUES.....B DUNG CAKES.....C COAL/COKE/LIGNITE.....D CHARCOAL.....E KEROSENE.....F ELECTRICITY.....G LIQUID PETROLEUM GAS.....H BIO-GAS.....I OTHER _____ X (SPECIFY) NO OTHER TYPE.....Y	
39	What is the religion of the head of the household?	HINDU.....01 MUSLIM.....02 CHRISTIAN.....03 SIKH.....04 BUDDHIST/NEO BUDDHIST.....05 JAIN.....06 JEWISH.....07 ZOROASTRIAN/PARSI.....08 NO RELIGION.....09 OTHER _____ 96 (SPECIFY)	
40	What is the caste or tribe of the head of the household?	CASTE _____ 1 (SPECIFY) TRIBE _____ 2 (SPECIFY) NO CASTE/TRIBE.....3 → 42	
41	Is this a scheduled caste, a scheduled tribe, other backward caste, or none of them?	SC.....1 ST.....2 OBC.....3 NONE OF THEM.....4	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP																																																															
42	Does this household own this house or any other house?	YES.....1 NO.....2																																																																
43	Does this household own any agricultural land?	YES.....1 NO.....2	→46																																																															
44	How much agricultural land does this household own? (SIZE AND UNIT)	ACRES..... <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/>																																																																
45	Out of this land, how much is irrigated? (SIZE AND UNIT)	ACRES..... <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> NONE.....9995																																																																
46	Does this household own any livestock?	YES.....1 NO.....2																																																																
47	Does the household own any of the following:	<table border="0"> <thead> <tr> <th></th> <th>YES</th> <th>NO</th> </tr> </thead> <tbody> <tr><td>MATTRESS.....</td><td>1</td><td>2</td></tr> <tr><td>PRESSURE COOKER.....</td><td>1</td><td>2</td></tr> <tr><td>CHAIR.....</td><td>1</td><td>2</td></tr> <tr><td>COT/BED.....</td><td>1</td><td>2</td></tr> <tr><td>TABLE.....</td><td>1</td><td>2</td></tr> <tr><td>CLOCK/WATCH.....</td><td>1</td><td>2</td></tr> <tr><td>ELECTRIC FAN.....</td><td>1</td><td>2</td></tr> <tr><td>BICYCLE.....</td><td>1</td><td>2</td></tr> <tr><td>RADIO/TRANSISTOR.....</td><td>1</td><td>2</td></tr> <tr><td>SEWING MACHINE.....</td><td>1</td><td>2</td></tr> <tr><td>TELEPHONE.....</td><td>1</td><td>2</td></tr> <tr><td>REFRIGERATOR.....</td><td>1</td><td>2</td></tr> <tr><td>TELEVISION (B&W).....</td><td>1</td><td>2</td></tr> <tr><td>TELEVISION (COLOUR).....</td><td>1</td><td>2</td></tr> <tr><td>MOPED/SCOOTER/MOTORCYCLE.....</td><td>1</td><td>2</td></tr> <tr><td>CAR.....</td><td>1</td><td>2</td></tr> <tr><td>WATER PUMP.....</td><td>1</td><td>2</td></tr> <tr><td>BULLOCK CART.....</td><td>1</td><td>2</td></tr> <tr><td>THRESHER.....</td><td>1</td><td>2</td></tr> <tr><td>TRACTOR.....</td><td>1</td><td>2</td></tr> </tbody> </table>		YES	NO	MATTRESS.....	1	2	PRESSURE COOKER.....	1	2	CHAIR.....	1	2	COT/BED.....	1	2	TABLE.....	1	2	CLOCK/WATCH.....	1	2	ELECTRIC FAN.....	1	2	BICYCLE.....	1	2	RADIO/TRANSISTOR.....	1	2	SEWING MACHINE.....	1	2	TELEPHONE.....	1	2	REFRIGERATOR.....	1	2	TELEVISION (B&W).....	1	2	TELEVISION (COLOUR).....	1	2	MOPED/SCOOTER/MOTORCYCLE.....	1	2	CAR.....	1	2	WATER PUMP.....	1	2	BULLOCK CART.....	1	2	THRESHER.....	1	2	TRACTOR.....	1	2	
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48	What is the main type of kitchenware this household uses?	CLAY.....1 ALUMINIUM.....2 CAST IRON.....3 BRASS/COPPER.....4 STAINLESS STEEL.....5 OTHER.....6 (SPECIFY)																																																																

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
51	Did any usual resident of this household die since January 1996?	YES.....1 NO.....2	→63
52	How many persons died?	TOTAL DEATHS.....	<input type="text"/>

53	54	55	56	57	58	59	60	61	62
What (was/were) the name(s) of the person(s) who died?	Was (NAME) a male or a female?	How old was he/she when he/she died? RECORD DAYS IF LESS THAN ONE MONTH, MONTHS IF LESS THAN TWO YEARS, OR YEARS	In what month and year did (NAME) die?	What did (NAME) die of?	CHECK 54 AND 55: DECEASED WAS FEMALE AGED 15-49 AT THE TIME OF DEATH	Was (NAME) pregnant when she died?	Did (NAME) die during childbirth?	Did (NAME) die within two months after the end of a pregnancy or childbirth?	Was the death of (NAME) due to a complication of the pregnancy or childbirth?

01 (NAME)	MALE....1 FEMALE...2	DAYS...1 MONTHS..2 YEARS...3	MONTH.. YEAR...	<input type="text"/>	YES.....1 NO.....2 (GO TO NEXT DEATH) <	YES.....1 (GO TO 62) < NO.....2	YES.....1 (GO TO NEXT DEATH) < NO.....2	YES.....1 NO.....2 (GO TO NEXT DEATH) <	YES.....1 NO.....2
02 (NAME)	MALE....1 FEMALE...2	DAYS...1 MONTHS..2 YEARS...3	MONTH.. YEAR...	<input type="text"/>	YES.....1 NO.....2 (GO TO NEXT DEATH) <	YES.....1 (GO TO 62) < NO.....2	YES.....1 (GO TO NEXT DEATH) < NO.....2	YES.....1 NO.....2 (GO TO NEXT DEATH) <	YES.....1 NO.....2
03 (NAME)	MALE....1 FEMALE...2	DAYS...1 MONTHS..2 YEARS...3	MONTH.. YEAR...	<input type="text"/>	YES.....1 NO.....2 (GO TO NEXT DEATH) <	YES.....1 (GO TO 62) < NO.....2	YES.....1 (GO TO NEXT DEATH) < NO.....2	YES.....1 NO.....2 (GO TO NEXT DEATH) <	YES.....1 NO.....2

63	RECORD THE TIME.	HOUR..... MINUTES.....	<input type="text"/>
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NATIONAL FAMILY HEALTH SURVEY, 1998-99 (NFHS-2)
WOMAN'S QUESTIONNAIRE

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INDIA

IDENTIFICATION																																														
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DISTRICT _____																																														
TEHSIL/TALUK _____																																														
CITY/TOWN/VILLAGE _____																																														
URBAN/RURAL (urban=1, rural=2).....																																														
LARGE CITY/SMALL CITY/TOWN/RURAL AREA..... (large city=1, small city=2, town=3, rural area=4)																																														
PSU NUMBER.....																																														
HOUSEHOLD NUMBER.....																																														
NAME AND LINE NUMBER OF WOMAN _____																																														
ADDRESS OF HOUSEHOLD _____																																														

INTERVIEWER VISITS																
	1	2	3	FINAL VISIT												
DATE				DAY <table border="1"><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table> MONTH <table border="1"><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table> YEAR <table border="1"><tr><td>1</td><td>9</td></tr><tr><td></td><td></td></tr></table>									1	9		
1	9															
INTERVIEWER'S NAME				NAME CODE <table border="1"><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>												
RESULT*				RESULT CODE <table border="1"><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>												
NEXT VISIT: DATE TIME				TOTAL NUMBER OF VISITS <table border="1"><tr><td></td></tr></table>												
*RESULT CODES: 1 COMPLETED 3 POSTPONED 5 PARTLY COMPLETED 2 NOT AT HOME 4 REFUSED 6 OTHER (SPECIFY) _____																
NATIVE LANGUAGE OF RESPONDENT**..... <table border="1"><tr><td></td><td></td></tr></table> **LANGUAGE CODES: 01 Assamese 05 Hindi 09 Manipuri 14 Konkani 02 Bengali 06 Kannada 10 Marathi 15 Sindhi 03 English 07 Kashmiri 11 Nepali 16 Tamil 04 Gujarati 08 Malayalam 12 Oriya 17 Telugu 19 Other (SPECIFY) _____ 13 Punjabi 18 Urdu																

DATE	SUPERVISOR <table border="1"><tr><td></td><td></td></tr></table>			FIELD EDITOR <table border="1"><tr><td></td><td></td></tr></table>			OFFICE EDITOR <table border="1"><tr><td></td><td></td></tr></table>			KEYED BY <table border="1"><tr><td></td><td></td></tr></table>		
NAME												

SECTION 1. RESPONDENT'S BACKGROUND

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
101	RECORD THE TIME.	HOUR..... MINUTES.....	<input type="text"/> <input type="text"/>
<p>Namaste. My name is _____ and I am working with (NAME OF THE ORGANISATION). We are conducting a national survey about the health of women and children. We would very much appreciate your participation in this survey.</p> <p>I would like to ask you about your health (and the health of your children). This information will help the government to plan health services. The amount of time needed will be less than one hour. Participation in this survey is voluntary. If you decide to participate, you may stop answering questions at any time. Whatever information you provide will be kept strictly confidential and will not be shown to other persons.</p> <p>We hope that you will participate in the survey since your views are important. Do you want to ask me anything about the survey at this time?</p> <p>Signature of Interviewer: _____ Date: _____</p> <p>RESPONDENT AGREES FOR INTERVIEW.....1 RESPONDENT DOES NOT AGREE FOR INTERVIEW.....2 → END</p>			
102	First I would like to ask some questions about you and your household. For most of the time until you were 12 years old, did you live in a city, a town, or a village?	CITY/TOWN.....1 VILLAGE.....2	
103	How long have you been living continuously in (NAME OF CURRENT PLACE OF RESIDENCE)?	YEARS..... SINCE BIRTH.....95 VISITOR.....96	<input type="text"/> <input type="text"/> →105
104	Just before you moved here, did you live in a city, a town, or a village?	CITY/TOWN.....1 VILLAGE.....2	
105	In what month and year were you born?	MONTH..... DK MONTH.....98 YEAR..... DK YEAR.....9998	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
106	How old were you at your last birthday? COMPARE AND CORRECT 105 AND/OR 106 IF INCONSISTENT.	AGE IN COMPLETED YEARS.....	<input type="text"/> <input type="text"/>

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
107	What is your current marital status?	CURRENTLY MARRIED.....1 MARRIED BUT GAUNA NOT PERFORMED..2 →END SEPARATED.....3 DESERTED.....4 →110 DIVORCED.....5 WIDOWED.....6 NEVER MARRIED.....7 →END	
108	Are you living with your husband now or is he staying elsewhere?	LIVING WITH HUSBAND.....1 →110 STAYING ELSEWHERE.....2	
109	For how long have you and your husband not been living together? IF LESS THAN 1 YEAR, RECORD MONTHS; OTHERWISE RECORD COMPLETED YEARS.	MONTHS.....1 <input type="text"/> <input type="text"/> YEARS.....2 <input type="text"/> <input type="text"/>	
110	Now I would like to ask you some questions about your marriage. Have you been married only once or more than once?	ONCE.....1 →114 MORE THAN ONCE.....2	
111	How old were you at the time of your <u>first</u> marriage?	AGE IN COMPLETED YEARS..... <input type="text"/> <input type="text"/>	
112	How old were you when you started living with your <u>first</u> husband?	AGE IN COMPLETED YEARS..... <input type="text"/> <input type="text"/> GAUNA HAD NOT TAKEN PLACE..... 96	
113	How old were you when your <u>first</u> marriage dissolved?	AGE IN COMPLETED YEARS..... <input type="text"/> <input type="text"/>	
114	How old were you at the time of your (current) marriage?	AGE IN COMPLETED YEARS..... <input type="text"/> <input type="text"/>	
115	How old were you when you started living with your (current) husband?	AGE IN COMPLETED YEARS..... <input type="text"/> <input type="text"/> GAUNA HAS NOT TAKEN PLACE.....96 →END	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
116	Have you ever attended school?	YES.....1 NO.....2	→119
117	What is the highest grade you completed?	GRADE..... <input type="text"/>	
118	CHECK 117: GRADE 0-5 <input type="checkbox"/> v	GRADE 6 AND ABOVE <input type="checkbox"/>	→120
119	Can you read and write?	YES.....1 NO.....2	→121
120	Do you usually read a newspaper or a magazine at least once a week?	YES.....1 NO.....2	
121	Do you usually listen to a radio at least once a week?	YES.....1 NO.....2	
122	Do you usually watch television at least once a week?	YES.....1 NO.....2	
123	Do you usually go to a cinema hall or theatre to see a movie at least once a month?	YES.....1 NO.....2	
124	How often do you yourself consume the following items: daily, weekly, occasionally, or never:		
	Milk or Curd?	MILK OR CURD..1	DAILY WEEK OCCA NEVER LY SION- ALLY
	Pulses or beans?	PULSES/BEANS..1	2 3 4
	Green leafy vegetables?	GREEN LEAFY...1	2 3 4
	Other vegetables?	OTH. VEG.....1	2 3 4
	Fruits?	FRUITS.....1	2 3 4
	Eggs?	EGGS.....1	2 3 4
	Chicken, meat, or fish?	CHICKEN/MEAT/ FISH.....1	2 3 4

SECTION 2. REPRODUCTION

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP				
201	Now I would like to ask about all the births you have had during your life. Have you ever given birth?	YES.....1 NO.....2	→206				
202	Do you have any sons or daughters to whom you have given birth who are now living with you?	YES.....1 NO.....2	→204				
203	How many sons live with you? And how many daughters live with you? IF NONE, RECORD '00'.	SONS AT HOME..... DAUGHTERS AT HOME.....	<table border="1"><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>				
204	Do you have any sons or daughters to whom you have given birth who are alive but do not live with you?	YES.....1 NO.....2	→206				
205	How many sons are alive but do not live with you? And how many daughters are alive but do not live with you? IF NONE, RECORD '00'.	SONS ELSEWHERE..... DAUGHTERS ELSEWHERE.....	<table border="1"><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>				
206	Have you ever given birth to a boy or a girl who was born alive but later died? IF NO, PROBE: Any baby who cried or showed any sign of life but only survived a few hours or days?	YES.....1 NO.....2	→208				
207	In all, how many boys have died? And how many girls have died? IF NONE, RECORD '00'.	BOYS DEAD..... GIRLS DEAD.....	<table border="1"><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>				
208	SUM ANSWERS TO 203, 205, AND 207, AND ENTER TOTAL. IF NONE RECORD '00'.	TOTAL.....	<table border="1"><tr><td></td><td></td></tr></table>				
209	CHECK 208: Just to make sure that I have this right: you have had in TOTAL ___ births during your life. Is that correct? YES <input type="checkbox"/> NO <input type="checkbox"/> → PROBE AND CORRECT 201-208 AS NECESSARY						
210	CHECK 208: ONE OR MORE BIRTHS <input type="checkbox"/> NO BIRTHS <input type="checkbox"/>		→225				

211

Now I would like to talk to you about all the births in your lifetime, whether currently alive or not, starting with the first one you had.
 RECORD NAMES OF ALL THE LIVE BIRTHS IN 212. RECORD TWINS AND TRIPLETS ON SEPARATE LINES.

212	213	214	215	216	217	218	218A	219	220*
What name was given to your (first, next) baby?	Were any of these twins?	Is (NAME) a boy or a girl?	In what month and year was (NAME) born? PROBE: What is his/her birthday?	Is (NAME) still alive?	IF ALIVE: How old was (NAME) at his/her last birthday? RECORD AGE IN COMPLETED YEARS.	IF ALIVE: Is (NAME) living with you?	IF ALIVE: RECORD HOUSEHOLD LINE NUMBER OF CHILD (RECORD '00' IF CHILD NOT LISTED IN HOUSEHOLD)	IF DEAD: How old was (NAME) when he/she died? IF "1 YEAR", PROBE: How many months old was (NAME)? RECORD DAYS IF LESS THAN 1 MONTH, MONTHS IF LESS THAN TWO YEARS, OR YEARS.	Between (NAME OF PREVIOUS BIRTH) and (NAME OF THIS BIRTH) did you have any stillbirth, spontaneous abortion, or induced abortion? (* FOR FIRST CHILD ASK: Before (NAME), did you have any stillbirth, spontaneous abortion, or induced abortion?) IF NONE, RECORD '0'. FOR SECOND TWIN, RECORD '0' IN EACH BOX WITHOUT ASKING.
01 _____ (NAME)	SING...1 MULT...2	BOY...1 GIRL...2	MONTH..... YEAR..	YES...1 NO....2 ↓ 219	AGE IN YEARS ↓ 219	YES.....1 NO.....2	LINE NUMBER ↓ (GO TO 220)	DAYS...1 MONTHS..2 YEARS...3	NUMBER OF STILLBIRTHS..... NUMBER OF SPON. ABORTIONS..... NUMBER OF INDUCED ABORTIONS.....
02 _____ (NAME)	SING...1 MULT...2	BOY...1 GIRL...2	MONTH..... YEAR..	YES...1 NO....2 ↓ 219	AGE IN YEARS ↓ 219	YES.....1 NO.....2	LINE NUMBER ↓ (GO TO 220)	DAYS...1 MONTHS..2 YEARS...3	NUMBER OF STILLBIRTHS..... NUMBER OF SPON. ABORTIONS..... NUMBER OF INDUCED ABORTIONS.....
03 _____ (NAME)	SING...1 MULT...2	BOY...1 GIRL...2	MONTH..... YEAR..	YES...1 NO....2 ↓ 219	AGE IN YEARS ↓ 219	YES.....1 NO.....2	LINE NUMBER ↓ (GO TO 220)	DAYS...1 MONTHS..2 YEARS...3	NUMBER OF STILLBIRTHS..... NUMBER OF SPON. ABORTIONS..... NUMBER OF INDUCED ABORTIONS.....
04 _____ (NAME)	SING...1 MULT...2	BOY...1 GIRL...2	MONTH..... YEAR..	YES...1 NO....2 ↓ 219	AGE IN YEARS ↓ 219	YES.....1 NO.....2	LINE NUMBER ↓ (GO TO 220)	DAYS...1 MONTHS..2 YEARS...3	NUMBER OF STILLBIRTHS..... NUMBER OF SPON. ABORTIONS..... NUMBER OF INDUCED ABORTIONS.....

212	213	214	215	216	217	218	218A	219	220*
05 <hr/> (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH..... YEAR..	YES...1 NO...2 ↓ 219	AGE IN YEARS 	YES.....1 NO.....2	LINE NUMBER ↓ (GO TO 220)	DAYS...1 MONTHS..2 YEARS...3	NUMBER OF STILLBIRTHS..... NUMBER OF SPON. ABORTIONS..... NUMBER OF INDUCED ABORTIONS.....
06 <hr/> (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH..... YEAR..	YES...1 NO...2 ↓ 219	AGE IN YEARS 	YES.....1 NO.....2	LINE NUMBER ↓ (GO TO 220)	DAYS...1 MONTHS..2 YEARS...3	NUMBER OF STILLBIRTHS..... NUMBER OF SPON. ABORTIONS..... NUMBER OF INDUCED ABORTIONS.....
07 <hr/> (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH..... YEAR..	YES...1 NO...2 ↓ 219	AGE IN YEARS 	YES.....1 NO.....2	LINE NUMBER ↓ (GO TO 220)	DAYS...1 MONTHS..2 YEARS...3	NUMBER OF STILLBIRTHS..... NUMBER OF SPON. ABORTIONS..... NUMBER OF INDUCED ABORTIONS.....
08 <hr/> (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH..... YEAR..	YES...1 NO...2 ↓ 219	AGE IN YEARS 	YES.....1 NO.....2	LINE NUMBER ↓ (GO TO 220)	DAYS...1 MONTHS..2 YEARS...3	NUMBER OF STILLBIRTHS..... NUMBER OF SPON. ABORTIONS..... NUMBER OF INDUCED ABORTIONS.....
09 <hr/> (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH..... YEAR..	YES...1 NO...2 ↓ 219	AGE IN YEARS 	YES.....1 NO.....2	LINE NUMBER ↓ (GO TO 220)	DAYS...1 MONTHS..2 YEARS...3	NUMBER OF STILLBIRTHS..... NUMBER OF SPON. ABORTIONS..... NUMBER OF INDUCED ABORTIONS.....
10 <hr/> (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH..... YEAR..	YES...1 NO...2 ↓ 219	AGE IN YEARS 	YES.....1 NO.....2	LINE NUMBER ↓ (GO TO 220)	DAYS...1 MONTHS..2 YEARS...3	NUMBER OF STILLBIRTHS..... NUMBER OF SPON. ABORTIONS..... NUMBER OF INDUCED ABORTIONS.....
11 <hr/> (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH..... YEAR..	YES...1 NO...2 ↓ 219	AGE IN YEARS 	YES.....1 NO.....2	LINE NUMBER ↓ (GO TO 220)	DAYS...1 MONTHS..2 YEARS...3	NUMBER OF STILLBIRTHS..... NUMBER OF SPON. ABORTIONS..... NUMBER OF INDUCED ABORTIONS.....

212	213	214	215	216	217	218	218A	219	220*
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12	SING...1	BOY...1	MONTH..... [][]	YES...1	AGE IN YEARS	YES.....1	LINE NUMBER	DAYS...1	[][]	NUMBER OF STILLBIRTHS.....	[]
(NAME)	MULT...2	GIRL...2	YEAR.. [][][][]	NO...2	[][]	NO.....2	[][]	MONTHS..2	[][]	NUMBER OF SPON. ABORTIONS.....	[]
				v 219			(GO TO 220)	YEARS...3	[][]	NUMBER OF INDUCED ABORTIONS.....	[]

221

After the last birth, did you have any stillbirth, spontaneous abortion, or induced abortion?

IF NONE, RECORD '0'

NUMBER OF STILLBIRTHS.....	[]
NUMBER OF SPON. ABORTIONS.....	[]
NUMBER OF INDUCED ABORTIONS.....	[]

222

CHECK 220 AND 221:

Just to make sure that I have this right: you have had in TOTAL _____ STILLBIRTHS, _____ SPONTANEOUS ABORTIONS, and _____ INDUCED ABORTIONS during your life: Is that correct?

YES, NO → PROBE AND CORRECT 220 - 221 AS NECESSARY

223

COMPARE 208 WITH NUMBER OF BIRTHS IN HISTORY ABOVE AND MARK:

NUMBERS ARE SAME NUMBERS ARE DIFFERENT → (PROBE AND RECONCILE)

CHECK: FOR EACH BIRTH: YEAR OF BIRTH IS RECORDED.
 FOR EACH LIVING CHILD: CURRENT AGE IS RECORDED.
 FOR EACH DEAD CHILD: AGE AT DEATH IS RECORDED.
 FOR AGE AT DEATH 12 MONTHS: PROBE TO DETERMINE EXACT NUMBER OF MONTHS.
 FOR EACH CALENDAR BIRTH INTERVAL 4 OR MORE YEARS: EXPLANATION IS GIVEN.

[]
[]
[]
[]
[]

224

CHECK 215 AND ENTER THE NUMBER OF BIRTHS SINCE JANUARY 1995.
 IF NONE, RECORD '0'.

[]	→229
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SECTION 3A. QUALITY OF CARE

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
301	<p>During the last 12 months, has a health or family planning worker visited you at home?</p>	<p>YES.....1 NO.....2</p>	<p>→308</p>
302	<p>How many times did a worker visit you in the last 12 months?</p>	<p>NUMBER OF TIMES..... <input type="text"/></p>	
303	<p>During these visits, what were the different matters talked about?</p> <p>Anything else?</p> <p>RECORD ALL MENTIONED.</p>	<p>FAMILY PLANNING.....A BREASTFEEDING.....B SUPPLEMENTARY FEEDING.....C IMMUNIZATION.....D NUTRITION.....E DISEASE PREVENTION.....F TREATMENT OF HEALTH PROBLEM...G ANTENATAL CARE.....H DELIVERY CARE.....I POSTPARTUM CARE.....J CHILD CARE.....K SANITATION/CLEANLINESS.....L ORAL REHYDRATION.....M OTHER _____ X (SPECIFY)</p>	
304	<p>When was the last time a health or family planning worker visited you at home?</p> <p>IF LESS THAN ONE MONTH, RECORD '00' MONTHS.</p>	<p>MONTHS AGO..... <input type="text"/></p>	
305	<p>Who visited you at that time?</p>	<p>PUBLIC SECTOR WORKER GOVT. DOCTOR.....11 PUBLIC HEALTH NURSE.....12 ANM/LHV.....13 MALE MPW/SUPERVISOR.....14 ANGANWADI WORKER.....15 VILLAGE HEALTH GUIDE.....16 OTHER PUBLIC SECTOR HEALTH WORKER.....17 NGO DOCTOR.....21 NGO WORKER.....22 PRIVATE SECTOR WORKER PRIVATE DOCTOR.....31 PRIVATE NURSE.....32 COMPOUNDER.....33 TRADITIONAL HEALER.....34 DAI (TBA).....35 OTHER PRIVATE SECTOR HEALTH WORKER.....36 OTHER _____ 96 (SPECIFY)</p>	
305A	<p>What type of services did you receive during this visit?</p> <p>Any other service?</p> <p>RECORD ALL MENTIONED.</p>	<p>PILL SUPPLY.....A CONDOM SUPPLY.....B FOLLOW-UP FOR STERILIZATION....C FOLLOW-UP FOR IUD INSERTION....D FAMILY PLANNING ADVICE.....E OTHER FAMILY PLANNING SERVICE..F IMMUNIZATION.....G ANTENATAL CARE.....H DELIVERY CARE.....I POSTPARTUM CARE.....J DISEASE PREVENTION.....K MEDICAL TREATMENT FOR SELF.....L TREATMENT FOR SICK CHILD.....M TREATMENT FOR OTHER PERSON.....N OTHER _____ X (SPECIFY)</p>	
306	<p>Did she/he spend enough time with you?</p>	<p>YES.....1 NO.....2</p>	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
307	Did she/he talk to you nicely, somewhat nicely, or not nicely?	NICELY.....1 SOMEWHAT NICELY.....2 NOT NICELY.....3	
308	Have you visited a health facility or camp for any reason for yourself (or your children) in the last 12 months?	YES.....1 NO.....2	→317
309	During these visits in the last 12 months, what were the different matters talked about? Anything else? RECORD ALL MENTIONED.	FAMILY PLANNING.....A BREASTFEEDING.....B SUPPLEMENTARY FEEDING.....C IMMUNIZATION.....D NUTRITION.....E DISEASE PREVENTION.....F TREATMENT OF HEALTH PROBLEM...G ANTENATAL CARE.....H DELIVERY CARE.....I POSTPARTUM CARE.....J CHILD CARE.....K SANITATION/CLEANLINESS.....L ORAL REHYDRATION.....M OTHER _____ X (SPECIFY)	
310	What type of health facility did you visit most recently for yourself (or your children)?	PUBLIC MEDICAL SECTOR GOVT./MUNICIPAL HOSPITAL.....11 GOVT. DISPENSARY.....12 UHC/UHP/UFWC.....13 CHC/RURAL HOSPITAL/PHC.....14 SUB-CENTRE.....15 GOVT. MOBILE CLINIC.....16 CAMP.....17 OTHER PUBLIC SECTOR HEALTH FACILITY.....18 NGO/TRUST HOSPITAL/CLINIC.....21 PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC.....31 PVT. MOBILE CLINIC.....32 PHARMACY/DRUGSTORE.....33 OTHER PRIVATE SECTOR HEALTH FACILITY.....34 OTHER _____ 96 (SPECIFY)	
311	What service did you go for? Any other service? RECORD ALL MENTIONED.	PILL SUPPLY.....A CONDOM SUPPLY.....B IUD/LOOP INSERTION.....C STERILIZATION OPERATION.....D FOLLOW-UP FOR STERILIZATION.....E FOLLOW-UP FOR IUD INSERTION....F FAMILY PLANNING ADVICE.....G OTHER FAMILY PLANNING SERVICE..H IMMUNIZATION.....I ANTENATAL CARE.....J DELIVERY CARE.....K POSTPARTUM CARE.....L DISEASE PREVENTION.....M MEDICAL TREATMENT FOR SELF.....N TREATMENT FOR SICK CHILD.....O TREATMENT FOR OTHER PERSON.....P OTHER _____ X (SPECIFY)	
311A	Did you receive the service that you went for?	YES.....1 NO.....2	

SECTION 3B. CONTRACEPTION

318.

Now I would like to talk about family planning - the various ways or methods that a couple can use to delay or avoid a pregnancy.

For each method I mention, please tell me if you have ever heard of the method and whether you have ever used the method at any time in your life?

<p>01 </p> <p><u>Pill</u> Women can take a pill daily or weekly.</p>	<p>HAS USED.....1 HAS HEARD, BUT HAS NOT USED....2 HAS NOT HEARD.....3</p>
<p>02 </p> <p><u>Condom or Nirodh</u> Men can use a rubber sheath during sexual intercourse.</p>	<p>HAS USED1 HAS HEARD, BUT HAS NOT USED....2 HAS NOT HEARD.....3</p>
<p>03 </p> <p><u>IUD or Loop</u> Women can have a loop or coil placed inside them by a doctor or a nurse.</p>	<p>HAS USED.....1 HAS HEARD, BUT HAS NOT USED....2 HAS NOT HEARD.....3</p>
<p>04 </p> <p><u>Female sterilization</u> Women can have an operation to avoid having any more children.</p>	<p>Have you ever heard of female sterilization? IF YES: Have you ever had an operation to avoid having any more children?</p> <p>HAS USED.....1 HAS HEARD, BUT HAS NOT USED....2 HAS NOT HEARD.....3</p>
<p>05 </p> <p><u>Male sterilization</u> Men can have an operation to avoid having any more children.</p>	<p>Have you ever heard of male sterilization? IF YES: Has your husband ever had an operation to avoid having any more children?</p> <p>HAS USED.....1 HAS HEARD, BUT HAS NOT USED....2 HAS NOT HEARD.....3</p>
<p>06 </p> <p><u>Rhythm or safe period method</u> Couples can avoid having sexual intercourse on certain days of the month when the woman is more likely to become pregnant.</p>	<p>HAS USED.....1 HAS HEARD, BUT HAS NOT USED....2 HAS NOT HEARD.....3</p>
<p>07 </p> <p><u>Withdrawal</u> Men can be careful and pull out before climax.</p>	<p>HAS USED.....1 HAS HEARD, BUT HAS NOT USED....2 HAS NOT HEARD.....3</p>
<p>08 </p> <p>Have you ever heard of any other ways or methods that women or men can use to delay or avoid pregnancy? IF YES: Have you ever used this method?</p> <p>1 _____ (SPECIFY)</p> <p>2 _____ (SPECIFY)</p>	<p>HAS USED.....1 HAS HEARD, BUT HAS NOT USED....2 HAS NOT HEARD.....3</p> <p>HAS USED.....1 HAS HEARD, BUT HAS NOT USED....2 HAS NOT HEARD.....3</p>

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
319	CHECK 318: NOT A SINGLE CODE '1' (NEVER USED) <input type="checkbox"/>	AT LEAST ONE CODE '1' (EVER USED) <input type="checkbox"/> → SKIP TO 322	
320	Have you ever used anything or tried in any way to delay or avoid getting pregnant?	YES.....1 NO.....2 → 356	
321	What have you used or done? CORRECT 318 AND 319.		
322	Now I would like to ask you about the time when you first did something or used a method to delay or avoid getting pregnant. How many living children did you have at that time, if any? IF NONE, RECORD '00'.	NUMBER OF CHILDREN..... <input type="text"/>	
323	CHECK 107:	CURRENTLY MARRIED <input type="checkbox"/>	SEPARATED DESERTED DIVORCED WIDOWED <input type="checkbox"/> → 364
324	CHECK 230:	NOT PREGNANT OR UNSURE <input type="checkbox"/>	PREGNANT <input type="checkbox"/> → 358
325	CHECK 318:	NEITHER STERILIZED <input type="checkbox"/>	HE OR SHE STERILIZED <input type="checkbox"/> → 327A
326	Are you or your husband currently doing something or using any method to delay or avoid getting pregnant?	YES.....1 NO.....2 → 355	
327	Which method are you using?	PILL.....01 CONDOM/NIRODH.....02 IUD/LOOP.....03 → 336 FEMALE STERILIZATION.....04 MALE STERILIZATION.....05 → 339 RHYTHM/SAFE PERIOD.....06 WITHDRAWAL.....07 → 350 OTHER.....96 (SPECIFY)	
327A	CIRCLE '04' FOR FEMALE STERILIZATION. CIRCLE '05' FOR MALE STERILIZATION.		

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
328	<p>For how many months have you been using pills/condoms continuously? IF LESS THAN 1 MONTH, RECORD '00'.</p>	<p>MONTHS..... <input type="text"/> <input type="text"/> 8 YEARS OR LONGER.....96</p>	
329	<p>Where did you obtain the pills/condoms the last time?</p> <p>IF SOURCE IS HOSPITAL OR CLINIC, WRITE THE NAME OF THE PLACE. PROBE TO IDENTIFY THE TYPE OF PLACE AND CIRCLE THE APPROPRIATE CODE.</p> <p>_____ (NAME OF PLACE IF HOSPITAL OR CLINIC)</p>	<p>PUBLIC MEDICAL SECTOR GOVT./MUNICIPAL HOSPITAL.....11 GOVT. DISPENSARY.....12 UHC/UHP/UFWC.....13 CHC/RURAL HOSPITAL/PHC.....14 SUB-CENTRE.....15 GOVT. MOBILE CLINIC.....16 GOVT. PARAMEDIC.....17 CAMP.....18 OTHER PUBLIC SECTOR HEALTH FACILITY.....19</p> <p>NGO/TRUST HOSPITAL/CLINIC.....21 →331 NGO WORKER.....22</p> <p>PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC.....31 PVT. DOCTOR.....32 PVT. MOBILE CLINIC.....33 PVT. PARAMEDIC.....34 VAIDYA/HAKIM/HOMEOPATH.....35 TRADITIONAL HEALER.....36 PHARMACY/DRUGSTORE.....37 DAI (TBA).....38 OTHER PRIVATE SECTOR HEALTH FACILITY.....39</p> <p>OTHER SOURCE SHOP.....41 HUSBAND.....42 FRIEND/OTHER RELATIVE.....43 OTHER.....96 →331 (SPECIFY)</p>	
330	<p>Do you know where this person obtained the pills/condoms the last time?</p> <p>IF SOURCE IS HOSPITAL OR CLINIC, WRITE THE NAME OF THE PLACE. PROBE TO IDENTIFY THE TYPE OF PLACE AND CIRCLE THE APPROPRIATE CODE.</p> <p>_____ (NAME OF PLACE IF HOSPITAL OR CLINIC)</p>	<p>PUBLIC MEDICAL SECTOR GOVT./MUNICIPAL HOSPITAL.....11 GOVT. DISPENSARY.....12 UHC/UHP/UFWC.....13 CHC/RURAL HOSPITAL/PHC.....14 SUB-CENTRE.....15 GOVT. MOBILE CLINIC.....16 GOVT. PARAMEDIC.....17 CAMP.....18 OTHER PUBLIC SECTOR HEALTH FACILITY.....19</p> <p>NGO/TRUST HOSPITAL/CLINIC.....21 NGO WORKER.....22</p> <p>PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC.....31 PVT. DOCTOR.....32 PVT. MOBILE CLINIC.....33 PVT. PARAMEDIC.....34 VAIDYA/HAKIM/HOMEOPATH.....35 TRADITIONAL HEALER.....36 PHARMACY/DRUGSTORE.....37 DAI (TBA).....38 OTHER PRIVATE SECTOR HEALTH FACILITY.....39</p> <p>OTHER SOURCE SHOP.....41</p> <p>OTHER.....96 (SPECIFY)</p> <p>DK.....98</p>	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
331	<p>May I see the packet of pills/condoms you are using now?</p> <p>IF PACKET SEEN, RECORD BRAND NAME.</p>	<p>PACKET SEEN.....1</p> <p>BRAND NAME _____ <input type="text"/> <input type="text"/> <input type="text"/> → 333</p> <p>PACKET NOT SEEN.....2</p>	
332	<p>Do you know the brand name of the pills/condoms you are using now?</p>	<p>BRAND NAME _____ <input type="text"/> <input type="text"/> <input type="text"/></p> <p>DK.....998</p>	
333	<p>How much does one packet of pills/condoms cost you?</p>	<p>COST Rs:..... <input type="text"/> <input type="text"/> <input type="text"/></p> <p>FREE.....995</p> <p>DK.....998 → 335</p>	
334	<p>For that cost how many condoms/pill cycles do you get?</p>	<p>NUMBER..... <input type="text"/> <input type="text"/></p>	
335	<p>Have you been able to get the supply of pills/condoms whenever you need them?</p>	<p>YES.....1</p> <p>NO.....2 → 344</p>	
336	<p>For how many months have you been using the IUD/LOOP continuously?</p> <p>IF LESS THAN 1 MONTH, RECORD '00'.</p>	<p>MONTHS..... <input type="text"/> <input type="text"/></p> <p>8 YEARS OR LONGER.....96</p>	
337	<p>Who inserted the IUD/LOOP?</p>	<p>GOVERNMENT DOCTOR.....01</p> <p>GOVERNMENT NURSE/PARAMEDIC.....02</p> <p>NGO DOCTOR.....03</p> <p>NGO NURSE/PARAMEDIC.....04</p> <p>PRIVATE DOCTOR.....05</p> <p>PRIVATE NURSE/PARAMEDIC.....06</p> <p>OTHER _____ 96</p> <p>(SPECIFY)</p>	
338	<p>Where did you go to get the IUD/LOOP inserted?</p> <p>_____</p> <p>(NAME OF PLACE IF HOSPITAL OR CLINIC)</p>	<p>PUBLIC MEDICAL SECTOR</p> <p>GOVT./MUNICIPAL HOSPITAL.....11</p> <p>GOVT. DISPENSARY.....12</p> <p>UHC/UHP/UFWC.....13</p> <p>CHC/RURAL HOSPITAL/PHC.....14</p> <p>SUB-CENTRE.....15</p> <p>GOVT. MOBILE CLINIC.....16</p> <p>CAMP.....17</p> <p>OTHER PUBLIC SECTOR</p> <p>HEALTH FACILITY.....18</p> <p>NGO/TRUST HOSPITAL/CLINIC.....21</p> <p>PRIVATE MEDICAL SECTOR</p> <p>PVT. HOSPITAL/CLINIC.....31</p> <p>PVT. DOCTOR.....32</p> <p>PVT. MOBILE CLINIC.....33</p> <p>OTHER PRIVATE SECTOR</p> <p>HEALTH FACILITY.....34</p> <p>OTHER _____ 96</p> <p>(SPECIFY)</p>	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
344	Who mainly motivated you to use (CURRENT METHOD)?	GOVT. DOCTOR.....01 PUBLIC HEALTH NURSE.....02 ANM/LHV.....03 MALE MPW/SUPERVISOR.....04 ANGANWADI WORKER.....05 OTHER GOVT. HEALTH WORKER.....06 NGO WORKER.....07 PRIVATE DOCTOR.....08 PRIVATE PARAMEDIC.....09 DAI (TBA).....10 TEACHER.....11 RELIGIOUS LEADER.....12 POLITICAL LEADER.....13 HUSBAND.....14 MOTHER/MOTHER-IN-LAW.....15 OTHER RELATIVE/FRIEND.....16 NO ONE/SELF.....17 OTHER.....96 (SPECIFY)	→ 347
345	Did he/she tell you about any other methods that you might use?	YES.....1 NO.....2	→ 347
346	Which other methods were you told about? RECORD ALL MENTIONED.	PILL.....A CONDOM/NIRODH.....B IUD/LOOP.....C FEMALE STERILIZATION.....D MALE STERILIZATION.....E RHYTHM/SAFE PERIOD.....F WITHDRAWAL.....G OTHER.....X (SPECIFY)	
347	At the time when you accepted the (CURRENT METHOD) did any health or family planning worker tell you about side effects or other problems you might have using the (CURRENT METHOD)?	YES.....1 NO.....2	
348	Were you told what to do in case you experienced problems with the method?	YES.....1 NO.....2	
349	Did you receive any follow-up, either at home or in a health facility, after you accepted the (CURRENT METHOD)? PROBE FOR TYPE OF VISIT.	AT HOME ONLY.....1 IN A FACILITY ONLY.....2 BOTH.....3 NEITHER.....4	→ 351
350	For how long have you been using this method continuously? IF LESS THAN 1 MONTH, RECORD '00'.	MONTHS..... <input type="text"/> <input type="text"/> 8 YEARS OR LONGER.....96	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
351	Have you had any problems related to the use of (CURRENT METHOD)?	YES.....1 NO.....2	→362
352	What problems have you had related to the use of (CURRENT METHOD)? PROBE: Any other problems? RECORD ALL MENTIONED.	WEIGHT GAIN.....A WEIGHT LOSS.....B TOO MUCH BLEEDING.....C HYPERTENSION.....D HEADACHE/BODYACHE/BACKACHE.....E NAUSEA/VOMITING.....F NO MENSTRUATION.....G WEAKNESS/TIREDNESS.....H DIZZINESS.....I FEVER.....J CRAMPES.....K SPOTTING.....L INCONVENIENT TO USE.....M ABDOMINAL PAIN.....N WHITE DISCHARGE.....O IRREGULAR PERIODS.....P BREAST TENDERNESS.....Q ALLERGY.....R EXPULSION.....S REDUCED SEXUAL SATISFACTION.....T OTHER _____ X (SPECIFY)	
353	When you first started having these problems, did you talk to anyone about these problems?	YES.....1 NO.....2	→362
354	Who did you talk to about these problems? Any other person? RECORD ALL PERSONS TALKED TO.	GOVT. DOCTOR.....A PUBLIC HEALTH NURSE.....B ANM/LHV.....C ANGANWADI WORKER.....D OTHER GOVT. HEALTH WORKER.....E NGO DOCTOR.....F NGO WORKER.....G PRIVATE DOCTOR.....H PRIVATE PARAMEDIC.....I COMPOUNDER/PHARMACIST.....J TRADITIONAL HEALER.....K HUSBAND.....L FRIEND/OTHER RELATIVE.....M OTHER _____ X (SPECIFY)	→362
355	What is the main reason you stopped using family planning?	METHOD FAILED/GOT PREGNANT.....01 LACK OF SEXUAL SATISFACTION.....02 CREATED MENSTRUAL PROBLEM.....03 CREATED HEALTH PROBLEM.....04 INCONVENIENT TO USE.....05 HARD TO GET METHOD.....06 PUT ON WEIGHT.....07 DID NOT LIKE THE METHOD.....08 WANTED TO HAVE A CHILD.....09 WANTED TO REPLACE DEAD CHILD.....10 LACK OF PRIVACY FOR USE.....11 HUSBAND AWAY.....12 COST TOO MUCH.....13 OTHER _____ 96 (SPECIFY)	→358

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
356	CHECK 107:	SEPARATED DESERTED DIVORCED WIDOWED	→364
	CURRENTLY MARRIED	<input type="checkbox"/>	
	v		
356A	CHECK 230:	PREGNANT	→358
	NOT PREGNANT OR UNSURE	<input type="checkbox"/>	
	v		
357	What is the main reason you are not using a method of contraception to delay or avoid pregnancy?	HUSBAND AWAY.....11 FERTILITY-RELATED REASONS NOT HAVING SEX.....21 INFREQUENT SEX.....22 MENOPAUSAL/HAD HYSTERECTOMY..23 →362 SUBFECUND/INFECUND.....24 POSTPARTUM/BREASTFEEDING.....25 WANTS MORE CHILDREN.....26 OPPOSITION TO USE OPPOSED TO FAMILY PLANNING...31 HUSBAND OPPOSED.....32 OTHER PEOPLE OPPOSED.....33 AGAINST RELIGION.....34 LACK OF KNOWLEDGE KNOWS NO METHOD.....41 KNOWS NO SOURCE.....42 METHOD-RELATED REASONS HEALTH CONCERNS.....51 WORRY ABOUT SIDE EFFECTS.....52 HARD TO GET METHOD.....53 COSTS TOO MUCH.....54 INCONVENIENT.....55 AFRAID OF STERILIZATION.....56 DON'T LIKE EXISTING METHODS..57 OTHER _____ 96 (SPECIFY) DK.....98	
358	Do you think you will use a method to delay or avoid pregnancy within the next 12 months?	YES.....1 →360 NO.....2 DK.....8	
359	Do you think you will use a method to delay or avoid pregnancy at any time in the future?	YES.....1 NO.....2 DK.....8 →361	
360	Which method would you prefer to use?	PILL.....01 CONDOM/NIRODH.....02 IUD/LOOP.....03 FEMALE STERILIZATION.....04 MALE STERILIZATION.....05 →362 RHYTHM/SAFE PERIOD.....06 WITHDRAWAL.....07 OTHER _____ 96 (SPECIFY) DK/UNSURE.....98	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP																					
361	What is the main reason that you think you will not use a family planning method at any time in the future?	FERTILITY-RELATED REASONS NOT HAVING SEX.....11 INFREQUENT SEX.....12 MENOPAUSAL/HAD HYSTERECTOMY..13 SUBFECUND/INFECUND.....14 WANTS AS MANY CHILDREN AS POSSIBLE.....15 OPPOSITION TO USE OPPOSED TO FAMILY PLANNING...21 HUSBAND OPPOSED.....22 OTHER PEOPLE OPPOSED.....23 AGAINST RELIGION.....24 LACK OF KNOWLEDGE KNOWS NO METHOD.....31 KNOWS NO SOURCE.....32 METHOD-RELATED REASONS HEALTH CONCERNS.....41 WORRY ABOUT SIDE EFFECTS....42 HARD TO GET METHOD.....43 COSTS TOO MUCH.....44 INCONVENIENT.....45 AFRAID OF STERILIZATION.....46 DON'T LIKE EXISTING METHODS..47 OTHER _____ 96 (SPECIFY) DK.....98																						
362	In the last few months, have you discussed the practice of family planning with your husband, friends, neighbours, or relatives?	YES.....1 NO.....2	→ 364																					
363	With whom? Anyone else? RECORD ALL MENTIONED.	HUSBAND.....A MOTHER.....B SISTER(S).....C DAUGHTER.....D MOTHER-IN-LAW.....E SISTER-IN-LAW.....F FRIEND/NEIGHBOUR.....G OTHER _____ X (SPECIFY)																						
364	In the last few months, have you heard or seen any message about family planning: on radio? on television? in a cinema or film show? in a newspaper or magazine? on a wall painting or hoarding? in a drama, folk dance, or street play?	<table border="0"> <thead> <tr> <th></th> <th>YES</th> <th>NO</th> </tr> </thead> <tbody> <tr> <td>RADIO.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>TELEVISION.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>CINEMA/FILM SHOW.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>NEWSPAPER/MAGAZINE.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>WALL PAINTING/HOARDING... 1</td> <td>2</td> <td></td> </tr> <tr> <td>DRAMA/FOLK DANCE/STREET PLAY.....</td> <td>1</td> <td>2</td> </tr> </tbody> </table>		YES	NO	RADIO.....	1	2	TELEVISION.....	1	2	CINEMA/FILM SHOW.....	1	2	NEWSPAPER/MAGAZINE.....	1	2	WALL PAINTING/HOARDING... 1	2		DRAMA/FOLK DANCE/STREET PLAY.....	1	2	
	YES	NO																						
RADIO.....	1	2																						
TELEVISION.....	1	2																						
CINEMA/FILM SHOW.....	1	2																						
NEWSPAPER/MAGAZINE.....	1	2																						
WALL PAINTING/HOARDING... 1	2																							
DRAMA/FOLK DANCE/STREET PLAY.....	1	2																						

SECTION 4A. ANTENATAL, NATAL, AND POSTNATAL CARE

401	CHECK 224 ONE OR MORE BIRTHS SINCE JAN. 1995 <input type="checkbox"/>	NO BIRTHS SINCE JAN. 1995 <input type="checkbox"/> → (SKIP TO 486)	
402	ENTER THE LINE NUMBER, NAME, AND SURVIVAL STATUS OF LAST TWO BIRTHS SINCE JANUARY 1995 IN THE TABLE. ASK THE QUESTIONS ABOUT THESE TWO BIRTHS. BEGIN WITH THE LAST BIRTH. (IF THERE ARE MORE THAN 2 BIRTHS, RECORD ONLY LAST TWO BIRTHS.)		
Now I would like to ask you some questions about the health of your children born since January 1995. (We will talk about one child at a time.)			
	LINE NUMBER FROM Q. 212	LAST BIRTH <input type="text"/> <input type="text"/>	NEXT-TO-LAST BIRTH <input type="text"/> <input type="text"/>
	FROM Q. 212 AND Q. 216	NAME _____ ALIVE <input type="checkbox"/> DEAD <input type="checkbox"/>	NAME _____ ALIVE <input type="checkbox"/> DEAD <input type="checkbox"/>
403	At the time you became pregnant with (NAME), did you want to become pregnant <u>then</u> , did you want to wait until <u>later</u> , or did you want <u>no (more)</u> children <u>at all</u> ?	THEN.....1 (SKIP TO 405) ← <input type="text"/>	THEN.....1 (SKIP TO 405) ← <input type="text"/>
		LATER.....2	LATER.....2
		NO MORE.....3 (SKIP TO 405) ← <input type="text"/>	NO MORE.....3 (SKIP TO 405) ← <input type="text"/>
404	How much longer would you like to have waited?	MONTHS.....1 <input type="text"/> <input type="text"/>	MONTHS.....1 <input type="text"/> <input type="text"/>
		YEARS.....2 <input type="text"/> <input type="text"/>	YEARS.....2 <input type="text"/> <input type="text"/>
		DK.....998	DK.....998
405	When you were pregnant with (NAME), did you go for an antenatal check-up?	YES.....1	YES.....1
		NO.....2 (SKIP TO 407) ← <input type="text"/>	NO.....2 (SKIP TO 407) ← <input type="text"/>
406	Whom did you see? Anyone else? RECORD ALL PERSONS SEEN.	HEALTH PROFESSIONAL DOCTOR.....A ANM/NURSE/MIDWIFE/LHV...B OTHER HEALTH PROFSSNL...C TRADITIONAL BIRTH ATTENDANT (DAI).....D OTHER _____ X (SPECIFY)	HEALTH PROFESSIONAL DOCTOR.....A ANM/NURSE/MIDWIFE/LHV...B OTHER HEALTH PROFSSNL...C TRADITIONAL BIRTH ATTENDANT (DAI).....D OTHER _____ X (SPECIFY)
407		YES.....1 NO.....2	YES.....1 NO.....2
408	CHECK 405 AND 407:	YES IN EITHER <input type="checkbox"/> NO IN BOTH <input type="checkbox"/> (SKIP TO 413)	YES IN EITHER <input type="checkbox"/> NO IN BOTH <input type="checkbox"/> (SKIP TO 413)

	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____
409	MONTHS..... <input type="text"/> <input type="text"/>	MONTHS..... <input type="text"/> <input type="text"/>
How many months pregnant were you when you first received an antenatal check-up?		
410	NO. OF TIMES..... <input type="text"/> <input type="text"/>	NO. OF TIMES..... <input type="text"/> <input type="text"/>
How many times did you receive antenatal check-ups during this pregnancy?		
411		
Did you have the following performed at least once during any of your antenatal check-ups for this pregnancy:	YES NO	YES NO
Weight measured?	WEIGHT..... 1 2	WEIGHT..... 1 2
Height measured?	HEIGHT..... 1 2	HEIGHT..... 1 2
Blood pressure checked?	BLOOD PRESSURE.... 1 2	BLOOD PRESSURE.... 1 2
Blood test?	BLOOD TEST..... 1 2	BLOOD TEST..... 1 2
Urine test?	URINE TEST..... 1 2	URINE TEST..... 1 2
Abdomen examined?	ABDOMEN EXAMINED.. 1 2	ABDOMEN EXAMINED.. 1 2
Internal exam?	INTERNAL EXAM..... 1 2	INTERNAL EXAM..... 1 2
X-ray?	X-RAY..... 1 2	X-RAY..... 1 2
Sonogram or ultrasound?	SONOGRAM/ULTRAS... 1 2	SONOGRAM/ULTRAS... 1 2
Amniocentesis?	AMNIOCENTESIS..... 1 2	AMNIOCENTESIS..... 1 2
412		
Did you receive advice on any of the following during at least one of your antenatal check-ups for this pregnancy:	YES NO	YES NO
Diet?	DIET..... 1 2	DIET..... 1 2
Danger signs of pregnancy?	DANGER SIGNS..... 1 2	DANGER SIGNS..... 1 2
Delivery care?	DELIVERY CARE..... 1 2	DELIVERY CARE..... 1 2
Newborn care:	NEWBORN CARE..... 1 2	NEWBORN CARE..... 1 2
Family planning:	FAMILY PLANNING.... 1 2 (SKIP TO 414) < <input type="checkbox"/> <input type="checkbox"/>	FAMILY PLANNING.... 1 2 (SKIP TO 414) < <input type="checkbox"/> <input type="checkbox"/>
413		
What is the main reason you did not receive an antenatal check-up?	NOT NECESSARY.....01 NOT CUSTOMARY.....02 COST TOO MUCH.....03 TOO FAR/NO TRANSPORT....04 POOR QUALITY SERVICE....05 NO TIME TO GO.....06 FAMILY DID NOT ALLOW....07 LACK OF KNOWLEDGE.....08 NO HEALTH WORKER VISITED.....09 OTHER _____ 96 (SPECIFY)	NOT NECESSARY.....01 NOT CUSTOMARY.....02 COST TOO MUCH.....03 TOO FAR/NO TRANSPORT....04 POOR QUALITY SERVICE....05 NO TIME TO GO.....06 FAMILY DID NOT ALLOW....07 LACK OF KNOWLEDGE.....08 NO HEALTH WORKER VISITED.....09 OTHER _____ 96 (SPECIFY)

	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____
414	<p>When you were pregnant with (NAME), did you experience any of the following problems at any time:</p> <p style="text-align: center;">YES NO</p> <p>Night blindness? (USE LOCAL TERM) NIGHT BLINDNESS.... 1 2</p> <p>Blurred vision? BLURRED VISION..... 1 2</p> <p>Convulsions not from fever? CONVULSIONS..... 1 2</p> <p>Swelling of the legs, body, or face? SWELLING..... 1 2</p> <p>Excessive fatigue? EXCESSIVE FATIGUE.. 1 2</p> <p>Anaemia? ANAEMIA..... 1 2</p> <p>Any vaginal bleeding? VAGINAL BLEEDING... 1 2</p>	<p style="text-align: center;">YES NO</p> <p>NIGHT BLINDNESS.... 1 2</p> <p>BLURRED VISION..... 1 2</p> <p>CONVULSIONS..... 1 2</p> <p>SWELLING..... 1 2</p> <p>EXCESSIVE FATIGUE.. 1 2</p> <p>ANAEMIA..... 1 2</p> <p>VAGINAL BLEEDING... 1 2</p>
415	<p>When you were pregnant with (NAME), were you given any iron folic tablets or syrup?</p> <p>YES.....1</p> <p>NO.....2 (SKIP TO 418) ←</p>	<p>YES.....1</p> <p>NO.....2 (SKIP TO 418) ←</p>
416	<p>Did you receive enough iron folic tablets or syrup to last about three months or longer?</p> <p>YES.....1</p> <p>NO.....2</p> <p>DK.....8</p>	<p>YES.....1</p> <p>NO.....2</p> <p>DK.....8</p>
417	<p>Did you consume all the iron folic tablets or syrup you were given ?</p> <p>S.....1</p> <p>NO.....2</p>	<p>YES.....1</p> <p>NO.....2</p>
418	<p>When you were pregnant with (NAME), were you given an injection in the arm to prevent you and the baby from getting tetanus (USE LOCAL TERM FOR TETANUS)?</p> <p>YES.....1</p> <p>NO.....2 (SKIP TO 420) ←</p> <p>DK.....8</p>	<p>YES.....1</p> <p>NO.....2 (SKIP TO 420) ←</p> <p>DK.....8</p>
419	<p>During this pregnancy, how many times did you get this injection?</p> <p>TIMES..... <input type="text"/></p> <p>DK.....8</p>	<p>TIMES..... <input type="text"/></p> <p>DK.....8</p>

		LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____
420	Where did you give birth to (NAME)?	HOME YOUR HOME.....11 PARENTS' HOME.....12 OTHER HOME.....13 PUBLIC MEDICAL SECTOR GOVT./MUNICIPAL HOSP...21 GOVT. DISPENSARY.....22 UHC/UHP/UFWC.....23 CHC/RURAL HOSP./PHC...24 SUB-CENTRE.....25 OTHER PUBLIC SECTOR HEALTH FACILITY.....26 NGO/TRUST HOSP./CLINIC..31 PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC/ MATERNITY HOME.....41 OTHER PRIVATE SECTOR HEALTH FACILITY.....42 OTHER _____ 96 (SPECIFY) (SKIP TO 422) <_____	HOME YOUR HOME.....11 PARENTS' HOME.....12 OTHER HOME.....13 PUBLIC MEDICAL SECTOR GOVT./MUNICIPAL HOSP...21 GOVT. DISPENSARY.....22 UHC/UHP/UFWC.....23 CHC/RURAL HOSP./PHC...24 SUB-CENTRE.....25 OTHER PUBLIC SECTOR HEALTH FACILITY.....26 NGO/TRUST HOSP./CLINIC..31 PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC/ MATERNITY HOME.....41 OTHER PRIVATE SECTOR HEALTH FACILITY.....42 OTHER _____ 96 (SPECIFY) (SKIP TO 422) <_____
421	What is the main reason you did not go to a health facility for delivery?	NOT NECESSARY.....01 NOT CUSTOMARY.....02 COST TOO MUCH.....03 TOO FAR/NO TRANSPORT...04 POOR QUALITY SERVICE...05 NO TIME TO GO.....06 FAMILY DID NOT ALLOW...07 BETTER CARE AT HOME...08 LACK OF KNOWLEDGE.....09 OTHER _____ 96 (SPECIFY)	NOT NECESSARY.....01 NOT CUSTOMARY.....02 COST TOO MUCH.....03 TOO FAR/NO TRANSPORT...04 POOR QUALITY SERVICE...05 NO TIME TO GO.....06 FAMILY DID NOT ALLOW...07 BETTER CARE AT HOME...08 LACK OF KNOWLEDGE.....09 OTHER _____ 96 (SPECIFY)
422	Who assisted with the delivery of (NAME)? Anyone else? PROBE FOR THE TYPE OF PERSON AND RECORD ALL PERSONS WHO ASSISTED.	HEALTH PROFESSIONAL DOCTOR.....A ANM/NURSE/MIDWIFE/LHV...B OTHER HEALTH PROFESSNL..C OTHER PERSON DAI (TBA).....D FRIEND/RELATIVE.....E OTHER _____ X (SPECIFY) NO ONE.....Y	HEALTH PROFESSIONAL DOCTOR.....A ANM/NURSE/MIDWIFE/LHV...B OTHER HEALTH PROFESSNL..C OTHER PERSON DAI (TBA).....D FRIEND/RELATIVE.....E OTHER _____ X (SPECIFY) NO ONE.....Y
423	CHECK 422:	ANY <input type="checkbox"/> NO <input type="checkbox"/> CODE v CODE A, B, (SKIP TO A, B, OR C 425) OR C	ANY <input type="checkbox"/> NO <input type="checkbox"/> CODE v CODE A, B, (SKIP TO A, B, OR C 425) OR C
424	What is the main reason you did not take the help of a health professional?	NOT NECESSARY.....01 NOT CUSTOMARY.....02 COST TOO MUCH.....03 TOO FAR/NO TRANSPORT...04 PROFES. NOT AVAI'BLE...05 NO CONFIDENCE IN AVAILABLE PROFESSIONAL.06 NO TIME TO GET HELP...07 FAMILY DID NOT ALLOW...08 OTHER _____ 96 (SPECIFY) (SKIP TO 426) <_____	NOT NECESSARY.....01 NOT CUSTOMARY.....02 COST TOO MUCH.....03 TOO FAR/NO TRANSPORT...04 PROFES. NOT AVAI'BLE...05 NO CONFIDENCE IN AVAILABLE PROFESSIONAL.06 NO TIME TO GET HELP...07 FAMILY DID NOT ALLOW...08 OTHER _____ 96 (SPECIFY) (SKIP TO 426) <_____

	NAME	LAST BIRTH	NAME	NEXT-TO-LAST BIRTH
425	Was (NAME) delivered by caesarian section?	YES.....1 NO.....2	YES.....1 NO.....2	
426	When (NAME) was born, was he/she: large, average, small, or very small?	LARGE.....1 AVERAGE.....2 SMALL.....3 VERY SMALL.....4	LARGE.....1 AVERAGE.....2 SMALL.....3 VERY SMALL.....4	
427	Was (NAME) weighed at birth?	YES.....1 NO.....2 (SKIP TO 429) <—	YES.....1 NO.....2 (SKIP TO 429) <—	
428	How much did (NAME) weigh?	GRAMS..... <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> DK.....9998	GRAMS..... <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> DK.....9998	
429	Now I would like to ask you about the 2-month period after the delivery of (NAME). During that period, did a doctor or other health professional check your health or the health of your baby?	YES.....1 NO.....2 (SKIP TO 433) <—	YES.....1 NO.....2 (SKIP TO 433) <—	
430	How soon after the birth of (NAME) did you first get a check-up?	DAYS.....1 <input type="text"/> <input type="text"/> WEEKS.....2 <input type="text"/> <input type="text"/>	DAYS.....1 <input type="text"/> <input type="text"/> WEEKS.....2 <input type="text"/> <input type="text"/>	
431	Where did you get the check-up?	HOME VISIT.....11 PUBLIC MEDICAL SECTOR GOVT./MUNICIPAL HOSP....21 GOVT. DISPENSARY.....22 UHC/UHP/UFWC.....23 CHC/RURAL HOSP./PHC....24 SUB-CENTRE.....25 OTHER PUBLIC SECTOR HEALTH FACILITY.....26 NGO/TRUST HOSP./CLINIC...31 PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC/ MATERNITY HOME.....41 OTHER PRIVATE SECTOR HEALTH FACILITY.....42 OTHER _____ 96 (SPECIFY)	HOME VISIT.....11 PUBLIC MEDICAL SECTOR GOVT./MUNICIPAL HOSP....21 GOVT. DISPENSARY.....22 UHC/UHP/UFWC.....23 CHC/RURAL HOSP./PHC....24 SUB-CENTRE.....25 OTHER PUBLIC SECTOR HEALTH FACILITY.....26 NGO/TRUST HOSP./CLINIC...31 PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC/ MATERNITY HOME.....41 OTHER PRIVATE SECTOR HEALTH FACILITY.....42 OTHER _____ 96 (SPECIFY)	

		LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____
432	<p>Did any of the following happen when you had the check-up:</p> <p>Was your abdomen examined?</p> <p>Did you receive advice on family planning?</p> <p>Did you receive advice on breastfeeding?</p> <p>Did you receive advice on baby care?</p>	<p>YES NO</p> <p>ABDOMEN EXAMINED... 1 2</p> <p>FAMILY PLANNING.... 1 2</p> <p>BREASTFEEDING..... 1 2</p> <p>BABY CARE..... 1 2</p>	<p>YES NO</p> <p>ABDOMEN EXAMINED... 1 2</p> <p>FAMILY PLANNING.... 1 2</p> <p>BREASTFEEDING..... 1 2</p> <p>BABY CARE..... 1 2</p>
433	<p>At any time during the two months after the delivery of (NAME), did you have any of the following:</p> <p>Massive vaginal bleeding?</p> <p>Very high fever?</p>	<p>YES NO</p> <p>VAGINAL BLEEDING... 1 2</p> <p>VERY HIGH FEVER.... 1 2</p>	<p>YES NO</p> <p>VAGINAL BLEEDING... 1 2</p> <p>VERY HIGH FEVER.... 1 2</p>
434	<p>Has your period returned since the birth of (NAME)?</p>	<p>YES1 (SKIP TO 436) <-----</p> <p>NO.....2 (SKIP TO 437) <-----</p>	<p>_____</p> <p>_____</p> <p>_____</p>
435	<p>Did your period return between the birth of (NAME) and your next pregnancy?</p>	<p>_____</p> <p>_____</p> <p>_____</p>	<p>YES1</p> <p>NO.....2 (SKIP TO 439) <-----</p>
436	<p>For how many months after the birth of (NAME) did you not have a period?</p>	<p>MONTHS..... <input type="text"/> <input type="text"/></p> <p>DK.....98</p>	<p>MONTHS..... <input type="text"/> <input type="text"/></p> <p>DK.....98</p>
437	<p>CHECK 230: RESPONDENT PREGNANT?</p>	<p>NOT PREGNANT OR Q230 NOT ASKED <input type="checkbox"/></p> <p>PREGNANT OR UNSURE <input type="checkbox"/></p> <p>v (SKIP TO 439)</p>	<p>_____</p> <p>_____</p> <p>_____</p>
438	<p>Have you resumed sexual relations since the birth of (NAME)?</p>	<p>YES.....1</p> <p>NO.....2 (SKIP TO 440) <-----</p>	<p>_____</p> <p>_____</p> <p>_____</p>

	LAST BIRTH	NEXT-TO-LAST BIRTH
	NAME _____	NAME _____
439	<p>For how many months after the birth of (NAME) did you not have sexual relations?</p> <p>MONTHS..... <input type="text"/> <input type="text"/></p> <p>DK.....98</p>	<p>MONTHS..... <input type="text"/> <input type="text"/></p> <p>DK.....98</p>
440	<p>Did you ever breastfeed (NAME)?</p> <p>YES.....1 (SKIP TO 442) < <input type="text"/></p> <p>NO.....2</p>	<p>YES.....1 (SKIP TO 442) < <input type="text"/></p> <p>NO.....2</p>
441	<p>Why did you not breastfeed (NAME)?</p> <p>MOTHER ILL/WEAK.....01 CHILD ILL/WEAK.....02 CHILD DIED.....03 NIPPLE/BREAST PROBLEM...04 INSUFFICIENT MILK.....05 MOTHER WORKING.....06 CHILD REFUSED.....07 OTHER.....96 (SPECIFY) (SKIP TO 448) < <input type="text"/></p>	<p>MOTHER ILL/WEAK.....01 CHILD ILL/WEAK.....02 CHILD DIED.....03 NIPPLE/BREAST PROBLEM...04 INSUFFICIENT MILK.....05 MOTHER WORKING.....06 CHILD REFUSED.....07 OTHER.....96 (SPECIFY) (SKIP TO 448) < <input type="text"/></p>
442	<p>How long after birth did you first put (NAME) to the breast?</p> <p>IF LESS THAN 1 HOUR, RECORD '00' HOURS. IF LESS THAN 24 HOURS, RECORD HOURS. OTHERWISE, RECORD DAYS.</p> <p>IMMEDIATELY.....000 HOURS.....1 <input type="text"/> <input type="text"/> DAYS.....2 <input type="text"/> <input type="text"/></p>	<p>IMMEDIATELY.....000 HOURS.....1 <input type="text"/> <input type="text"/> DAYS.....2 <input type="text"/> <input type="text"/></p>
443	<p>Did you squeeze out the milk from the breast before you first put (NAME) to the breast?</p> <p>YES.....1 NO.....2</p>	<p>YES.....1 NO.....2</p>
444	<p>CHECK 216: CHILD ALIVE?</p> <p>ALIVE <input type="checkbox"/> DEAD <input type="checkbox"/> v (SKIP TO 446)</p>	<p>ALIVE <input type="checkbox"/> DEAD <input type="checkbox"/> v (SKIP TO 446)</p>
445	<p>Are you still breastfeeding (NAME)?</p> <p>YES.....1 (SKIP TO 449) < <input type="text"/></p> <p>NO.....2</p>	<p>YES.....1 (SKIP TO 449) < <input type="text"/></p> <p>NO.....2</p>
446	<p>For how many months did you breastfeed (NAME)?</p> <p>MONTHS..... <input type="text"/> <input type="text"/></p> <p>UNTIL DIED.....96 (SKIP TO 452) < <input type="text"/></p>	<p>MONTHS..... <input type="text"/> <input type="text"/></p> <p>UNTIL DIED.....96 (SKIP TO 452) < <input type="text"/></p>
447	<p>Why did you stop breastfeeding (NAME)?</p> <p>MOTHER ILL/WEAK.....01 CHILD ILL/WEAK.....02 CHILD DIED.....03 NIPPLE/BREAST PROBLEM...04 INSUFFICIENT MILK.....05 MOTHER WORKING.....06 CHILD REFUSED.....07 WEANING AGE.....08 BECAME PREGNANT.....09 STARTED USING CONTRACEPTION.....10 OTHER.....96 (SPECIFY)</p>	<p>MOTHER ILL/WEAK.....01 CHILD ILL/WEAK.....02 CHILD DIED.....03 NIPPLE/BREAST PROBLEM...04 INSUFFICIENT MILK.....05 MOTHER WORKING.....06 CHILD REFUSED.....07 WEANING AGE.....08 BECAME PREGNANT.....09 STARTED USING CONTRACEPTION.....10 OTHER.....96 (SPECIFY)</p>

		LAST BIRTH		NEXT-TO-LAST BIRTH	
		NAME _____		NAME _____	
448	CHECK 216: CHILD ALIVE?	ALIVE <input type="checkbox"/>	DEAD <input type="checkbox"/> v (SKIP TO 452)	ALIVE <input type="checkbox"/>	DEAD <input type="checkbox"/> v (SKIP TO 452)
449	Did (NAME) drink anything from a bottle with a nipple yesterday or last night?	YES.....1 NO.....2 DK.....8		YES.....1 NO.....2 DK.....8	
450	At any time yesterday or last night, was (NAME) given any of the following:	YES NO DK		YES NO DK	
	Plain water?	PLAIN WATER..... 1 2 8		PLAIN WATER..... 1 2 8	
	Powdered milk?	POWDERED MILK.... 1 2 8		POWDERED MILK.... 1 2 8	
	Any other milk (other than breast milk)?	OTHER MILK..... 1 2 8		OTHER MILK..... 1 2 8	
	Any other liquid?	ANY OTHER LIQUID. 1 2 8		ANY OTHER LIQUID. 1 2 8	
	Green, leafy vegetables?	GREEN/LEAFY VEG.. 1 2 8		GREEN/LEAFY VEG.. 1 2 8	
	Fruits?	FRUITS..... 1 2 8		FRUITS..... 1 2 8	
	Any other solid or mushy food?	SOLID/MUSHY FOOD. 1 2 8		SOLID/MUSHY FOOD. 1 2 8	
451	How often during the last seven days was (NAME) given any of the following:	1 = EVERY DAY 2 = SOME DAYS 3 = NOT AT ALL 8 = DK		1 = EVERY DAY 2 = SOME DAYS 3 = NOT AT ALL 8 = DK	
	Plain water?	PLAIN WATER..... <input type="checkbox"/>		PLAIN WATER..... <input type="checkbox"/>	
	Powdered milk?	POWDERED MILK..... <input type="checkbox"/>		POWDERED MILK..... <input type="checkbox"/>	
	Any other milk (other than breast milk)?	OTHER MILK..... <input type="checkbox"/>		OTHER MILK..... <input type="checkbox"/>	
	Any other liquid?	OTHER LIQUID..... <input type="checkbox"/>		OTHER LIQUID..... <input type="checkbox"/>	
	Green, leafy vegetables?	GREEN/LEAFY VEG..... <input type="checkbox"/>		GREEN/LEAFY VEG..... <input type="checkbox"/>	
	Fruits?	FRUITS..... <input type="checkbox"/>		FRUITS..... <input type="checkbox"/>	
	Any other solid or mushy food?	SOLID/MUSHY FOOD..... <input type="checkbox"/>		SOLID/MUSHY FOOD..... <input type="checkbox"/>	
452	—————>	GO BACK TO 403 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 453		GO TO 453	

SECTION 4B. IMMUNIZATION AND HEALTH

453 ENTER THE LINE NUMBER AND NAME OF LAST TWO BIRTHS SINCE JANUARY 1995 IN THE TABLE. ASK THE QUESTIONS ABOUT THESE TWO BIRTHS. BEGIN WITH THE LAST BIRTH. (IF THERE ARE MORE THAN 2 BIRTHS, RECORD ONLY LAST TWO BIRTHS.)

LINE NUMBER FROM Q. 212	LAST BIRTH	NEXT-TO-LAST BIRTH
FROM Q. 212 AND Q. 216	NAME ALIVE <input type="checkbox"/> DEAD <input type="checkbox"/> ↓ (GO TO NEXT COLUMN, OR IF NO MORE BIRTHS, GO TO 481)	NAME ALIVE <input type="checkbox"/> DEAD <input type="checkbox"/> ↓ (GO TO 481)

454 Do you have a card where (NAME'S) vaccinations are written down? IF YES: May I see it, please?	YES, SEEN.....1- (SKIP TO 456) <----- YES, NOT SEEN.....2- (SKIP TO 458) <----- NO CARD.....3	YES, SEEN.....1- (SKIP TO 456) <----- YES, NOT SEEN.....2- (SKIP TO 458) <----- NO CARD.....3
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455 Did you ever have a vaccination card for (NAME)?	YES.....1- (SKIP TO 458) <----- NO.....2-	YES.....1- (SKIP TO 458) <----- NO.....2-
---	---	---

456 (1) COPY VACCINATION DATES FOR EACH VACCINE FROM THE CARD. (2) WRITE '44' IN 'DAY' COLUMN IF CARD SHOWS THAT A VACCINATION WAS GIVEN, BUT NO DATE IS RECORDED.	<table border="1"> <thead> <tr> <th></th> <th>DAY</th> <th>MO</th> <th>YEAR</th> </tr> </thead> <tbody> <tr><td>BCG</td><td></td><td></td><td></td></tr> <tr><td>P0</td><td></td><td></td><td></td></tr> <tr><td>D1</td><td></td><td></td><td></td></tr> <tr><td>D2</td><td></td><td></td><td></td></tr> <tr><td>D3</td><td></td><td></td><td></td></tr> <tr><td>P1</td><td></td><td></td><td></td></tr> <tr><td>P2</td><td></td><td></td><td></td></tr> <tr><td>P3</td><td></td><td></td><td></td></tr> <tr><td>MEA</td><td></td><td></td><td></td></tr> </tbody> </table>		DAY	MO	YEAR	BCG				P0				D1				D2				D3				P1				P2				P3				MEA				<table border="1"> <thead> <tr> <th></th> <th>DAY</th> <th>MO</th> <th>YEAR</th> </tr> </thead> <tbody> <tr><td>BCG</td><td></td><td></td><td></td></tr> <tr><td>P0</td><td></td><td></td><td></td></tr> <tr><td>D1</td><td></td><td></td><td></td></tr> <tr><td>D2</td><td></td><td></td><td></td></tr> <tr><td>D3</td><td></td><td></td><td></td></tr> <tr><td>P1</td><td></td><td></td><td></td></tr> <tr><td>P2</td><td></td><td></td><td></td></tr> <tr><td>P3</td><td></td><td></td><td></td></tr> <tr><td>MEA</td><td></td><td></td><td></td></tr> </tbody> </table>		DAY	MO	YEAR	BCG				P0				D1				D2				D3				P1				P2				P3				MEA			
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457 Has (NAME) received any vaccinations that are not recorded on this card? RECORD 'YES' ONLY IF RESPONDENT MENTIONS BCG, DPT 1-3, POLIO 0-3 AND/OR MEASLES VACCINE(S).	YES.....1 (PROBE FOR VACCINATIONS AND WRITE '66' IN THE CORRESPONDING DAY COLUMN IN 456) <----- (SKIP TO 460) <----- NO.....2- DK.....8- (SKIP TO 460) <-----	YES.....1 (PROBE FOR VACCINATIONS AND WRITE '66' IN THE CORRESPONDING DAY COLUMN IN 456) <----- (SKIP TO 460) <----- NO.....2- DK.....8- (SKIP TO 460) <-----
--	--	--

		LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____
458	Did (NAME) ever receive any vaccinations to prevent him/her from getting diseases?	YES.....1 NO.....2 (SKIP TO 462) <----- DK.....8	YES.....1 NO.....2 (SKIP TO 462) <----- DK.....8
459	Please tell me if (NAME) has received any of the following vaccinations:		
459A	A BCG vaccination against tuberculosis, that is, an injection in the left shoulder that caused a scar?	YES.....1 NO.....2 DK.....8	YES.....1 NO.....2 DK.....8
459B	A DPT vaccination against diphtheria, whooping cough, and tetanus given as an injection?	YES.....1 NO.....2 (SKIP TO 459D) <----- DK.....8	YES.....1 NO.....2 (SKIP TO 459D) <----- DK.....8
459C	How many times?	NUMBER OF TIMES..... <input type="checkbox"/>	NUMBER OF TIMES..... <input type="checkbox"/>
459D	Polio vaccine, that is, drops in the mouth?	YES.....1 NO.....2 (SKIP TO 459G) <----- DK.....8	YES.....1 NO.....2 (SKIP TO 459G) <----- DK.....8
459E	How many times?	NUMBER OF TIMES..... <input type="checkbox"/>	NUMBER OF TIMES..... <input type="checkbox"/>
459F	When was the first polio vaccine given -- just after birth or later?	JUST AFTER BIRTH.....1 LATER.....2	JUST AFTER BIRTH.....1 LATER.....2
459G	An injection against measles?	YES.....1 NO.....2 (SKIP TO 461) <----- DK.....8	YES.....1 NO.....2 (SKIP TO 461) <----- DK.....8
460	CHECK 456: ANY VACCINATIONS RECEIVED?	YES <input type="checkbox"/> NO <input type="checkbox"/> (SKIP TO 462) <----- v	YES <input type="checkbox"/> NO <input type="checkbox"/> (SKIP TO 462) <----- v

		LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____
461	Where did (NAME) receive most of his/her vaccinations?	PUBLIC MEDICAL SECTOR GOVT./MUNICIPAL HOSP.....11 GOVT. DISPENSARY.....12 UHC/UHF/UFWC.....13 CHC/RURAL HOSP./PHC.....14 SUB-CENTRE.....15 GOVT. MOBILE CLINIC.....16 CAMP.....17 PULSE POLIO LOCATION...18 OTHER PUBLIC SECTOR HEALTH FACILITY.....19 NGO/TRUST HOSP./CLINIC...21 PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC...31 PVT. DOCTOR.....32 PVT. MOBILE CLINIC.....33 VAIDYA/HAKIM/HOMEOPATH..34 PHARMACY/DRUGSTORE.....35 OTHER PRIVATE SECTOR HEALTH FACILITY.....36 OTHER _____ 96 (SPECIFY)	PUBLIC MEDICAL SECTOR GOVT./MUNICIPAL HOSP.....11 GOVT. DISPENSARY.....12 UHC/UHF/UFWC.....13 CHC/RURAL HOSP./PHC.....14 SUB-CENTRE.....15 GOVT. MOBILE CLINIC.....16 CAMP.....17 PULSE POLIO LOCATION...18 OTHER PUBLIC SECTOR HEALTH FACILITY.....19 NGO/TRUST HOSP./CLINIC...21 PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC...31 PVT. DOCTOR.....32 PVT. MOBILE CLINIC.....33 VAIDYA/HAKIM/HOMEOPATH..34 PHARMACY/DRUGSTORE.....35 OTHER PRIVATE SECTOR HEALTH FACILITY.....36 OTHER _____ 96 (SPECIFY)
462	Was a dose of vitamin A liquid or capsule ever given to (NAME) to protect him/her from night blindness (USE LOCAL TERM)?	YES.....1 NO.....2 (SKIP TO 464) <-----> DK.....8	YES.....1 NO.....2 (SKIP TO 464) <-----> DK.....8
463	How many months ago did (NAME) receive the last dose of Vitamin A?	MONTHS AGO..... <input type="text"/> <input type="text"/>	MONTHS AGO..... <input type="text"/> <input type="text"/>
464	Has (NAME) been ill with a fever at any time in the last 2 weeks?	YES.....1 NO.....2 DK.....8	YES.....1 NO.....2 DK.....8
465	Has (NAME) been ill with a cough at any time in the last 2 weeks?	YES.....1 NO.....2 (SKIP TO 469) <-----> DK.....8	YES.....1 NO.....2 (SKIP TO 469) <-----> DK.....8
466	When (NAME) was ill with a cough, did he/she breathe faster than usual with short, rapid breaths?	YES.....1 NO.....2 DK.....8	YES.....1 NO.....2 DK.....8
467	Did you seek advice or treatment for the cough?	YES.....1 NO.....2 (SKIP TO 469) <----->	YES.....1 NO.....2 (SKIP TO 469) <----->

	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	
468	<p>Where did you seek advice or treatment?</p> <p>Anywhere else?</p> <p>RECORD ALL MENTIONED.</p>	<p>PUBLIC MEDICAL SECTOR GOVT./MUNICIPAL HOSP.....A GOVT. DISPENSARY.....B UHC/UHP/UFWC.....C CHC/RURAL HOSP./PHC.....D SUB-CENTRE.....E GOVT. MOBILE CLINIC.....F GOVT. PARAMEDIC.....G CAMP.....H OTHER PUBLIC SECTOR HEALTH FACILITY.....I NGO/TRUST HOSP./CLINIC....J NGO WORKER.....K PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC.....L PVT. DOCTOR.....M PVT. MOBILE CLINIC.....N PVT. PARAMEDIC.....O VAIDYA/HAKIM/HOMEOPATH...P TRADITIONAL HEALER.....Q PHARMACY/DRUGSTORE.....R OTHER PRIVATE SECTOR HEALTH FACILITY.....S OTHER SOURCE SHOP.....T FRIEND/RELATIVE.....U OTHER _____ X (SPECIFY)</p>	<p>PUBLIC MEDICAL SECTOR GOVT./MUNICIPAL HOSP.....A GOVT. DISPENSARY.....B UHC/UHP/UFWC.....C CHC/RURAL HOSP./PHC.....D SUB-CENTRE.....E GOVT. MOBILE CLINIC.....F GOVT. PARAMEDIC.....G CAMP.....H OTHER PUBLIC SECTOR HEALTH FACILITY.....I NGO/TRUST HOSP./CLINIC....J NGO WORKER.....K PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC.....L PVT. DOCTOR.....M PVT. MOBILE CLINIC.....N PVT. PARAMEDIC.....O VAIDYA/HAKIM/HOMEOPATH...P TRADITIONAL HEALER.....Q PHARMACY/DRUGSTORE.....R OTHER PRIVATE SECTOR HEALTH FACILITY.....S OTHER SOURCE SHOP.....T FRIEND/RELATIVE.....U OTHER _____ X (SPECIFY)</p>
469	<p>Has (NAME) had diarrhoea in the last two weeks?</p>	<p>YES.....1 NO.....2] (SKIP TO 480) <----- DK.....8]</p>	<p>YES.....1 NO.....2] (SKIP TO 480) <----- DK.....8]</p>
470	<p>Was there any blood in the stools?</p>	<p>YES.....1 NO.....2</p>	<p>YES.....1 NO.....2</p>
471	<p>(Including breast milk) Was he/she given the same amount to drink as before the diarrhoea, or more, or less?</p>	<p>SAME.....1 MORE.....2 LESS.....3 DK.....8</p>	<p>SAME.....1 MORE.....2 LESS.....3 DK.....8</p>
472	<p>Was he/she given the same amount of food as before the diarrhoea, or more, or less?</p>	<p>SAME.....1 MORE.....2 LESS.....3 STOPPED COMPLETELY.....4 DK.....8</p>	<p>SAME.....1 MORE.....2 LESS.....3 STOPPED COMPLETELY.....4 DK.....8</p>
473	<p>Did you seek advice or treatment for the diarrhoea?</p>	<p>YES.....1 NO.....2] (SKIP TO 475) <-----</p>	<p>YES.....1 NO.....2] (SKIP TO 475) <-----</p>

	NAME	LAST BIRTH	NAME	NEXT-TO-LAST BIRTH
474	Where did you seek advice or treatment? Anywhere else? RECORD ALL MENTIONED.	PUBLIC MEDICAL SECTOR GOVT./MUNICIPAL HOSP.....A GOVT. DISPENSARY.....B UHC/UHP/UFWC.....C CHC/RURAL HOSP./PHC.....D SUB-CENTRE.....E GOVT. MOBILE CLINIC.....F GOVT. PARAMEDIC.....G CAMP.....H OTHER PUBLIC SECTOR HEALTH FACILITY.....I NGO/TRUST HOSP./CLINIC...J NGO WORKER.....K PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC....L PVT. DOCTOR.....M PVT. MOBILE CLINIC.....N PVT. PARAMEDIC.....O VAIDYA/HAKIM/HOMEOPATH...P TRADITIONAL HEALER.....Q PHARMACY/DRUGSTORE.....R OTHER PRIVATE SECTOR HEALTH FACILITY.....S OTHER SOURCE SHOP.....T FRIEND/RELATIVE.....U OTHER _____ X (SPECIFY)	PUBLIC MEDICAL SECTOR GOVT./MUNICIPAL HOSP.....A GOVT. DISPENSARY.....B UHC/UHP/UFWC.....C CHC/RURAL HOSP./PHC.....D SUB-CENTRE.....E GOVT. MOBILE CLINIC.....F GOVT. PARAMEDIC.....G CAMP.....H OTHER PUBLIC SECTOR HEALTH FACILITY.....I NGO/TRUST HOSP./CLINIC...J NGO WORKER.....K PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC....L PVT. DOCTOR.....M PVT. MOBILE CLINIC.....N PVT. PARAMEDIC.....O VAIDYA/HAKIM/HOMEOPATH...P TRADITIONAL HEALER.....Q PHARMACY/DRUGSTORE.....R OTHER PRIVATE SECTOR HEALTH FACILITY.....S OTHER SOURCE SHOP.....T FRIEND/RELATIVE.....U OTHER _____ X (SPECIFY)	
475	When (NAME) had diarrhoea, was he/she given any of the following to drink: A fluid made from a special packet called [LOCAL NAME]? Gruel made from rice [OR OTHER LOCAL GRAIN, TUBER, OR PLANTAIN]?	YES NO DK FLUID FROM ORS PACKET..... 1 2 8 GRUEL..... 1 2 8	YES NO DK FLUID FROM ORS PACKET..... 1 2 8 GRUEL..... 1 2 8	
476	CHECK 475: FLUID FROM ORS PACKET GIVEN?	YES <input type="checkbox"/> NO OR DK <input type="checkbox"/> ↓ (SKIP TO 478)	YES <input type="checkbox"/> NO OR DK <input type="checkbox"/> ↓ (SKIP TO 478)	

	NAME	LAST BIRTH	NAME	NEXT-TO-LAST BIRTH
477	Where did you obtain the ORS packet?	PUBLIC MEDICAL SECTOR GOVT./MUNICIPAL HOSP....11 GOVT. DISPENSARY.....12 UHC/UHP/UFWC.....13 CHC/RURAL HOSP./PHC.....14 SUB-CENTRE.....15 GOVT. MOBILE CLINIC.....16 GOVT. PARAMEDIC.....17 OTHER PUBLIC SECTOR HEALTH FACILITY.....18 NGO/TRUST HOSP./CLINIC...21 NGO WORKER.....22 PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC....31 PVT. DOCTOR.....32 PVT. MOBILE CLINIC.....33 PVT. PARAMEDIC.....35 VAIDYA/HAKIM/HOMEOPATH..34 PHARMACY/DRUGSTORE.....36 DAI (TBA).....37 OTHER PRIVATE SECTOR HEALTH FACILITY.....38 OTHER SOURCE SHOP.....41 HUSBAND.....42 FRIEND/OTHER RELATIVE...43 OTHER _____ 96 (SPECIFY)	PUBLIC MEDICAL SECTOR GOVT./MUNICIPAL HOSP....11 GOVT. DISPENSARY.....12 UHC/UHP/UFWC.....13 CHC/RURAL HOSP./PHC.....14 SUB-CENTRE.....15 GOVT. MOBILE CLINIC.....16 GOVT. PARAMEDIC.....17 OTHER PUBLIC SECTOR HEALTH FACILITY.....18 NGO/TRUST HOSP./CLINIC...21 NGO WORKER.....22 PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC....31 PVT. DOCTOR.....32 PVT. MOBILE CLINIC.....33 PVT. PARAMEDIC.....35 VAIDYA/HAKIM/HOMEOPATH..34 PHARMACY/DRUGSTORE.....36 DAI (TBA).....37 OTHER PRIVATE SECTOR HEALTH FACILITY.....38 OTHER SOURCE SHOP.....41 HUSBAND.....42 FRIEND/OTHER RELATIVE...43 OTHER _____ 96 (SPECIFY)	
478	Was anything (else) given to treat the diarrhoea?	YES.....1 NO.....2 (SKIP TO 480) <----- DK.....8	YES.....1 NO.....2 (SKIP TO 480) <----- DK.....8	
479	What was given to treat the diarrhoea? Anything else? RECORD ALL MENTIONED.	PILL OR SYRUP.....A INJECTION.....B INTRAVENOUS (I.V./DRIP/ BOTTLE).....C HOMEMADE SUGAR-SALT- WATER SOLUTION.....D HOME REMEDY/ HERBAL MEDICINE.....E OTHER _____ X (SPECIFY)	PILL OR SYRUP.....A INJECTION.....B INTRAVENOUS (I.V./DRIP/ BOTTLE).....C HOMEMADE SUGAR-SALT- WATER SOLUTION.....D HOME REMEDY/ HERBAL MEDICINE.....E OTHER _____ X (SPECIFY)	
480	—————>	GO BACK TO 454 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 481	GO TO 481	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
486	<p>Now I would like to ask you about some health symptoms you yourself may have.</p> <p>During the past three months, have you had any of the following problems with your vaginal discharge:</p> <p>Any itching or irritation in vaginal area with the discharge?</p> <p>A bad odour along with the discharge?</p> <p>Severe lower abdominal pain with the discharge, not related with menstruation?</p> <p>A fever along with the discharge?</p> <p>Any other problem with the discharge?</p>	<p>YES NO</p> <p>ITCHING/IRRITATION... 1 2</p> <p>BAD ODOUR..... 1 2</p> <p>ABDOMINAL PAIN..... 1 2</p> <p>FEVER..... 1 2</p> <p>OTHER PROBLEM..... 1 2</p>	
487	<p>During the past three months have you had a problem with pain or burning while urinating, or have you had more frequent or difficult urination?</p>	<p>YES.....1</p> <p>NO.....2</p>	
488	<p>CHECK 107:</p> <p>CURRENTLY MARRIED <input type="checkbox"/> SEPARATED <input type="checkbox"/></p> <p>DESERTED <input type="checkbox"/></p> <p>DIVORCED <input type="checkbox"/></p> <p>WIDOWED <input type="checkbox"/></p> <p style="text-align: center;">v</p>		>491
489	<p>Another problem some women have is feeling pain in their abdomen or vagina during intercourse. Do you often experience this kind of pain?</p>	<p>YES.....1</p> <p>NO.....2</p>	
490	<p>Do you ever see blood after having sex, at times when you are not menstruating?</p>	<p>YES.....1</p> <p>NO.....2</p>	
491	<p>CHECK 486, 487, 489 and 490: YES TO ANY <input type="checkbox"/> OTHER <input type="checkbox"/></p> <p style="text-align: center;">v</p>		>501
492	<p>Have you seen anyone for advice or treatment to help you with (this problem/these problems)?</p> <p>IF YES, ASK:</p> <p>Whom did you see?</p> <p>Anyone else?</p> <p>RECORD ALL PERSONS SEEN.</p>	<p>PUBLIC MEDICAL SECTOR</p> <p>GOVT. DOCTOR.....A</p> <p>PUBLIC HEALTH NURSE.....B</p> <p>ANM/LHV.....C</p> <p>MALE MPW/SUPERVISOR.....D</p> <p>ANGANWADI WORKER.....E</p> <p>VILLAGE HEALTH GUIDE.....F</p> <p>OTHER PUBLIC SECTOR</p> <p>HEALTH WORKER.....G</p> <p>NGO WORKER.....H</p> <p>PRIVATE MEDICAL SECTOR</p> <p>PRIVATE DOCTOR.....I</p> <p>PRIVATE NURSE.....J</p> <p>COMPOUNDER/PHARMACIST.....K</p> <p>VAID/HAKIM/HOMEOPATH.....L</p> <p>DAI (TBA).....M</p> <p>TRADITIONAL HEALER.....N</p> <p>OTHER PRIVATE SECTOR</p> <p>HEALTH WORKER.....O</p> <p>OTHER.....X</p> <p>(SPECIFY)</p> <p>NO, NOBODY SEEN.....Y</p>	

SECTION 5A. FERTILITY PREFERENCES

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
501	CHECK 107: CURRENTLY MARRIED <input type="checkbox"/> ↓ SEPARATED <input type="checkbox"/> DESERTED DIVORCED WIDOWED	<input type="checkbox"/> → 507	
502	CHECK 327/327A: NEITHER STERILIZED <input type="checkbox"/> ↓ HE OR SHE STERILIZED <input type="checkbox"/>	<input type="checkbox"/> → 507	
503	CHECK 230: NOT PREGNANT OR UNSURE <input type="checkbox"/> ↓ PREGNANT <input type="checkbox"/> ↓ Now I have some questions about the future. Would you like to have (a/another) child or would you prefer not to have any (more) children?	PREGNANT <input type="checkbox"/> ↓ Now I have some questions about the future. After the child you are expecting, would you like to have another child or would you prefer not to have any more children?	HAVE A (ANOTHER) CHILD.....1 NO MORE/NONE.....2 → 506 SAYS SHE CAN'T GET PREGNANT.....3 → 507 UP TO GOD.....4 → 506 UNDECIDED/DK.....8
504	Would you prefer your next child to be a boy or a girl or doesn't it matter?	BOY.....1 GIRL.....2 DOESN'T MATTER.....3 UP TO GOD.....4	
505	CHECK 230: NOT PREGNANT OR UNSURE <input type="checkbox"/> ↓ PREGNANT <input type="checkbox"/> ↓ How long would you like to wait from now before the birth of (a/another) child?	PREGNANT <input type="checkbox"/> ↓ How long would you like to wait after the birth of the child you are expecting before the birth of another child?	MONTHS.....1 <input type="checkbox"/> YEARS.....2 <input type="checkbox"/> SOON/NOW.....993 SAYS SHE CAN'T GET PREGNANT...994 → 507 OTHER.....996 (SPECIFY) DK.....998

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
506	<p>CHECK 230:</p> <p>NOT PREGNANT OR UNSURE <input type="checkbox"/> PREGNANT <input type="checkbox"/></p> <p>v _____ v _____</p> <p>Do you think your husband would like to have (a/another) child or do you think he would prefer not have any (more) children? After the child you are expecting, do you think your husband would like to have another child or do you think he would prefer not have any more children?</p>	<p>HAVE A (ANOTHER) CHILD.....1 NO MORE/NONE.....2 UP TO GOD.....3 UNDECIDED.....4 DK.....8</p>	
507	<p>CHECK 216:</p> <p>HAS LIVING CHILD(REN) <input type="checkbox"/> NO LIVING CHILDREN <input type="checkbox"/></p> <p>v _____ v _____</p> <p>If you could go back to the time you did not have any children and could choose exactly the number of children to have in your whole life, how many would that be? If you could choose exactly the number of children to have in your whole life, how many would that be?</p> <p>RECORD SINGLE NUMBER OR OTHER ANSWER.</p>	<p>NUMBER..... <input type="text"/> <input type="text"/></p> <p>OTHER ANSWER _____ 96 → 509 (SPECIFY)</p>	
508	<p>How many of these children would you like to be boys, how many would you like to be girls, and for how many would the sex not matter?</p>	<p>BOYS GIRLS EITHER</p> <p>NUMBER... <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/></p> <p>OTHER _____ 999996 (SPECIFY)</p>	
509	<p>In your opinion, how much education should be given to <u>girls</u> these days?</p>	<p>NO EDUCATION.....01 LESS THAN PRIMARY.....02 PRIMARY.....03 MIDDLE.....04 HIGH SCHOOL.....05 HIGHER SECONDARY.....06 GRADUATE AND ABOVE.....07 PROFESSIONAL DEGREE.....08 AS MUCH AS SHE DESIRES.....09 DEPENDS.....10 DK.....98</p>	
510	<p>In your opinion, how much education should be given to <u>boys</u> these days?</p>	<p>NO EDUCATION.....01 LESS THAN PRIMARY.....02 PRIMARY.....03 MIDDLE.....04 HIGH SCHOOL.....05 HIGHER SECONDARY.....06 GRADUATE AND ABOVE.....07 PROFESSIONAL DEGREE.....08 AS MUCH AS HE DESIRES.....09 DEPENDS.....10 DK.....98</p>	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
516	<p>Who has beaten you or mistreated you physically?</p> <p>Anyone else?</p> <p>RECORD ALL PERSONS MENTIONED.</p>	MOTHER.....A FATHER.....B STEP MOTHER.....C STEP FATHER.....D SON.....E DAUGHTER.....F BROTHER/SISTER.....G BOYFRIEND.....H HUSBAND.....I EX-HUSBAND.....J SON-IN-LAW.....K DAUGHTER-IN-LAW.....L MOTHER-IN-LAW.....M FATHER-IN-LAW.....N BROTHER-IN-LAW.....O SISTER-IN-LAW.....P OTHER RELATIVE.....Q FRIEND/ACQUAINTANCE.....R TEACHER.....S EMPLOYER.....T STRANGER.....U OTHER _____ X (SPECIFY)	
517	<p>How often have you been beaten or mistreated physically in the last 12 months: once, a few times, many times, or not at all?</p>	ONCE.....1 A FEW TIMES.....2 MANY TIMES.....3 NOT BEATEN.....4	

SECTION 6. HUSBAND'S BACKGROUND AND WOMAN'S WORK

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
601	CHECK 107: CURRENTLY MARRIED <input type="checkbox"/> SEPARATED <input type="checkbox"/> DESERTED <input type="checkbox"/> DIVORCED <input type="checkbox"/> WIDOWED <input type="checkbox"/>		→603
602	How old was your husband on his last birthday?	AGE IN COMPLETED YEARS..... <input type="text"/>	
603	Did your (last) husband ever attend school?	YES.....1 NO.....2	→606
604	What is the highest grade he completed?	GRADE..... <input type="text"/>	
605	CHECK 604: GRADE 0-5 <input type="checkbox"/> GRADE 6 AND ABOVE <input type="checkbox"/>		→607
606	(Can/Could) he read and write?	YES.....1 NO.....2	
607	What kind of work (does/did) your (last) husband mainly do?	<input type="text"/> <input type="text"/> <input type="text"/>	
608	CHECK 607: WORKS (WORKED) ON FARM <input type="checkbox"/> DOES (DID) NOT WORK ON FARM <input type="checkbox"/>		→610
609	(Does/did) your husband work mainly on his own land or family land, or (does/did) he rent land, or (does/did) he work on someone else's land?	HIS LAND.....1 FAMILY LAND.....2 RENTED LAND.....3 SOMEONE ELSE'S LAND.....4	
610	Aside from your own housework, are you currently working?	YES.....1 NO.....2	→613
611	As you know, some women take up jobs for which they are paid in cash or kind. Others sell things, have a small business or work on the family farm or in the family business. Are you currently doing any of these things or any other work?	YES.....1 NO.....2	→613

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
612	Have you done any work in the last 12 months?	YES.....1 NO.....2	→701
613	What is your occupation, that is, what kind of work do/did you mainly do?	<div style="border: 1px solid black; width: 100px; height: 20px; margin-bottom: 5px;"></div> <div style="border: 1px solid black; width: 100px; height: 20px; margin-bottom: 5px;"></div> <div style="border: 1px solid black; width: 100px; height: 20px;"></div>	
614	Do you do this work for your family's farm or business, for someone else, or are you self-employed?	FAMILY FARM/BUSINESS.....1 SOMEONE ELSE.....2 SELF-EMPLOYED.....3	
615	Do you usually work throughout the year, or do you work seasonally, or only once in a while?	THROUGHOUT THE YEAR.....1 SEASONALLY/PART OF THE YEAR.....2 ONCE IN A WHILE.....3	
616	Are you paid in cash or kind for this work, or are you not paid at all?	CASH ONLY.....1 CASH AND KIND.....2 KIND ONLY.....3 NOT PAID.....4	→619
617	Generally, how much do your earnings contribute to the total family earnings: almost none, less than half, about half, more than half, or all?	ALMOST NONE.....1 LESS THAN HALF.....2 ABOUT HALF.....3 MORE THAN HALF.....4 ALL.....5	
618	Who mainly decides how the money you earn will be used?	RESPONDENT DECIDES.....1 HUSBAND DECIDES.....2 JOINTLY WITH HUSBAND.....3 SOMEONE ELSE DECIDES.....4 JOINTLY WITH SOMEONE ELSE.....5	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
619	Do you usually work at home or away from home?	HOME.....1 AWAY.....2	→701
620	CHECK 215/218: HAS CHILD BORN SINCE JAN. 1995 AND LIVING AT HOME?	YES <input type="checkbox"/> NO <input type="checkbox"/>	→701
621	While you are working, do you usually have (NAME OF YOUNGEST CHILD AT HOME) with you, sometimes have him/her with you, or never have him/her with you?	USUALLY.....1 SOMETIMES.....2 NEVER.....3	→701
622	Who usually takes care of (NAME OF YOUNGEST CHILD AT HOME) while you are working?	HUSBAND.....01 OLDER BOYS.....02 OLDER GIRLS.....03 OTHER RELATIVES.....04 NEIGHBOURS.....05 FRIENDS.....06 SERVANTS/HIRED HELP.....07 CHILD IS IN SCHOOL.....08 INSTITUTIONAL CHILDCARE.....09 OTHER.....96 (SPECIFY)	

SECTION 7 - AIDS

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	TO																		
701	Have you ever heard of an illness called AIDS?	YES.....1 NO.....2	→705																		
702	From which sources of information have you learned about AIDS? Any other source? RECORD ALL MENTIONED.	RADIO.....A TELEVISION.....B CINEMA.....C NEWSPAPERS/MAGAZINES.....D POSTERS/BOARDS.....E EXHIBITION/MELA.....F HEALTH WORKERS.....G ADULT EDUCATION PROGRAMME.....H RELIGIOUS LEADERS.....I POLITICAL LEADERS.....J SCHOOLS/TEACHERS.....K COMMUNITY MEETINGS.....L FRIENDS/RELATIVES.....M WORK PLACE.....N OTHER _____ X (SPECIFY)																			
703	Is there anything a person can do to avoid getting AIDS?	YES.....1 NO.....2 DK.....8	→705																		
704	What can a person do? Any other ways? RECORD ALL MENTIONED.	ABSTAIN FROM SEX.....A USE CONDOMS.....B HAVE ONLY ONE SEX PARTNER.....C AVOID SEX WITH COMMERCIAL SEX WORKERS.....D AVOID SEX WITH HOMOSEXUALS.....E AVOID BLOOD TRANSFUSIONS.....F AVOID INJECTIONS/USE CLEAN NEEDLES.....G AVOID I.V. DRUG USE.....H AVOID KISSING.....I AVOID HUGGING.....J AVOID HAND SHAKING.....K AVOID SHARING CLOTHES.....L AVOID SHARING UTENSILS.....M AVOID SHARING SHAVING KITS/RAZORS.....N AVOID STEPPING ON URINE/STOOL...O AVOID MOSQUITO BITES.....P OTHER _____ X (SPECIFY) DK.....Z																			
705	RECORD THE TIME	HOUR..... <table border="1"> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </table> MINUTES..... <table border="1"> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </table>																			
706	PRESENCE OF OTHERS DURING MOST OF THE INTERVIEW TIME.	<table border="1"> <thead> <tr> <th></th> <th>YES</th> <th>NO</th> </tr> </thead> <tbody> <tr> <td>CHILDREN UNDER 10.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>HUSBAND.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>MOTHER-IN-LAW.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>OTHER MALES.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>OTHER FEMALES.....</td> <td>1</td> <td>2</td> </tr> </tbody> </table>		YES	NO	CHILDREN UNDER 10.....	1	2	HUSBAND.....	1	2	MOTHER-IN-LAW.....	1	2	OTHER MALES.....	1	2	OTHER FEMALES.....	1	2	
	YES	NO																			
CHILDREN UNDER 10.....	1	2																			
HUSBAND.....	1	2																			
MOTHER-IN-LAW.....	1	2																			
OTHER MALES.....	1	2																			
OTHER FEMALES.....	1	2																			

HEALTH INVESTIGATOR VISITS												
	1	2	3	FINAL VISIT								
DATE	_____	_____	_____	DAY <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr></table>								
				MONTH <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr></table>								
				YEAR <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>1</td><td>9</td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td></tr></table>	1	9						
1	9											
INVESTIGATOR'S NAME	_____	_____	_____	NAME CODE <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr></table>								
RESULT*	_____	_____	_____	RESULT CODE <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr></table>								
NEXT VISIT: DATE TIME	_____ _____	_____ _____		TOTAL NUMBER OF VISITS <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td> </td></tr></table>								
<p>*RESULT CODES:</p> <p>1 COMPLETED 3 POSTPONED 5 PARTLY COMPLETED</p> <p>2 NOT AT HOME 4 REFUSED 6 OTHER (SPECIFY) _____</p>												

SECTION 8: HEIGHT AND WEIGHT

INTERVIEWER: IN 801 (COLUMNS 2-3) RECORD THE LINE NUMBER FOR EACH CHILD BORN SINCE JANUARY 1995 AND STILL ALIVE. IN 802 AND 803 RECORD THE NAME OF THE RESPONDENT AND ALL HER LIVING CHILDREN BORN SINCE JANUARY 1995, AND THE DATE OF BIRTH OF THE CHILDREN. IN 804 AND 806 RECORD THE HEIGHT AND WEIGHT OF THE RESPONDENT AND LIVING CHILDREN.

(NOTE: IF THERE ARE MORE THAN 2 LIVING CHILDREN BORN SINCE JANUARY 1995, CHECK BOX AND USE ADDITIONAL QUESTIONNAIRE)

	1 RESPONDENT	2 YOUNGEST LIVING CHILD	3 NEXT-TO-YOUNGEST LIVING CHILD
801 LINE NO. FROM Q.212	<input type="text"/>	<input type="text"/>	<input type="text"/>
802 NAME FROM Q.212 FOR CHILDREN	(NAME) _____	(NAME) _____	(NAME) _____
803 DATE OF BIRTH FROM Q.215 FOR CHILDREN, COPY MONTH AND YEAR OF BIRTH AND ASK FOR DAY OF BIRTH	DAY..... MONTH..... YEAR. <input type="text"/>	DAY..... MONTH..... YEAR. <input type="text"/>	DAY..... MONTH..... YEAR. <input type="text"/>
804 HEIGHT (in centimetres)	<input type="text"/>	<input type="text"/>	<input type="text"/>
805 WAS HEIGHT/LENGTH OF CHILD MEASURED LYING DOWN OR STANDING UP?	<input type="text"/>	LYING.....1 STANDING.....2	LYING.....1 STANDING.....2
806 WEIGHT (in kilograms)	<input type="text"/>	<input type="text"/>	<input type="text"/>
807 DATE WEIGHED AND MEASURED	DAY..... MONTH..... YEAR. <input type="text"/>	DAY..... MONTH..... YEAR. <input type="text"/>	DAY..... MONTH..... YEAR. <input type="text"/>
808 RESULT	COMPLETED.....1 NOT PRESENT.....2 REFUSED.....3 OTHER.....6 (SPECIFY) _____	COMPLETED.....1 CHILD SICK.....2 CHILD NOT PRESENT.....3 CHILD DID NOT ALLOW.....4 MOTHER REFUSED.5 OTHER.....6 (SPECIFY) _____	COMPLETED.....1 CHILD SICK.....2 CHILD NOT PRESENT.....3 CHILD DID NOT ALLOW.....4 MOTHER REFUSED.5 OTHER.....6 (SPECIFY) _____
809 NAME OF MEASURER: _____	<input type="text"/>	NAME OF ASSISTANT: _____	<input type="text"/>

SECTION 9. ANAEMIA

901

As a part of this survey, we are studying anaemia among women and children. We request your co-operation in this regard. This will assist the Government of India to develop programmes to prevent and treat anaemia.

Anaemia is a serious health problem in India, which results from poor nutrition. However, if a person is found to have anaemia, the person can be given iron folic tablets to cure the disease.

If you decide to be tested for anaemia, we will request that you give a drop of blood from your finger for the test. [Also, if you have a child under 3 years old, please allow me to take a drop of blood from him/her]. The test uses disposable sterile instruments that are clean and completely safe. The blood will be analyzed with new equipment provided by the United Nations. The result of the test will be given to you right after the blood is taken. The results of this test will be kept confidential and will not be shown to other persons.

May I ask you now to give your consent to have this test done. If you decide not to have the test, it is your right, and we will respect your decision. Now please tell me whether you agree to give a drop of blood [and allow me to take a drop of blood from your child].

AFTER EXPLAINING THE ABOVE, I HAVE FOUND THAT _____ AGREED TO GIVE
(NAME OF RESPONDENT)

A DROP OF BLOOD FOR HERSELF [AND FOR HER CHILD(REN) NAMED _____
] (NAME OF CHILD(REN))

Signature of Interviewer: _____ Date : _____

RESPONDENT AGREES TO TESTING OF HERSELF AND/OR HER CHILD(REN)...1

RESPONDENT DOES NOT AGREE TO TESTING.....2 →END

902

RESPONDENT'S HAEMOGLOBIN LEVEL (G/DL)

□ □ . □

903	RESULT	MEASURED.....1
		REFUSED.....2
		OTHER _____ 6 (SPECIFY)

904	CHECK 215/216:	<input type="checkbox"/> ONE OR MORE LIVING CHILDREN BORN SINCE JANUARY 1995	<input type="checkbox"/> NO LIVING CHILDREN BORN SINCE JANUARY 1995 <input type="checkbox"/> → 910
-----	----------------	--	--

IN 905 RECORD THE LINE NUMBER FOR EACH CHILD BORN SINCE JANUARY 1995 AND STILL ALIVE.
 IN 906 RECORD THE NAMES OF THE LIVING CHILDREN.
 IN 907 RECORD THE HAEMOGLOBIN LEVEL IN THE BLOOD OF THE LIVING CHILDREN.

(NOTE: IF THERE ARE MORE THAN 2 LIVING CHILDREN BORN SINCE JANUARY 1995, CHECK BOX AND USE ADDITIONAL QUESTIONNAIRE)

		YOUNGEST LIVING CHILD	NEXT-TO-YOUNGEST LIVING CHILD
905	LINE NUMBER FROM Q. 212	<input type="text"/>	<input type="text"/>

906	NAME FROM Q.212	NAME _____	NAME _____
-----	-----------------	------------	------------

907	HAEMOGLOBIN LEVEL IN THE BLOOD (G/DL)	<input type="text"/> . <input type="text"/>	<input type="text"/> . <input type="text"/>
-----	---------------------------------------	---	---

908	RESULT	MEASURED.....1	MEASURED.....1
		CHILD SICK.....2	CHILD SICK.....2
		CHILD NOT PRESENT.....3	CHILD NOT PRESENT.....3
		CHILD DID NOT ALLOW.....4	CHILD DID NOT ALLOW.....4
		MOTHER REFUSED.....5	MOTHER REFUSED.....5
		OTHER _____ 6 (SPECIFY)	OTHER _____ 6 (SPECIFY)

909	NAME OF MEASURER	_____ <input type="text"/>
-----	------------------	----------------------------

910	CHECK 902 AND 907:	<input type="checkbox"/> NO VALUES BELOW 7 G/DL <input type="checkbox"/> → GIVE MOTHER RESULT OF HAEMOGLOBIN MEASUREMENT AND END THE INTERVIEW.
		<input type="checkbox"/> ANY VALUE BELOW 7 G/DL FOR MOTHER AND/OR CHILD(REN) <input type="checkbox"/> → GIVE MOTHER RESULT OF HAEMOGLOBIN MEASUREMENT AND CONTINUE WITH 911.

911

CHECK COLUMN (5) OF HOUSEHOLD SCHEDULE:

RESPONDENT IS
USUAL RESIDENT

RESPONDENT IS
VISITOR

↓
V

→END

912

We detected a low level of haemoglobin in your (your child's) blood. This indicates you (your child) have developed severe anaemia, which is a serious health problem. We would like to inform the doctor at _____ about your (your child's) condition. This will assist you to obtain appropriate treatment of your (your child's) condition.

Do you agree that the information about the level of haemoglobin in your (your child's) blood may be given to the doctor.

AFTER EXPLAINING THE ABOVE, I HAVE FOUND THAT _____ AGREED FOR
(NAME OF RESPONDENT)

REFERRAL FOR HERSELF [AND FOR HER CHILD(REN) NAMED _____
] (NAME OF CHILD(REN))

Signature of Interviewer: _____ Date : _____

RESPONDENT AGREES FOR REFERRAL FOR
HERSELF AND/OR HER CHILD(REN)....1

RESPONDENT DOES NOT AGREE
FOR REFERRAL.....2 →END

913

RECORD NAMES OF WOMAN AND CHILD(REN) WITH HAEMOGLOBIN LEVEL LESS THAN 7 G/DL ON REFERRAL FORM.

INTERVIEWER'S OBSERVATIONS
(To be filled in after completing interview)

Comments About Respondent: _____

Comments on Specific Questions: _____

Any Other Comments: _____

SUPERVISOR'S OBSERVATIONS/COMMENTS

*

Name of Supervisor: _____ Date: _____

EDITOR'S OBSERVATIONS/COMMENTS

Name of Editor: _____ Date: _____

NATIONAL FAMILY HEALTH SURVEY, 1998-99 (NFHS-2)

INTERNATIONAL INSTITUTE FOR POPULATION SCIENCES, MUMBAI

RESULTS OF HAEMOGLOBIN MEASUREMENT IN THE BLOOD:

Date: _____

Haemoglobin level in the blood (G/DL)	Woman	Child	Child
	NAME _____ <div style="text-align: center;"> <input type="text"/> <input type="text"/> . <input type="text"/> </div> You have	NAME _____ <div style="text-align: center;"> <input type="text"/> <input type="text"/> . <input type="text"/> </div> Your child has	NAME _____ <div style="text-align: center;"> <input type="text"/> <input type="text"/> . <input type="text"/> </div> Your child has
WHO CLASSIFICATION OF ANAEMIA			
NORMAL LEVEL	HB LEVEL ABOVE 11 G/DL	NORMAL LEVEL	NORMAL LEVEL
MILD ANAEMIA	HB (10-10.9 G/DL)	MILD ANAEMIA	MILD ANAEMIA
MODERATE ANAEMIA	HB (7-9.9 G/DL)	MODERATE ANAEMIA	MODERATE ANAEMIA
SEVERE ANAEMIA	HB (LESS THAN 7 G/DL)	SEVERE ANAEMIA	SEVERE ANAEMIA

In case of severe anaemia (Hb less than 7 G/DL), we recommend that you immediately contact your doctor.

NATIONAL FAMILY HEALTH SURVEY, 1998-99 (NFHS-2)
 VILLAGE QUESTIONNAIRE

CONFIDENTIAL
 For Research
 Purpose only

INDIA

IDENTIFICATION																															
STATE _____	<table border="1" style="width: 100%; height: 100%; border-collapse: collapse;"> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table>																														
DISTRICT _____																															
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VILLAGE _____																															
PSU NUMBER.....																															
TOTAL POPULATION OF THE VILLAGE ACCORDING TO THE 1991 CENSUS.....																															

INTERVIEWER'S NAME _____			
DATE OF INTERVIEW _____	DATE.....		
	MONTH.....		
	YEAR.....		

RESULT:	
BOTH VILLAGE SCHEDULE AND VILLAGE HEAD SCHEDULE COMPLETED.....	1
ONLY VILLAGE SCHEDULE COMPLETED.....	2
OTHER _____	6
(SPECIFY)	

	SUPERVISOR	FIELD EDITOR	OFFICE EDITOR	KEYED BY
DATE				
NAME	_____	_____	_____	_____

VILLAGE SCHEDULE

NO.	QUESTIONS	CODING CATEGORIES						
1	Current population of the village:	<table border="1" style="width: 100px; height: 20px; margin-left: auto; margin-right: auto;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table>						
2	Area of the village (in Hectares):	<table border="1" style="width: 60px; height: 20px; margin-left: auto; margin-right: auto;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table>						
3	Total number of households in the village:	<table border="1" style="width: 60px; height: 20px; margin-left: auto; margin-right: auto;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table>						
4	Total arable land in the village (in Hectares):	IRRIGATED LAND..... <table border="1" style="width: 40px; height: 20px; margin-left: 10px;"> <tr> <td style="width: 15px; height: 20px;"></td> <td style="width: 15px; height: 20px;"></td> </tr> </table> NON-IRRIGATED LAND..... <table border="1" style="width: 40px; height: 20px; margin-left: 10px;"> <tr> <td style="width: 15px; height: 20px;"></td> <td style="width: 15px; height: 20px;"></td> </tr> </table>						
5	Main source of irrigation in the village:	RAIN WATER.....01 TANK/POND.....02 STREAM/RIVER.....03 CANAL.....04 WELL.....05 TUBE WELL.....06 OTHER _____ 96 (SPECIFY)						
6	Major crops grown in the village:	1 _____ <table border="1" style="width: 40px; height: 20px; margin-left: 10px;"> <tr> <td style="width: 15px; height: 20px;"></td> <td style="width: 15px; height: 20px;"></td> </tr> </table> 2 _____ <table border="1" style="width: 40px; height: 20px; margin-left: 10px;"> <tr> <td style="width: 15px; height: 20px;"></td> <td style="width: 15px; height: 20px;"></td> </tr> </table> 3 _____ <table border="1" style="width: 40px; height: 20px; margin-left: 10px;"> <tr> <td style="width: 15px; height: 20px;"></td> <td style="width: 15px; height: 20px;"></td> </tr> </table>						
7	Distance to the nearest town (in kilometres):	<table border="1" style="width: 40px; height: 20px; margin-left: auto; margin-right: auto;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table>						
8	Distance to the District Headquarters (in kilometres):	<table border="1" style="width: 40px; height: 20px; margin-left: auto; margin-right: auto;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table>						
9	Distance to the nearest railway station (in kilometres):	<table border="1" style="width: 40px; height: 20px; margin-left: auto; margin-right: auto;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table>						
10	Distance to available transport service to other place (in kilometres):	<table border="1" style="width: 40px; height: 20px; margin-left: auto; margin-right: auto;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table>						
11	Distance of the village from all-weather road in connection to other place (in kilometres):	<table border="1" style="width: 40px; height: 20px; margin-left: auto; margin-right: auto;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table>						
12	Village Electrification:	NOT ELECTRIFIED..... 1 ELECTRIFIED, BUT IRREGULAR SUPPLY..... 2 ELECTRIFIED AND REGULAR SUPPLY..... 3						

NO.	QUESTIONS	CODING CATEGORIES
13	<p>Educational Facilities:</p> <p>Primary School</p> <p>Middle School</p> <p>Secondary School</p> <p>Higher Secondary School</p> <p>College</p> <p>IF DISTANCE MORE THAN 90 KILOMETRES, RECORD 90; IF FACILITY IS AVAILABLE IN THE VILLAGE, RECORD 95</p>	<p>DISTANCE TO THE NEAREST FACILITY AVAILABLE (IN KILOMETRES):</p> <p>PRIMARY SCHOOL..... <input type="text"/> <input type="text"/></p> <p>MIDDLE SCHOOL..... <input type="text"/> <input type="text"/></p> <p>SECONDARY SCHOOL..... <input type="text"/> <input type="text"/></p> <p>HIGHER SECONDARY SCHOOL..... <input type="text"/> <input type="text"/></p> <p>COLLEGE..... <input type="text"/> <input type="text"/></p>
14	<p>Health Facilities:</p> <p>Sub-Centre</p> <p>Primary Health Centre</p> <p>Community Health Centre/Rural Hospital</p> <p>Government Dispensary</p> <p>Government Hospital</p> <p>Private Clinic</p> <p>Private Hospital</p> <p>IF DISTANCE MORE THAN 90 KILOMETRES, RECORD 90; IF FACILITY IS AVAILABLE IN THE VILLAGE, RECORD 95</p>	<p>DISTANCE TO THE NEAREST FACILITY AVAILABLE (IN KILOMETRES):</p> <p>SUB-CENTRE..... <input type="text"/> <input type="text"/></p> <p>PRIMARY HEALTH CENTRE..... <input type="text"/> <input type="text"/></p> <p>COMMUNITY HEALTH CENTRE/RURAL HOSPITAL..... <input type="text"/> <input type="text"/></p> <p>GOVERNMENT DISPENSARY..... <input type="text"/> <input type="text"/></p> <p>GOVERNMENT HOSPITAL..... <input type="text"/> <input type="text"/></p> <p>PRIVATE CLINIC..... <input type="text"/> <input type="text"/></p> <p>PRIVATE HOSPITAL..... <input type="text"/> <input type="text"/></p>
15	<p>Other facilities:</p> <p>Post Office</p> <p>Telegraph Office</p> <p>STD Booth</p> <p>Bank</p> <p>IF DISTANCE MORE THAN 90 KILOMETRES, RECORD 90; IF FACILITY IS AVAILABLE IN THE VILLAGE, RECORD 95</p>	<p>DISTANCE TO THE NEAREST FACILITY AVAILABLE (IN KILOMETRES):</p> <p>POST OFFICE..... <input type="text"/> <input type="text"/></p> <p>TELEGRAPH OFFICE..... <input type="text"/> <input type="text"/></p> <p>STD BOOTH..... <input type="text"/> <input type="text"/></p> <p>BANK..... <input type="text"/> <input type="text"/></p>

NO.	QUESTIONS	CODING CATEGORIES			
16	Availability of health provider in the village:	YES NO			
	Private doctor	PRIVATE DOCTOR..... 1	2		
	Visiting doctor	VISITING DOCTOR..... 1	2		
	Village health guide (VHG)	VHG..... 1	2		
	Traditional birth attendant (dai)	TBA (DAI)..... 1	2		
	Mobile health unit/visit	MOBILE HEALTH UNIT..... 1	2		
17	Other facilities:	AVAILABLE IN THE VILLAGE			
		YES NO			
	Mills/small scale industries (M/SSI)	M/SSI..... 1	2		
	Credit cooperative society (CCS)	CCS..... 1	2		
	Agricultural cooperative society (ACS)	ACS..... 1	2		
	Fishermen's cooperative society (FCS)	FCS..... 1	2		
	Milk cooperative society (MCS)	MCS..... 1	2		
	Kirana/General Market Shop (K/GMS)	K/GMS..... 1	2		
	Weekly market	WEEKLY MARKET..... 1	2		
	Fair price shop	FAIR PRICE SHOP..... 1	2		
	Paan shop	PAAN SHOP..... 1	2		
	Pharmacy/Medical shop	PHARMACY/MEDICAL SHOP.... 1	2		
	Mahila Mandal	MAHILA MANDAL..... 1	2		
	Youth club	YOUTH CLUB..... 1	2		
	Anganwadi centre	ANGANWADI CENTRE..... 1	2		
	Community centre	COMMUNITY CENTRE..... 1	2		
	Adult education centre	ADULT EDUCATION CENTRE... 1	2		
	Community television set	COMMUNITY TV SET..... 1	2		
	Cable connection	CABLE CONNECTION..... 1	2		
18	Total number of television sets in the village:	<table border="1"> <tr><td> </td><td> </td></tr> </table>			
19	Total number of households having telephone connection:	<table border="1"> <tr><td> </td><td> </td></tr> </table>			
20	The type of drainage facility in the village:	UNDERGROUND DRAINAGE.....1			
		OPEN DRAINAGE.....2			
		NO.....3			

NO.	QUESTIONS	CODING CATEGORIES																		
21	Any epidemic in the village during the last one year:	1. _____ <input type="checkbox"/> <input type="checkbox"/> 2. _____ <input type="checkbox"/> <input type="checkbox"/>																		
22	Number of health or family welfare camps in the last one year?	<input type="checkbox"/> <input type="checkbox"/>																		
23	Any beneficiaries in the village from the following programmes: Integrated Rural Development Programme (IRDP) National Rural Employment Programme (NREP) Training Rural Youth for Self Employment (TRYSEM) Employment Guarantee Scheme (EGS) Development of Women and Children of Rural Areas (DWARCA) Indira Awas Yojana (IAY) Sanjay Gandhi Niradhar Yojana (SGNY)	BENEFICIARIES IRDP..... <input type="checkbox"/> <input type="checkbox"/> NREP..... <input type="checkbox"/> <input type="checkbox"/> TRYSEM..... <input type="checkbox"/> <input type="checkbox"/> EGS..... <input type="checkbox"/> <input type="checkbox"/> DWACRA..... <input type="checkbox"/> <input type="checkbox"/> IAY..... <input type="checkbox"/> <input type="checkbox"/> SGNY..... <input type="checkbox"/> <input type="checkbox"/>																		
24	Community level IEC activities for health and family welfare during the last one year: Film show Exhibition Drama/song/dance performance Puppet show Group meeting	<table border="0"> <thead> <tr> <th></th> <th>YES</th> <th>NO</th> </tr> </thead> <tbody> <tr> <td>FILM SHOW.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>EXHIBITION.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>DRAMA/SONG/DANCE PERFORM.</td> <td>1</td> <td>2</td> </tr> <tr> <td>PUPPET SHOW.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>GROUP MEETING.....</td> <td>1</td> <td>2</td> </tr> </tbody> </table>		YES	NO	FILM SHOW.....	1	2	EXHIBITION.....	1	2	DRAMA/SONG/DANCE PERFORM.	1	2	PUPPET SHOW.....	1	2	GROUP MEETING.....	1	2
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25	Persons providing information for the village schedule: RECORD ALL THE SOURCES.	SARPANCH.....A PATWARI.....B GRAM SEVAK.....C SCHOOL TEACHER.....D HEALTH PERSONNEL.....E OTHERS _____ X (SPECIFY)																		

