MATERNAL HEALTH 8

Maternal and child health has remained an integral part of the Family Welfare Programme of India since the time of the First and Second Five-Year Plans (1951-56 and 1956-61) when the Government of India took steps to strengthen maternal and child health services. 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. 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 (RCH). The National Population Policy adopted by the Government of India in 2000 reiterates the government's commitment to safe motherhood programmes within the wider context of reproductive health (Ministry of Health and Family Welfare, 2000). Several of the national sociodemographic goals for 2010 specified by the policy pertain to safe motherhood. For 2010, the goals are that 80 percent of all deliveries should take place in institutions, 100 percent of deliveries should be attended by trained personnel, and the maternal mortality ratio should be reduced to a level below 100 per 100,000 live births.

To improve the availability of and access to quality health care, especially for those residing in rural areas, the poor, women, and children, the government recently launched the National Rural Health Mission for the 2005-2012 period. One of the important goals of the National Rural Health Mission is to provide access to improved health care at the household level through female Accredited Social Health Activists (ASHA), who act as an interface between the community and the public health system. The ASHA acts as a bridge between the ANM and the village, and she is accountable to the Panchayat. She helps promote referrals for universal immunization, escort services for RCH, construction of household toilets, and other health care delivery programmes (Ministry of Health and Family Welfare, 2006).

An important objective of NFHS-3, like NFHS-1 and NFHS-2, is to provide information on the use of safe motherhood services provided by the public and private sectors. A wide variety of relevant questions on safe motherhood were included in the Women's Questionnaire. A few questions were also asked in the Men's Questionnaire to find out about men's involvement in maternal care. The topics covered include pregnancy complications, antenatal and postnatal care, place of and assistance during delivery, delivery characteristics, and postpartum complications. Unlike NFHS-2 where information on the utilization of maternal services was collected for the last two live births of ever-married women during the three years preceding the survey, NFHS-3 was expanded to include information on all births to women in the last five years. However, in NFHS-3 most of the detailed information on antenatal, delivery, and postnatal care was obtained for only the woman's most recent birth during the five years preceding the survey.

8.1 ANTENATAL CARE

Antenatal care (ANC) refers to pregnancy-related health care, which is usually provided by a doctor, an ANM, or another health professional. 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. In India, the Reproductive and Child Health Programme aims at providing at least three antenatal check-ups which should include a weight and blood pressure check, abdominal examination, immunization against tetanus, iron and folic acid prophylaxis, as well as anaemia management (Ministry of Health and Family Welfare, 2005).

NFHS-3 collected information from women on specific problems they may have had during their pregnancies and whether they saw anyone for antenatal care for their pregnancy. Women who received antenatal care were asked about the care provider, the timing of the first antenatal care visit, the total number of visits, the procedures conducted as part of their antenatal care, and the advice given to them. In addition, the survey asked women whether they received tetanus toxoid injections and iron and folic acid tablets or syrup during the pregnancy. Results from each of these questions are discussed in this chapter. The fathers of children for whom the mother did not receive antenatal care were asked why the mother did not receive antenatal care.

8.1.1 Health Problems during Pregnancy

For the most recent birth in the five years preceding the survey, the mother was asked if at any time during the pregnancy she experienced any of the following pregnancy-related problems: difficulty with vision during daylight, night blindness, convulsions (not from fever), swelling of the legs, body or face, excessive fatigue, or vaginal bleeding. Night blindness, or difficulty in seeing at dusk, is the result of chronic vitamin A deficiency and is often seen in pregnant women in areas where vitamin A deficiency is endemic. Convulsions accompanied by signs of hypertension can be symptomatic of eclampsia, a potentially fatal condition. The potential health risk posed by vaginal bleeding during pregnancy varies by when in the pregnancy the bleeding takes place. Although documenting the prevalence of the symptoms of pregnancy complications is vital for planning services to reduce maternal morbidity and mortality, the information presented here is based on women's self reports and should be interpreted with care.

Table 8.1 Health problems during pregnancy

Among women who had a live birth in the five years preceding the survey, percentage who experienced specific health problems during pregnancy for the most recent live birth, by residence, India, 2005-06

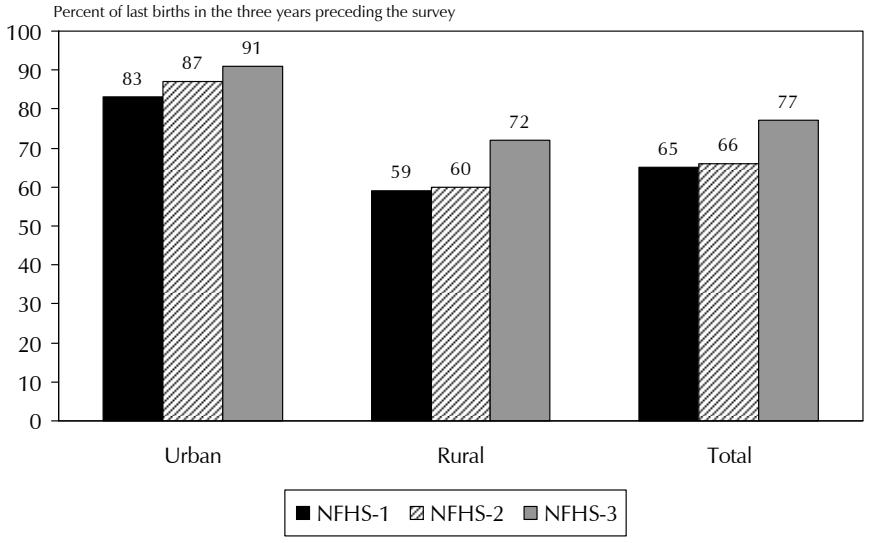
Problem during pregnancy	Urban	Rural	Total
Difficulty with vision during daylight	3.8	7.2	6.3
Night blindness	3.7	10.8	8.9
Convulsions not from fever	7.4	11.3	10.3
Swelling of the legs, body, or face	28.0	24.1	25.1
Excessive fatigue	45.2	48.7	47.8
Vaginal bleeding	5.2	4.1	4.4
Number of women	10,626	29,051	39,677

As shown in Table 8.1, the pregnancy-related health problems most commonly reported are excessive fatigue (48 percent) and swelling of the legs, body, or face (25 percent). Ten percent of mothers had convulsions that were not from fever and 9 percent reported night blindness. Only 4 percent had any vaginal bleeding. The reported prevalence of both kinds of vision problems, convulsions that were not from fever, and excessive fatigue is higher in rural than in urban areas. In contrast, swelling of the legs, body, or face is more prevalent in urban areas.

8.1.2 Antenatal Care Provider

NFHS-3 asked women who had a birth during the five years preceding the survey whether they saw anyone for antenatal care for their most recent birth. Those who received antenatal care were asked whom they saw and where they received antenatal care. Table 8.2 shows the source of antenatal care according to background characteristics. If a woman received care from more than one type of health provider, only the provider with the highest qualification is considered. More than three-quarters of women in India received antenatal care for their most recent birth during the five years preceding the survey. Utilization of antenatal care services for the most recent birth among ever-married women increased substantially over time, from 66 percent in NFHS-2 to 77 percent in NFHS-3 (see Figure 8.1). The rate of increase was higher in rural areas than in urban areas. There was almost no change in antenatal care coverage in either urban or rural areas between NFHS-1 and NFHS-2.

Figure 8.1 **Trends in Any Antenatal Care by Residence**



In NFHS-3, half of women received antenatal care from doctors and 23 percent received antenatal care from ANMs, nurses, midwives, or LHVs. Older women (age 35-49) are much less likely than younger women to have received antenatal care for their most recent birth, and the likelihood of receiving antenatal care declines sharply with birth order. Eighty-eight percent of mothers of first-order births received antenatal care, compared with only 48 percent of mothers of births of order six or higher. Ninety-eight percent of women with 12 or more years of education received antenatal care, compared with 62 percent of women with no education. The

percentage of mothers who received antenatal care from a doctor increases sharply with education, from 29 percent for women with no education to 88 percent for women who have completed 12 years of education or more. As expected, antenatal care overall and antenatal care from doctors is much more common in urban areas than in rural areas, whereas antenatal care from other types of health personnel is more common in rural areas.

Table 8.2 Antenatal care

Percent distribution of women who had a live birth in the five years preceding the survey by antenatal care (ANC) provider during pregnancy for the most recent live birth, according to background characteristics, India, 2005-06

Background characteristic	Doctor	ANM/nurse/ midwife/ LHV	Other health personnel	*Dai*/TBA	*Anganwadi*/ ICDS worker	Other	No one	Missing	Total	Number of women
Age at birth										
<20	51.4	25.1	1.0	1.1	1.7	0.1	19.5	0.1	100.0	6,881
20-34	51.5	22.5	1.0	1.1	1.6	0.1	22.0	0.0	100.0	30,716
35-49	27.4	22.7	1.3	1.8	1.5	0.2	45.1	0.2	100.0	2,080
Birth order										
1	66.5	19.0	0.7	0.8	1.3	0.1	11.6	0.1	100.0	10,457
2-3	55.7	22.6	1.1	1.2	1.6	0.1	17.6	0.0	100.0	18,207
4-5	31.2	27.5	1.4	1.3	2.5	0.2	35.8	0.1	100.0	6,955
6+	16.5	27.1	0.7	1.5	1.4	0.2	52.5	0.0	100.0	4,058
Residence										
Urban	76.7	12.4	0.3	0.9	0.4	0.0	9.3	0.1	100.0	10,626
Rural	40.6	26.9	1.3	1.2	2.1	0.2	27.7	0.1	100.0	29,051
Education										
No education	28.7	28.0	1.3	1.6	2.3	0.1	37.9	0.1	100.0	18,792
<5 years complete	51.7	25.3	1.6	0.7	2.8	0.2	17.6	0.0	100.0	2,876
5-7 years complete	60.6	22.9	1.1	1.2	1.1	0.1	13.0	0.0	100.0	5,846
8-9 years complete	69.2	19.7	0.6	0.8	0.9	0.1	8.6	0.0	100.0	4,892
10-11 years complete	79.2	13.8	0.7	0.6	0.7	0.1	4.9	0.1	100.0	3,254
12 or more years complete	88.1	9.2	0.4	0.3	0.2	0.0	1.7	0.0	100.0	4,016
Religion										
Hindu	50.0	23.7	0.8	1.2	1.9	0.1	22.3	0.0	100.0	31,295
Muslim	48.2	21.3	2.2	0.7	0.5	0.2	26.8	0.1	100.0	6,486
Christian	69.8	10.3	0.7	1.3	0.7	0.1	17.1	0.1	100.0	814
Sikh	57.8	25.8	1.5	4.8	0.2	0.1	9.8	0.0	100.0	514
Buddhist/Neo-Buddhist	58.2	23.9	0.1	2.0	2.8	0.0	12.9	0.0	100.0	250
Jain	95.8	3.5	0.0	0.0	0.0	0.0	0.7	0.0	100.0	76
Other	25.4	20.5	0.7	0.6	4.4	0.1	48.3	0.0	100.0	205
Caste/tribe										
Scheduled caste	42.0	28.1	0.7	1.5	1.8	0.1	25.9	0.0	100.0	7,946
Scheduled tribe	32.8	28.3	1.0	2.3	5.9	0.2	29.4	0.1	100.0	3,746
Other backward class	48.4	23.1	0.8	0.7	1.3	0.1	25.5	0.1	100.0	15,889
Other	63.6	17.7	1.6	1.1	0.7	0.1	15.2	0.1	100.0	11,789
Don't know	62.4	22.1	4.3	0.0	0.0	0.0	11.1	0.0	100.0	158
Wealth index										
Lowest	22.5	29.6	1.8	1.4	3.2	0.2	41.3	0.0	100.0	9,571
Second	36.4	28.1	1.4	1.2	2.0	0.2	30.7	0.1	100.0	8,605
Middle	52.4	24.0	0.9	1.3	1.4	0.1	19.9	0.0	100.0	7,774
Fourth	69.0	18.7	0.4	1.2	0.6	0.1	10.0	0.0	100.0	7,256
Highest	86.2	10.0	0.3	0.6	0.1	0.0	2.6	0.1	100.0	6,471
Total	50.2	23.0	1.0	1.2	1.6	0.1	22.8	0.1	100.0	39,677

Note: If more than one source of ANC was mentioned, only the provider with the highest qualification is considered in this tabulation. Total includes women with missing information on education, religion, and caste/tribe, who are not shown separately.
ANM = Auxiliary nurse midwife; LHV = Lady health visitor; TBA = Traditional birth attendant; ICDS = Integrated Child Development Services

The majority of women in all religious groups receive antenatal care; nonetheless, there is substantial variation by religion in the likelihood of women receiving antenatal care. Antenatal care was received by 73 percent of Muslim women and 78 percent of Hindu women, compared with almost all Jain women and 90 percent of Sikh women. Jain women are most likely to have received antenatal care from a doctor, followed by Christian women. By caste/tribe, the likelihood of having received any antenatal care and care from a doctor is lowest for scheduled tribe mothers and highest for mothers who do not belong to a scheduled caste, scheduled tribe, or

other backward class. The likelihood of having received antenatal care at all, as well as antenatal care from a doctor, increases sharply with the household's wealth index. Among mothers in households with the lowest wealth quintile, 59 percent received antenatal care and only 23 percent received antenatal care from a doctor. By contrast, among mothers in households in the highest wealth quintile, 97 percent received antenatal care and 86 percent received antenatal care from doctors.

In summary, almost one out of every five women in India did not receive any antenatal care for their last birth in the five years preceding the survey. Women not receiving antenatal care tend disproportionately to be older women, women having children of higher birth orders, scheduled tribe women, women with no education, and women in households with a low wealth index. These differentials suggest that improving the coverage of antenatal programmes requires special efforts to reach older and higher-parity women and women who are socioeconomically disadvantaged.

Table 8.3 Antenatal care by state

Percent distribution of women who had a live birth in the five years preceding the survey by antenatal care (ANC) provider during pregnancy for the most recent live birth, according to state, India, 2005-06

State	Doctor	ANM/ nurse/ midwife/ LHV	Other health personnel	*Dai*/TBA	*Anganwadi*/ ICDS worker	Other	No one	Missing	Total
India	50.2	23.0	1.0	1.2	1.6	0.1	22.8	0.1	100.0
North									
Delhi	79.2	7.9	0.2	2.6	0.3	0.1	9.6	0.0	100.0
Haryana	42.1	30.0	1.4	10.8	5.2	0.3	10.1	0.0	100.0
Himachal Pradesh	66.0	18.3	0.0	5.0	0.2	0.0	10.4	0.0	100.0
Jammu & Kashmir	77.2	6.2	0.6	1.1	0.1	0.1	14.7	0.1	100.0
Punjab	56.1	25.8	0.7	7.6	0.1	0.0	9.7	0.0	100.0
Rajasthan	33.9	39.2	0.2	0.5	1.1	0.0	25.1	0.0	100.0
Uttaranchal	47.9	11.4	0.3	12.9	0.6	0.8	25.9	0.1	100.0
Central									
Chhattisgarh	41.8	33.7	2.4	0.9	9.8	0.1	11.3	0.0	100.0
Madhya Pradesh	32.6	41.1	0.3	2.2	3.5	0.1	20.3	0.0	100.0
Uttar Pradesh	22.5	42.9	0.5	0.3	0.3	0.1	33.5	0.0	100.0
East									
Bihar	29.1	3.9	0.9	0.2	0.2	0.0	65.7	0.1	100.0
Jharkhand	39.3	13.4	4.3	0.1	2.0	0.0	40.6	0.2	100.0
Orissa	57.6	16.4	0.7	0.4	12.1	0.0	12.7	0.0	100.0
West Bengal	56.5	29.4	5.8	0.0	0.5	0.0	7.7	0.0	100.0
Northeast									
Arunachal Pradesh	50.3	3.2	0.0	2.1	0.0	1.3	42.6	0.5	100.0
Assam	52.9	13.2	0.7	2.7	0.4	2.4	27.8	0.0	100.0
Manipur	83.1	2.6	0.2	0.7	0.0	0.0	13.4	0.0	100.0
Meghalaya	55.7	7.9	0.2	4.0	0.2	0.0	31.7	0.2	100.0
Mizoram	54.8	11.1	3.8	3.0	2.1	0.0	25.1	0.0	100.0
Nagaland	51.2	3.5	2.6	0.4	0.0	0.1	42.2	0.0	100.0
Sikkim	63.7	24.7	1.0	0.0	0.2	0.0	10.4	0.0	100.0
Tripura	74.2	1.8	0.6	1.7	0.4	0.0	21.1	0.2	100.0
West									
Goa	96.9	0.6	0.2	0.3	0.1	0.1	1.4	0.4	100.0
Gujarat	63.4	20.5	0.1	2.1	1.3	0.0	12.6	0.1	100.0
Maharashtra	75.9	12.1	0.1	1.6	2.9	0.0	7.3	0.0	100.0
South									
Andhra Pradesh	87.5	6.4	0.2	0.2	0.3	0.0	5.2	0.2	100.0
Karnataka	79.1	9.6	0.4	0.5	0.4	0.3	9.4	0.3	100.0
Kerala	98.1	0.5	0.5	0.4	0.2	0.1	0.1	0.1	100.0
Tamil Nadu	83.6	14.3	0.0	0.0	1.0	0.0	1.1	0.0	100.0

Note: If more than one source of ANC was mentioned, only the provider with the highest qualification is considered.
ANM = Auxiliary nurse midwife; LHV = Lady health visitor; TBA = Traditional birth attendant; ICDS = Integrated Child Development Services

Table 8.3 shows wide variations in the use of antenatal care services among the states. Utilization of antenatal care is almost universal in Kerala, Tamil Nadu, and Goa. In addition, more than 90 percent of women received ANC in Andhra Pradesh, Maharashtra, West Bengal, Karnataka, Delhi, and Punjab. The percentage of women receiving antenatal care was lowest in Bihar (34 percent), followed by Arunachal Pradesh, Nagaland, and Jharkhand (57-59). In most states, a majority of women received antenatal care from a doctor, with Kerala and Goa on the top. Uttar Pradesh, Madhya Pradesh, and Rajasthan had the largest proportion of women who received antenatal care from an ANM, nurse, midwife, or LHV. More than 10 percent of women in Uttaranchal and Haryana received ANC from a *dai* (TBA). The use of an *anganwadi* or ICDS worker for ANC was highest in Orissa (12 percent) and Chhattisgarh (10 percent).

8.1.3 Number and Timing of Antenatal Care Visits

The number of antenatal care visits and the timing of the first visit are important for the health of the mother and the outcome of the pregnancy. The World Health Organization recommends that all pregnant women should have at least four antenatal care (ANC) assessments by or under the supervision of a skilled attendant (World Health Organization, 2006). These assessments should be spaced at regular intervals throughout pregnancy, commencing as early as possible in the first trimester. 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). The first antenatal check-up should take place at the latest during the second trimester of pregnancy. NFHS-3 asked women who received antenatal care for the most recent birth in the five years preceding the survey about the total number of antenatal care visits they had and when in their pregnancies they had their first visit.

Table 8.4 Number of antenatal care visits and timing of first visit

Percent distribution of women who had a live birth in the five years preceding the survey by number of antenatal care (ANC) visits for the most recent birth, and by the timing of the first visit, according to residence, India, 2005-06

Number and timing of ANC visits	Urban	Rural	Total
Number of ANC visits			
None	9.3	27.7	22.8
1	3.1	7.1	6.0
2	12.0	20.8	18.5
3	12.3	16.0	15.0
4+	62.4	27.7	37.0
Don't know/missing	1.0	0.7	0.8
Total	100.0	100.0	100.0
Number of months pregnant at time of first ANC visit			
No antenatal care	9.3	27.7	22.8
<4	63.6	36.7	43.9
4-5	18.3	23.9	22.4
6-7	6.9	8.5	8.0
8+	1.2	2.4	2.1
Don't know/missing	0.7	0.9	0.8
Total	100.0	100.0	100.0
Number of women	10,626	29,051	39,677
Median months pregnant at first visit (for those with ANC)	3.3	4.0	3.8
Number of women with ANC	9,635	20,986	30,621

Table 8.4 shows the percent distribution of mothers who had a live birth in the five years preceding the survey by the number and timing of antenatal care visits for their most recent birth. Twenty-five percent of mothers had 1-2 antenatal care visits and 52 percent had three or more visits. There are substantial differences in the number of antenatal care visits by residence. Seventy-five percent of mothers in urban areas had at least three antenatal care visits, compared with 44 percent in rural areas. The shorter distances to antenatal care services and the comparative ease of travel in urban areas, as well as the higher educational attainment of mothers in urban areas, could be important factors in explaining the larger proportion of antenatal care visits in urban areas.

Forty-four percent of mothers had their first antenatal care visit in the first trimester of pregnancy and another 22 percent had their first visit during their fourth or fifth month of pregnancy (Table 8.4). Only 10 percent of women had their first antenatal care when they were six or more months pregnant. Visits during the first trimester were much more common in urban areas (64 percent) than in rural areas (37 percent). Among women who received at least one antenatal check-up, the median timing of the first antenatal care visit is 3.8 months for India as a whole and is almost one month later in rural areas (4.0 months) than in urban areas (3.3 months).

Table 8.5 shows the timing of antenatal care visits according to the source of ANC. More than half of mothers (54 percent) receiving antenatal care from the public sector had 2-3 visits, whereas 64 percent of mothers who received antenatal care from the private sector, including NGOs, had four or more visits. Two-thirds of mothers receiving antenatal care from both the private and public/NGO sector had four or more visits. The percentage with antenatal care visits during the first trimester was much higher for the private/NGO sector (70 percent) than for the public sector (49 percent). The median duration of pregnancy at the time of the first antenatal care visit is 3.3 months for the private/NGO sector and 4.0 months for the public sector. The median duration of pregnancy at the time of the first ANC check-up is highest (4.4 months) for women who received ANC only at home.

Table 8.5 Number of antenatal care visits and timing of first visit by source

Percent distribution of women who had a live birth in the five years preceding the survey who received antenatal care for the most recent live birth by number of antenatal care (ANC) visits, and by the timing of the first visit, according to the source of antenatal care, India, 2005-06

Number and timing of ANC visits	Source				Total
	Public sector only	Private/ NGO sector only	Both public and private/ NGO sector	ANC received only at home	
Number of ANC visits					
1	7.4	7.1	1.3	15.0	7.8
2	31.2	13.5	9.5	35.4	23.9
3	22.8	14.5	21.7	21.0	19.4
4+	37.9	64.1	67.1	25.5	47.9
Don't know/missing	0.7	0.7	0.4	3.2	1.0
Total	100.0	100.0	100.0	100.0	100.0
Number of months pregnant at time of first ANC visit					
<4	49.1	69.8	64.2	42.6	56.9
4-5	35.6	19.1	28.2	34.8	29.0
6-7	12.0	7.9	6.4	14.2	10.4
8+	2.3	2.7	0.6	5.6	2.7
Don't know/missing	1.0	0.6	0.6	2.8	1.0
Total	100.0	100.0	100.0	100.0	100.0
Median months pregnant at first visit (for those with ANC)	4.0	3.3	3.6	4.4	3.8
Number of women with ANC	14,327	11,318	1,681	3,248	30,621

Note: Total includes women with missing information on source of ANC.
NGO = Nongovernmental organization

8.1.4 Components of Antenatal Care

Important elements of antenatal care include the provision of iron supplementation for pregnant mothers, two doses of tetanus toxoid vaccine, and a drug to get rid of intestinal worms. 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

Table 8.6 Components of antenatal care

Among women with a live birth in the five years preceding the survey, percentage who were given or purchased iron and folic acid (IFA) tablets or syrup, took IFA for 90 days or more, received two or more tetanus toxoid (TT) injections during the pregnancy, received one TT injection during pregnancy and at least one in the three years preceding the survey, and who took a drug for intestinal parasites during the pregnancy for their most recent live birth, by background characteristics, India, 2005-06

	Among women with a live birth in the past five years, percentage who during the pregnancy for their last birth:					
Background characteristic	Were given or purchased IFA	Took IFA for 90 days or more	Received two or more TT injections	Received one TT injection during the pregnancy and at least one in the three years prior to the pregnancy	Took an intestinal parasite drug	Number of women
Age at birth						
<20	66.2	19.5	79.7	1.1	3.6	6,881
20-34	66.2	24.6	76.9	1.6	3.8	30,716
35-49	45.0	12.4	56.0	0.7	3.2	2,080
Birth order						
1	76.1	32.2	86.1	0.3	4.5	10,457
2-3	69.0	25.8	80.3	2.0	4.0	18,207
4-5	53.8	12.4	66.2	1.8	2.9	6,955
6+	38.7	6.0	49.7	1.5	2.2	4,058
Residence						
Urban	75.7	34.8	86.4	1.2	4.4	10,626
Rural	61.2	18.8	72.6	1.6	3.5	29,051
Education						
No education	49.2	10.2	63.6	1.4	2.4	18,792
<5 years complete	70.8	21.7	79.7	2.0	4.5	2,876
5-7 years complete	74.2	25.9	85.1	1.5	3.6	5,846
8-9 years complete	79.1	31.7	87.3	1.9	4.7	4,892
10-11 years complete	81.7	40.7	91.1	1.4	6.0	3,254
12 or more years complete	91.7	55.7	94.6	0.9	6.7	4,016
Religion						
Hindu	66.2	23.6	76.9	1.4	3.7	31,295
Muslim	58.4	18.2	73.4	1.8	4.2	6,486
Christian	74.5	38.2	74.4	1.9	4.4	814
Sikh	67.1	30.6	85.5	0.7	2.7	514
Buddhist/Neo-Buddhist	75.9	24.6	75.6	5.8	2.4	250
Jain	84.2	47.7	92.2	0.6	5.5	76
Other	54.1	15.1	50.2	1.6	6.0	205
Caste/tribe						
Scheduled caste	63.0	17.4	73.6	1.5	2.7	7,946
Scheduled tribe	62.0	17.6	61.9	1.2	3.7	3,746
Other backward class	61.6	22.1	76.5	1.7	3.7	15,889
Other	72.2	30.1	82.3	1.3	4.6	11,789
Don't know	74.4	24.5	78.3	0.6	5.3	158
Wealth index						
Lowest	49.2	10.0	59.7	1.5	2.6	9,571
Second	57.1	13.2	70.2	1.6	3.0	8,605
Middle	67.0	21.5	79.3	1.7	3.9	7,774
Fourth	75.0	30.6	87.2	1.4	4.5	7,256
Highest	86.0	49.1	92.9	1.0	5.5	6,471
Total	65.1	23.1	76.3	1.5	3.8	39,677

Note: Total includes women with missing information on education, religion, and caste/tribe, who are not shown separately.

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. The provision of iron and folic acid (IFA) tablets to pregnant women to prevent nutritional anaemia forms an integral part of the safe motherhood services offered as part of the Reproductive and Child Health Programme in India. The programme recommendation is that women consume 100 tablets of iron and folic acid during pregnancy.

For the most recent birth during the five years preceding the survey, NFHS-3 collected information on whether the mother received IFA tablets or syrup during pregnancy. IFA syrup was included in the question along with IFA tablets since IFA syrup is sometimes prescribed in the private sector and may even be prescribed in the public sector when and where tablets are not available. Table 8.6 shows that 65 percent of mothers received IFA supplements for their most recent birth. IFA coverage is well below average for older women, women with fourth or higher-order births, women with no education, Muslim women, and women in households in the lowest wealth quintile. IFA coverage is also lower in rural areas (61 percent) than in urban areas (76 percent).

Overall, only 23 percent of women consumed IFA for at least 90 days. This percentage is universally low among all groups of women except women who have completed 12 years of education or more (56 percent) and women in households in the highest wealth quintile (49 percent).

Seventy-six percent of mothers received two or more tetanus toxoid injections during pregnancy for their most recent birth. Another 2 percent received one tetanus toxoid injection during the most recent pregnancy and one or more TT injections in the three years preceding the most recent pregnancy. The proportion of mothers receiving two or more tetanus toxoid injections during pregnancy for the most recent birth is substantially lower than the national average among older mothers, mothers of higher-order births (six or more), mothers with no education, scheduled tribe mothers, and mothers in households in the lowest wealth quintile. Tetanus toxoid coverage increases with the education level of women and is considerably higher in urban areas (86 percent) than in rural areas (73 percent).

Only 4 percent of women took a drug for intestinal parasites during their pregnancy. Variations by background characteristics are small, and there is no group of women with more than 7 percent coverage of deworming medication.

8.1.5 Antenatal Care Services and Information

The effectiveness of antenatal care in ensuring safe motherhood depends in part on the tests and measurements done and the advice given as part of antenatal care. NFHS-3 collected information on this important aspect of antenatal care by asking women who received antenatal care whether they received each of several types of service or information at any time as part of their antenatal care. Table 8.7 shows the percentage of mothers receiving selected services during antenatal care. All of these measurements and tests are part of essential obstetric care or

Table 8.7 Antenatal care services and information

Among women with a live birth in the five years preceding the survey who received antenatal care for the most recent live birth, percentage receiving specific services and information on specific signs of pregnancy complications and where to go if there was a pregnancy complication, according to background characteristics, India, 2005-06

	Percentage receiving selected services during antenatal care					Percentage receiving information on specific pregnancy complications				
Background characteristic	Weighed	Blood pressure measured	Urine sample taken	Blood sample taken	Abdomen examined	Vaginal bleeding	Convulsions	Prolonged labour	Where to go if experienced pregnancy complications	Number of women
Age at birth										
<20	62.7	62.2	57.1	57.9	70.3	13.8	13.9	18.0	35.4	5,532
20-34	64.2	65.0	59.3	60.7	73.1	17.4	15.9	20.7	42.8	23,949
35-49	45.5	45.7	38.1	40.3	58.5	13.2	12.5	16.2	32.4	1,139
Birth order										
1	72.9	74.6	71.7	72.4	81.2	20.2	18.9	24.8	47.8	9,236
2-3	66.9	67.3	60.8	61.9	74.0	17.6	15.7	20.6	43.1	15,000
4-5	45.2	44.9	37.4	39.9	58.4	10.4	10.4	13.2	29.1	4,458
6+	29.5	28.4	19.2	23.2	44.1	6.8	7.9	9.5	20.5	1,927
Residence										
Urban	80.1	82.8	80.1	80.0	86.5	23.5	21.4	26.7	53.0	9,635
Rural	55.5	55.0	48.0	50.0	65.4	13.5	12.6	17.1	35.6	20,986
Education										
No education	43.6	41.5	35.1	37.2	54.8	9.2	9.2	12.2	25.5	11,656
<5 years complete	63.8	63.1	52.3	56.0	69.8	14.5	13.4	19.0	37.2	2,370
5-7 years complete	68.7	69.5	62.5	64.4	76.5	16.4	15.8	20.5	45.0	5,085
8-9 years complete	72.1	75.8	70.4	71.2	81.7	19.1	17.7	22.8	49.2	4,470
10-11 years complete	81.2	85.2	82.4	82.4	89.7	23.5	21.6	28.3	55.0	3,091
12 or more years complete	89.5	92.1	90.6	89.7	93.8	31.9	26.9	34.1	64.4	3,948
Religion										
Hindu	63.2	63.0	57.8	59.3	72.3	16.6	15.7	20.2	41.6	24,317
Muslim	58.6	62.6	54.8	55.8	67.2	14.6	12.5	17.0	34.1	4,741
Christian	83.5	84.3	74.5	74.5	88.7	24.5	19.9	28.6	55.6	674
Sikh	63.0	75.1	73.9	74.0	79.6	22.9	20.1	31.1	59.3	463
Buddhist/Neo-Buddhist	82.7	78.3	74.2	75.4	82.5	15.9	14.0	15.6	42.6	218
Jain	97.3	92.7	87.1	94.3	92.2	37.9	32.7	43.2	73.0	76
Other	72.0	54.1	41.0	44.6	59.1	13.9	13.9	24.8	31.5	106
Caste/tribe										
Scheduled caste	57.8	56.5	50.3	52.7	67.0	13.2	13.1	17.3	38.4	5,889
Scheduled tribe	59.6	48.7	40.2	44.7	63.5	12.5	11.1	14.9	32.4	2,642
Other backward class	59.4	61.9	57.5	58.1	71.7	16.1	14.9	19.6	39.7	11,827
Other	71.6	74.1	68.1	69.0	77.7	20.4	18.4	23.7	46.8	9,997
Don't know	82.2	80.5	67.8	67.0	77.8	17.1	15.6	15.1	40.7	140
Wealth index										
Lowest	44.6	35.5	26.7	30.9	49.5	8.5	8.5	11.2	24.4	5,613
Second	48.5	48.8	40.0	42.7	60.6	11.2	10.8	14.7	30.3	5,958
Middle	61.0	63.4	57.5	58.3	71.8	13.9	13.7	17.8	40.0	6,223
Fourth	71.6	75.6	72.1	72.3	82.2	19.1	17.0	23.4	47.1	6,531
Highest	87.1	91.1	89.3	88.7	92.6	29.1	25.7	31.9	61.0	6,297
Total	63.2	63.8	58.1	59.5	72.0	16.6	15.4	20.1	41.1	30,621

Note: Total includes women with missing information on education, religion, and caste/tribe, who are not shown separately.

are required for monitoring high-risk pregnancies. Among women receiving antenatal care for their most recent birth, 72 percent had an abdominal examination, 64 percent had their blood pressure checked, and 63 percent had their weight measured. Blood and urine tests were conducted for 60 and 58 percent of women, respectively. All of these measurements or tests were much more likely to be performed for women in urban areas, younger women (under age 35), women having lower-order births, more educated women, Jain and Sikh women, women in households in the higher wealth quintiles, and women who are not from scheduled castes, scheduled tribes, or other backward classes.

During their contacts with health workers, pregnant women are expected to be told about the signs of pregnancy complications and where they should go if they have pregnancy complications. In NFHS-3, women who received antenatal care for a birth in the five years preceding the survey were asked (for their most recent birth) whether they were told about the signs of pregnancy complications and where to go if they experienced any of these signs. Table 8.7 shows that most women did not receive information on specific pregnancy complications and they were not given advice on where to go if they experienced pregnancy complications. Only 20 percent were told about prolonged labour as a sign of a pregnancy complication, and even fewer (15-17 percent) were told about convulsions and vaginal bleeding as signs of pregnancy complications. Urban women, more educated women, and women in households in the highest wealth quintile were better informed about each pregnancy complication. Overall, 41 percent of mothers were given advice on where to go if they experienced pregnancy complications. Women with at least 12 years of education and women in households in the highest wealth quintile were more likely than other women to get advice on where to go if they experienced pregnancy complications. Jain women were most likely to be informed about each pregnancy complication and about where to go if they experienced pregnancy complications.

8.1.6 Male Involvement in Antenatal Care

The Reproductive and Child Health Programme in India envisages the involvement of men in women's reproductive health. Health workers are supposed to provide expectant fathers with information on several aspects of maternal and child care during their contacts with expectant fathers. In NFHS-3, information was collected through the Men's Questionnaire about several aspects of their involvement in antenatal care, including whether the mother of their youngest child had any antenatal check-ups when she was pregnant, whether they were present at any of these antenatal check-ups, and the reason the mother did not have any antenatal check-ups if she did not have any. Men were also asked whether at any time during the pregnancy any health provider or health worker told them about the various signs of pregnancy complications (vaginal bleeding, convulsions, and prolonged labour) and what to do if the mother had any of those complications. Table 8.8 presents information on men's involvement during antenatal care visits and information given to them by a health provider or health worker about signs of pregnancy complications. Two-thirds of men age 15-49 said that the mother received some antenatal care when pregnant with their youngest child under three years of age. For 50 percent of the pregnancies, the father said he was present during at least one of the mother's check-ups. For 17 percent of the pregnancies, the mother had at least one antenatal check-up but the father was not present during any of the check-ups.

Table 8.8 Male involvement in antenatal care: Men's reports

Among men age 15-49 whose youngest living child was age 0-35 months, percentage for whom the mother of the child received antenatal care (ANC) and the father was present or not present at the time of any ANC visit, percentage who were told by a health provider or health worker at any time during the pregnancy about specific signs of pregnancy complications, and percentage who were told what to do if the mother had any pregnancy complication, according to background characteristics, India, 2005-06

Background characteristic	Percentage for whom the child's mother received ANC and the father was:			Percentage who were told by a health provider or worker about specific signs of pregnancy complications			Percentage ever told what to do if mother had any pregnancy complication	Number of men
	Present for ANC	Not present for any ANC	Total	Vaginal bleeding	Convulsions	Prolonged labour		
Age at birth								
<20	30.3	22.2	52.5	12.0	14.9	13.3	25.3	170
20-34	50.4	17.6	68.1	22.1	22.3	25.6	38.2	11,127
35-49	46.6	14.4	61.0	18.9	19.6	23.1	33.7	2,732
Number of children ever born								
1	61.9	18.5	80.4	27.0	26.8	31.1	44.2	4,388
2-3	50.6	18.1	68.7	21.6	22.0	25.4	38.6	6,601
4+	28.9	12.8	41.7	12.6	13.6	15.2	23.8	3,039
Residence								
Urban	64.9	17.3	82.1	27.8	28.8	33.0	47.3	4,233
Rural	42.8	16.9	59.7	18.5	18.7	21.5	32.7	9,795
Education								
No education	28.8	15.6	44.4	11.6	11.8	13.6	22.4	3,412
<5 years complete	40.2	24.1	64.3	16.1	17.6	19.1	30.7	1,548
5-7 years complete	48.6	20.9	69.4	21.5	21.9	26.2	36.5	2,350
8-9 years complete	53.8	17.0	70.8	23.1	23.5	27.0	40.8	2,691
10-11 years complete	62.8	15.7	78.5	29.9	29.0	34.3	48.9	1,586
12 or more years complete	71.7	11.9	83.5	30.6	31.2	35.0	50.7	2,437
Religion								
Hindu	49.7	16.9	66.6	21.2	21.7	24.7	37.7	11,189
Muslim	46.1	17.1	63.2	18.6	19.2	23.5	30.9	2,167
Christian	60.3	17.2	77.5	33.5	29.7	35.5	46.3	281
Sikh	54.1	24.2	78.3	34.0	28.5	36.6	49.5	179
Buddhist/Neo-Buddhist	59.9	14.3	74.2	26.9	25.0	26.9	48.9	107
Jain	(78.0)	(17.4)	(95.3)	(51.9)	(54.6)	(67.5)	(68.8)	35
Other	25.5	20.8	46.3	22.9	27.6	23.3	42.9	67
Caste/tribe								
Scheduled caste	44.0	17.8	61.8	19.3	19.8	22.4	35.3	2,928
Scheduled tribe	39.0	17.7	56.6	17.3	17.9	22.8	34.4	1,402
Other backward class	47.9	16.1	64.0	20.8	21.8	23.9	36.3	5,482
Other	58.8	17.5	76.3	24.9	24.3	28.8	40.4	4,153
Don't know	(57.9)	(23.5)	(81.4)	(36.7)	(29.5)	(43.9)	(58.5)	21
Wealth index								
Lowest	27.6	15.1	42.6	10.6	11.3	13.2	21.7	3,130
Second	38.6	17.5	56.1	17.1	17.5	18.6	29.8	2,936
Middle	49.6	19.2	68.8	20.4	20.7	25.1	37.8	2,842
Fourth	61.7	19.2	80.8	27.5	27.9	32.5	45.4	2,818
Highest	77.9	14.0	91.9	34.8	34.9	39.8	56.5	2,303
Total	49.5	17.0	66.5	21.3	21.7	25.0	37.1	14,028

Note: Total includes men with missing information on education, religion, and caste/tribe, who are not shown separately.
( ) Based on 25-49 unweighted cases.

Men under age 20 at the time of the birth of their youngest child were less likely to be present for antenatal check-ups of the mother than older men. There is a strong negative relationship between the father's number of children ever born and his presence during any antenatal check-up of the mother, and a positive relationship between both the man's educational level and his wealth status and his presence during antenatal check-ups. For example, men with one child ever born are more than twice as likely (62 percent) to be present during antenatal care than men with four or more children ever born (29 percent). Similarly, men with 12 or more years of education and men in households in the highest wealth quintile are at least two and a half times as likely to be present during an antenatal check-up as men with no education and men in the lowest wealth quintile households. Men in urban areas are more likely than men in rural

areas to be present during an antenatal check-up. The man's presence is lower than average for scheduled tribes and Muslims.

Only one-quarter of fathers or less were told about signs of each of the major pregnancy complications (vaginal bleeding, convulsions, and prolonged labour), and 37 percent were told what to do if the mother had a pregnancy complication. The percentage of men who were told about the signs of specific pregnancy complications is particularly low among men who were less than 20 years of age at the time of the birth, men with four or more children ever born, men in rural areas, men with no education, Muslim men, and men in households in the lowest wealth quintile. The pattern is similar with respect to information given to men about the action to be taken in case the mother had any pregnancy complication.

Table 8.9 shows the distribution of men age 15-49 whose youngest child was less than three years of age at the time of the survey and for whom the mother did not receive any antenatal care by the main reason for not receiving antenatal care. Two out of five men thought it was not necessary for the mother to receive antenatal care. Another 15 percent of men said that their family did not think it was necessary or did not allow the mother to receive antenatal care. For 20 percent of men, the main reason for the mother not receiving antenatal care was that it costs too much. The reasons given by men for the mother not receiving antenatal care are similar in rural and urban areas. However, a much higher proportion of rural men (21 percent) than urban men (14 percent) gave cost as the main reason for the mother not receiving antenatal care. Surprisingly, a larger proportion of men in urban areas than in rural areas said that their family did not think it necessary or did not allow the mother to receive antenatal care.

Table 8.9 Reasons why child's mother did not receive antenatal care: Men's reports

Percent distribution of men age 15-49 whose youngest living child was age 0-35 months and the child's mother did not receive antenatal care when pregnant with the child by the main reason for not receiving antenatal care, according to residence, India, 2005-06

Reason why mother did not receive antenatal care	Urban	Rural	Total
Man did not think it was necessary/did not allow	38.8	40.7	40.4
Family did not think it was necessary/did not allow	20.3	14.0	15.0
Child's mother did not want check-up	10.4	9.1	9.3
Has had children before	1.5	1.6	1.6
Costs too much	14.0	20.7	19.6
Too far/no transportation	1.2	3.9	3.4
No female health worker available	0.9	1.4	1.3
Other	3.0	2.0	2.2
Don't know/missing	9.8	6.5	7.0
Total	100.0	100.0	100.0
Number of men	756	3,944	4,699

8.1.7 Antenatal Care Indicators by State

Table 8.10 shows state differentials in the percentage of live births during the five years preceding the survey whose mothers received different types of antenatal care for their most recent birth. Nine summary indicators of the utilization of antenatal care services are presented. The utilization of antenatal care services differs greatly by state; however, with a few exceptions, states that do well on any one indicator of antenatal care also perform well on the other indicators. Goa, Kerala, and Tamil Nadu rank in the top five states in the country in terms of

their performance on almost all of the indicators. In these three states, mothers of 94-99 percent of births had at least one antenatal care visit, 94-96 percent had three or more visits, 75-92 percent had a visit in the first trimester of pregnancy, 87-96 percent received two or more tetanus toxoid injections, 87-96 percent received any iron and folic acid tablets or syrup, and 42-75 percent took IFA tablets for at least 90 days. Kerala and Tamil Nadu each rank highest

Table 8.10 Antenatal care indicators by state

Among women with a live birth in the five years preceding the survey, percentage who received different types of antenatal care (ANC) during the pregnancy for their most recent live birth by state, India, 2005-06

State	Percentage who had at least one ANC visit	Percentage who had three or more ANC visits	Percentage with an ANC visit in the first trimester of pregnancy	Percentage who received information about specific pregnancy complications[1]	Percentage who received two or more TT injections during the pregnancy	Percentage who received one TT injection during the pregnancy and at least one more in the three years prior to the pregnancy	Percentage given or bought IFA	Percentage who took IFA for at least 90 days	Percentage who took an intestinal parasite drug
India	76.4	52.0	43.9	36.0	76.3	1.5	65.1	23.1	3.8
North									
Delhi	88.8	75.1	63.8	72.4	90.3	0.5	77.6	39.5	5.9
Haryana	88.3	59.2	51.4	41.1	83.4	0.7	61.3	26.7	1.1
Himachal Pradesh	86.4	62.6	56.8	64.3	72.1	5.3	84.2	37.9	2.8
Jammu & Kashmir	84.6	73.5	54.8	31.0	81.0	1.4	67.6	27.6	1.6
Punjab	88.9	74.8	60.4	63.6	83.8	0.6	65.5	27.9	2.5
Rajasthan	74.9	41.2	34.0	29.8	65.2	1.7	57.7	13.1	1.4
Uttaranchal	69.4	44.9	43.3	38.2	68.5	1.7	62.6	26.4	2.5
Central									
Chhattisgarh	88.5	54.2	46.0	38.3	74.6	2.7	74.6	20.7	1.1
Madhya Pradesh	79.5	40.7	39.3	34.3	70.6	3.2	62.8	12.4	3.2
Uttar Pradesh	66.0	26.6	25.7	14.2	64.5	1.4	53.2	8.8	2.1
East									
Bihar	34.1	17.0	18.7	15.8	73.2	1.3	29.7	9.7	3.7
Jharkhand	58.9	35.9	33.2	23.4	67.6	1.3	49.5	14.2	4.9
Orissa	86.9	61.8	48.3	37.6	83.3	0.1	83.1	33.8	4.3
West Bengal	91.9	62.0	38.6	40.8	90.9	1.4	81.9	25.7	4.4
Northeast									
Arunachal Pradesh	52.6	35.5	24.2	32.3	40.1	0.5	47.7	11.2	4.0
Assam	70.7	39.3	40.0	20.8	65.4	1.4	62.1	16.2	2.4
Manipur	86.3	68.6	64.5	38.6	79.2	2.3	65.2	13.1	2.8
Meghalaya	67.6	54.0	32.6	28.1	51.8	1.6	54.7	16.7	2.7
Mizoram	74.3	59.3	42.9	51.4	51.4	10.9	61.9	24.7	4.0
Nagaland	57.8	32.7	29.2	24.5	50.7	1.7	25.6	3.5	1.4
Sikkim	89.3	70.1	57.9	70.9	81.1	2.2	86.4	38.7	2.3
Tripura	78.3	60.0	47.2	42.9	74.9	0.3	68.8	18.0	4.1
West									
Goa	97.3	94.9	85.7	60.1	86.8	1.2	87.4	68.6	10.1
Gujarat	86.7	67.5	55.0	59.4	80.4	1.8	82.4	37.0	7.1
Maharashtra	90.8	75.1	62.1	46.2	85.1	1.7	80.9	31.4	3.7
South									
Andhra Pradesh	94.3	85.4	66.1	49.9	85.3	0.4	76.6	41.2	4.6
Karnataka	89.3	79.5	70.9	47.6	78.6	0.9	74.3	39.3	6.8
Kerala	94.4	93.6	91.9	72.9	88.7	1.9	96.4	75.1	10.1
Tamil Nadu	98.6	95.9	75.3	84.4	95.9	2.0	91.9	41.6	6.5

TT = Tetanus toxoid; IFA = Iron and folic acid tablets or syrup
[1] Vaginal bleeding, convulsions, prolonged labour, or where to go if she had pregnancy complications.

on four of the nine indicators. Kerala ranks highest in the percentage of women who were given or bought IFA tablets, the percentage who took IFA tablets for at least 90 days, the percentage with an ANC visit in the first trimester, and the percentage who took an intestinal parasite drug (tied with Goa). Goa is slightly ahead of Kerala in the percentage of women with at least one antenatal care visit as well as with three or more antenatal care visits. Tamil Nadu ranks highest in the percentage of mothers who had at least one ANC visit, the percentage who had three or more ANC visits, and coverage by two or more tetanus toxoid injections. Although Andhra

Pradesh is never in the top three, it is the only other state that performs well on almost all indicators. Other states that perform relatively well on most of the indicators include Sikkim, Karnataka, Maharashtra, West Bengal, Punjab, Delhi, Gujarat, and Himachal Pradesh.

Bihar ranks the lowest on many of the antenatal care indicators. Arunachal Pradesh, Nagaland, Uttar Pradesh, Jharkhand, and Rajasthan also perform poorly on most of the indicators. Compared with Tamil Nadu, for example, where 96 percent of mothers had three or more antenatal care visits, only 17 percent of mothers in Bihar and 27 percent in Uttar Pradesh had three or more visits. In Arunachal Pradesh, Nagaland, and Jharkhand, 53-59 percent of mothers had at least one antenatal care visit and only 33-36 percent had three or more visits. In Bihar, less than one in five mothers had an antenatal care visit in the first trimester of their pregnancy. Most of the states performed poorly on the consumption of IFA tablets for 90 days or more during the last pregnancy. The percentage who consumed IFA tablets for 90 days or more is very low in Nagaland, Uttar Pradesh, and Bihar (4-10 percent). In every state, no more than 10 percent of women took an intestinal parasite drug during pregnancy.

With respect to tetanus toxoid injections, Arunachal Pradesh, Nagaland, Mizoram, and Meghalaya perform even more poorly than Uttar Pradesh, Rajasthan, and Jharkhand. In Mizoram, however, 11 percent of mothers received one TT injection during the pregnancy and at least one more in the three years prior to the last pregnancy, bringing the total protected up to 62 percent. Manipur performs relatively well in terms of the percentage of mothers who had antenatal care but not the percentage who took iron and folic acid tablets or syrup for at least 90 days. The percentage of women who received information about pregnancy complications varied from as low as 14-16 percent in Uttar Pradesh and Bihar to more than 70 percent in Tamil Nadu, Kerala, Delhi, and Sikkim. In most other states, less than half of women received information about pregnancy complications.

In summary, antenatal care utilization in India varies greatly by state. For some indicators the variation ranges from only marginal coverage to almost complete coverage. For example, the percentage of women who had three or more antenatal care visits ranges from only 17 percent in Bihar to 96 percent in Tamil Nadu. In general, the southern and western states and some of the northern states perform uniformly well. Bihar, Rajasthan, Uttar Pradesh, and Jharkhand are large states that perform uniformly poorly. The performance of states in the Northeast Region is mixed; notably, however, except for Sikkim and Manipur, the percentage receiving tetanus toxoid injections is below the national average in all of these states.

8.1.8 Ultrasound Testing during Pregnancy

All women who were pregnant at any time in the five years preceding the survey were asked whether they had undergone ultrasound testing during each pregnancy in that period and what the outcome of each such pregnancy was. This information is presented by background characteristics in Table 8.11. Overall, an ultrasound test was performed for 24 percent of pregnancies. The percentage of pregnancies with an ultrasound test was about twice as high (21-25 percent) among women below age 35 than among older women (11 percent). Ultrasound tests were much more common in urban areas (44 percent) than in rural areas (16 percent). Women with four or more antenatal care visits were almost four times as likely to have an ultrasound test

Table 8.11 Pregnancies for which an ultrasound was done

Percentage of all pregnancies in the five years preceding the survey for which an ultrasound test was done and percent distribution of pregnancies with an ultrasound test by pregnancy outcome, according to background characteristics, India, 2005-06

Background characteristic	Percentage of pregnancies with an ultrasound test	Number of pregnancies	Pregnancy outcome[2]				Total	Number of pregnancies with an ultrasound test
			Son	Daughter	Termination	Still pregnant		
Mother's age at pregnancy								
<20	21.4	18,225	45.6	41.9	7.3	5.2	100.0	3,907
20-34	24.9	48,939	45.9	37.9	9.2	7.1	100.0	12,204
35-49	11.0	2,621	39.0	36.1	18.7	6.1	100.0	289
Residence								
Urban	44.0	18,201	46.1	38.7	8.7	6.6	100.0	8,002
Rural	16.3	51,585	45.3	38.9	9.1	6.7	100.0	8,397
Antenatal care visits[1]								
None	2.9	16,858	33.1	28.1	25.2	13.6	100.0	487
1-3	13.2	28,250	42.9	38.0	12.2	6.9	100.0	3,722
4+	49.8	24,149	47.1	39.5	7.1	6.3	100.0	12,023
Don't know/missing	31.7	529	41.3	37.2	15.3	6.3	100.0	167
Mother's education								
No education	8.5	33,989	45.7	38.6	10.3	5.4	100.0	2,882
<5 years complete	16.1	5,068	46.2	40.8	8.1	5.0	100.0	818
5-7 years complete	27.6	10,240	45.9	40.2	8.2	5.7	100.0	2,829
8-9 years complete	34.8	8,593	45.3	39.5	7.7	7.5	100.0	2,991
10-11 years complete	50.0	5,530	46.3	36.9	9.6	7.3	100.0	2,763
12 or more years complete	64.7	6,366	45.3	38.5	8.9	7.4	100.0	4,117
Religion								
Hindu	23.5	54,676	46.1	38.3	8.9	6.7	100.0	12,843
Muslim	20.1	11,923	42.6	41.6	9.2	6.6	100.0	2,401
Christian	36.6	1,377	43.6	41.7	7.9	6.9	100.0	503
Sikh	47.4	843	50.8	36.0	7.8	5.4	100.0	400
Buddhist/Neo-Buddhist	31.6	431	57.4	32.8	5.4	4.4	100.0	136
Jain	78.2	104	47.2	43.2	4.6	5.0	100.0	82
Other	6.9	367	40.6	41.1	12.5	5.8	100.0	25
Caste/tribe								
Scheduled caste	16.6	14,340	46.3	40.0	8.3	5.4	100.0	2,374
Scheduled tribe	9.9	6,486	49.1	34.9	9.3	6.7	100.0	645
Other backward class	22.7	28,184	45.7	38.1	8.9	7.3	100.0	6,392
Other	33.8	20,251	45.3	39.2	9.1	6.3	100.0	6,850
Don't know	34.7	262	38.5	46.8	7.8	7.0	100.0	91
Wealth index								
Lowest	4.3	17,283	44.8	38.6	11.3	5.4	100.0	748
Second	9.8	15,466	44.8	39.7	9.5	6.0	100.0	1,520
Middle	20.9	13,815	45.2	40.7	7.8	6.3	100.0	2,886
Fourth	37.6	12,809	45.3	38.7	9.0	7.1	100.0	4,819
Highest	61.7	10,414	46.5	37.9	8.9	6.7	100.0	6,428
Mother's number of living children at time of pregnancy								
No children	36.7	19,471	43.3	39.3	9.4	8.0	100.0	7,146
1 child	28.1	16,069	46.0	39.0	7.5	7.4	100.0	4,516
0 sons	28.9	8,632	49.0	36.8	7.4	6.8	100.0	2,498
1 son	27.1	7,437	42.3	41.8	7.7	8.2	100.0	2,019
2 children	18.0	10,403	48.5	34.0	12.0	5.5	100.0	1,872
0 sons	22.8	3,807	55.1	31.4	9.6	3.9	100.0	867
1 son	16.1	4,943	43.1	36.0	14.3	6.7	100.0	798
2 sons	12.6	1,653	42.0	36.8	13.1	8.1	100.0	207
3 children	11.7	6,284	45.8	35.3	13.1	5.9	100.0	738
0 sons	16.9	1,589	48.7	32.4	10.5	8.3	100.0	268
1 son	11.3	2,814	45.0	36.2	15.3	3.5	100.0	319
2-3 sons	8.1	1,880	42.2	38.3	13.0	6.5	100.0	152
4+ children	5.6	10,359	46.4	32.1	16.7	4.8	100.0	581
0 sons	11.7	1,312	49.3	39.2	9.0	2.6	100.0	153
1 son	6.4	3,159	49.7	26.8	18.7	4.8	100.0	201
2+ sons	3.8	5,887	41.5	32.1	20.1	6.2	100.0	226
Total	23.5	69,786	45.7	38.8	8.9	6.6	100.0	16,400

Note: Total includes pregnancies with missing information on mother's education, religion, and caste/tribe, which are not shown separately.
[1] Includes only the most recent pregnancy in the five years preceding the survey.
[2] For multiple births, sex of pregnancy outcome is the sex of the first listed birth.

for their births as women with 1-3 antenatal visits. There is a strong positive relationship between ultrasound tests during pregnancy and educational and wealth status. Women with at least 12 years of completed education were eight times as likely to have an ultrasound test for their births as women with no education. Only 4 percent of births to women in households in the lowest wealth quintile had an ultrasound test, compared with 62 percent of births to women in the highest wealth quintile households. There were also substantial differences in the percentage of births with an ultrasound test by religion. This percentage was the highest for Jain women (78 percent), followed by Sikh women (47 percent) and Christian women (37 percent). Scheduled tribe women were less likely to have an ultrasound test for their births than women in other caste/tribe groups.

A higher percentage of pregnant women with no living children had an ultrasound test than pregnant women who had living children. The prevalence of ultrasound testing decreased steadily with the number of living children. For example, 28 percent of women with one child had an ultrasound test, compared with only 6 percent of women who had four or more living children. The sex composition of the living children showed a noteworthy pattern. At each parity, a much higher percentage of pregnant women with no living son had an ultrasound test and this percentage declined as the number of living sons increased.

Table 8.11 also shows the percent distribution of pregnancies for which an ultrasound test was done by the outcome of the pregnancy. Among women who had an ultrasound test, 7 percent were pregnant at the time of the survey. This percentage did not vary much by background characteristics of the women or the sex composition of their living children. Forty-six percent of such pregnancies resulted in a live birth of a male child and 39 percent of a female child. The sex ratio of these live-born children was only 849 females per 1,000 males. For every subgroup shown in the table, there were more births of boys than girls. However, the percentage of live births that were female was particularly low for Buddhists/Neo-Buddhists, Sikhs, and scheduled tribes. There are also substantial differences in the sex composition of births by the number and sex composition of living children at the time of the birth. For women with 1-3 living children at the time of pregnancy, the fewer living sons the woman has, the more likely the next birth is to be a boy. The sex ratio of the next birth is extremely low for women with two daughters and no sons (570 girls per 1,000 boys), women with four or more living children and one son (539), and women with three children and no sons (665). These data provide clear evidence of the use of ultrasound testing for sex determination leading to sex-selective abortions when couples want to have a son.

Nine percent of pregnancies with an ultrasound test resulted in a pregnancy termination (a miscarriage, an induced abortion, or a stillbirth). Termination of pregnancy increases with the increasing age of the mother, reaching a particularly high level of 18 percent for mothers age 35-49. Pregnancy termination was almost four times as high for women who did not have any antenatal care visit (25 percent) as for women who had four or more antenatal care visits (7 percent). Differences in pregnancy termination by education, religion, caste/tribe, and the wealth index are only modest. Pregnancy termination increases with number of living children at the time of pregnancy and it is least likely for women at each parity who had no sons.

8.2 DELIVERY CARE

8.2.1 Place of Delivery

Another important thrust of the Reproductive and Child Health Programme is to encourage deliveries in proper hygienic conditions under the supervision of trained health professionals. For each birth during the five years preceding the survey, NFHS-3 asked the mother where she gave birth. Table 8.12 gives the percent distribution of live births in the five years preceding the survey by place of delivery according to background characteristics.

Table 8.12 Place of delivery

Percent distribution of live births in the five years preceding the survey by place of delivery, and percentage delivered in a health facility, according to background characteristics, India, 2005-06

Background characteristic	Health facility/institution			Home			Other[1]	Total	Percentage delivered in a health facility	Number of births
	Public sector	NGO/ trust	Private sector	Own home	Parents' home	Other home				
Mother's age at birth										
<20	20.4	0.3	17.2	46.4	14.7	0.6	0.4	100.0	38.0	11,882
20-34	17.8	0.5	21.6	51.4	8.1	0.4	0.3	100.0	39.8	42,155
35-49	10.0	0.4	11.3	75.5	2.1	0.5	0.0	100.0	21.7	2,400
Birth order										
1	25.6	0.6	30.7	31.7	10.4	0.5	0.4	100.0	57.0	17,106
2-3	18.7	0.5	20.3	49.2	10.7	0.4	0.3	100.0	39.4	24,429
4-5	9.9	0.3	9.4	72.8	7.0	0.5	0.1	100.0	19.6	9,522
6+	5.1	0.1	5.7	85.4	2.9	0.6	0.3	100.0	10.9	5,381
Residence										
Urban	28.6	0.9	37.9	26.6	5.3	0.4	0.2	100.0	67.5	14,303
Rural	14.4	0.3	14.2	59.8	10.6	0.5	0.3	100.0	28.9	42,135
Antenatal care visits[2]										
None	4.1	0.0	5.7	79.6	9.8	0.5	0.2	100.0	9.8	9,035
1-3	15.2	0.2	12.6	59.8	11.5	0.5	0.2	100.0	28.0	15,660
4+	32.2	1.0	42.0	18.5	5.8	0.3	0.2	100.0	75.2	14,667
Don't know/missing	21.2	0.2	25.1	41.4	8.3	0.0	3.7	100.0	46.5	315
Mother's education										
No education	9.7	0.2	8.6	70.4	10.4	0.5	0.3	100.0	18.4	28,237
<5 years complete	23.4	0.3	12.7	51.2	11.6	0.5	0.3	100.0	36.3	4,100
5-7 years complete	27.1	0.4	20.5	40.6	10.6	0.4	0.4	100.0	47.9	8,189
8-9 years complete	28.8	0.7	28.3	32.9	8.7	0.6	0.1	100.0	57.7	6,723
10-11 years complete	28.9	1.0	42.2	21.9	5.5	0.3	0.1	100.0	72.2	4,282
12 or more years complete	22.0	1.6	62.7	11.0	2.3	0.2	0.2	100.0	86.4	4,905
Religion										
Hindu	18.4	0.5	20.3	50.9	9.3	0.4	0.3	100.0	39.1	44,152
Muslim	15.4	0.3	17.3	56.7	9.6	0.5	0.2	100.0	33.0	9,641
Christian	23.6	0.9	28.9	42.0	3.8	0.7	0.2	100.0	53.4	1,109
Sikh	15.1	1.2	42.0	32.3	9.2	0.1	0.1	100.0	58.3	716
Buddhist/Neo-Buddhist	37.2	0.2	21.3	23.4	17.2	0.6	0.1	100.0	58.8	377
Jain	30.9	2.6	59.6	4.1	2.8	0.0	0.0	100.0	93.1	87
Other	7.9	0.4	2.1	79.2	7.8	2.0	0.6	100.0	10.4	306
Caste/tribe										
Scheduled caste	19.4	0.2	13.4	56.8	9.6	0.4	0.3	100.0	32.9	11,693
Scheduled tribe	11.6	0.3	5.8	70.9	10.5	0.5	0.3	100.0	17.7	5,442
Other backward class	16.1	0.5	21.1	51.8	9.6	0.5	0.3	100.0	37.7	22,716
Other	21.8	0.6	28.7	40.5	7.9	0.4	0.2	100.0	51.0	16,176
Don't know	26.2	0.0	17.2	28.1	26.3	1.1	1.1	100.0	43.4	220
Wealth index										
Lowest	8.4	0.1	4.3	75.8	10.7	0.5	0.2	100.0	12.7	14,377
Second	14.0	0.2	9.3	63.7	11.7	0.7	0.4	100.0	23.5	12,654
Middle	22.5	0.3	16.4	48.6	11.4	0.5	0.3	100.0	39.2	11,181
Fourth	27.1	0.7	30.1	34.3	7.3	0.3	0.2	100.0	57.9	10,154
Highest	23.8	1.3	58.5	13.7	2.2	0.2	0.2	100.0	83.7	8,072
Total	18.0	0.4	20.2	51.3	9.2	0.5	0.3	100.0	38.7	56,438

Note: Total includes births with missing information on mother's education, religion, and caste/tribe, which are not shown separately.
NGO = Nongovernmental organization
[1] Includes missing.
[2] Includes only the most recent birth in the five years preceding the survey.

Less than 40 percent of births in India take place in health facilities. More than half take place in the woman's own home and 9 percent take place in the parents' home. Births in health facilities are about equally divided between those that take place in a private health facility and those that take place in public institutions (such as government-operated district, *tehsil/taluk*, town, or municipal hospitals, and Primary Health Centres). Two-thirds of deliveries in urban areas and 29 percent of deliveries in rural areas take place in health facilities. According to the Sample Registration System (Office of the Registrar General, 2006a), in 2004 a slightly lower proportion of births in rural areas occurred in institutions (24 percent) and a slightly higher proportion of births in urban areas took place in institutions (70 percent). The percentage of births to ever-married women that were delivered in health facilities in the three years preceding the survey increased steadily from 26 percent in NFHS-1 to 34 percent in NFHS-2 and 41 percent in NFHS-3 (see Table 8.23).

The proportion of births occurring in a health facility is higher for mothers under 20 years of age and age 20-34 years (38-40 percent) than for mothers age 35-49 (22 percent). Only 18 percent of births to scheduled tribe mothers are delivered in health facilities, compared with 51 percent of births to mothers who do not belong to a scheduled caste, scheduled tribe, or other backward class. The proportion of births that were delivered in a health facility decreases as birth order increases, from 57 percent at order one to 11 percent at order six and over. By religion, births to Jain mothers (93 percent), Buddhist/Neo-Buddhist mothers (59 percent), and Sikh mothers (58 percent) are most likely to take place in a health facility, and births to Muslim mothers (33 percent) are least likely to take place in a health facility. Institutional deliveries among mothers who had four or more antenatal care visits (75 percent) are more than two and a half times as common as births to mothers who had 1-3 antenatal care visits (28 percent). Institutional deliveries are least prevalent (only 10 percent) among births to mothers who did not have any antenatal care. Several factors are likely to contribute to the positive relationship between antenatal care visits and delivery in a health facility. Antenatal care providers may advise pregnant women to give birth in an institution. Conversely, women who register with a health facility for delivery may be called for regular antenatal check-ups by the facility. Another important factor may be pregnancy complications, because women with pregnancy complications are more likely than other women to have antenatal check-ups and to deliver in a health facility.

Institutional deliveries, particularly in private sector facilities, increase sharply with the mother's education and with the household wealth index. One factor contributing to these patterns may be a heightened awareness of the benefits of professional medical care during both pregnancy and delivery among urban, educated women and women in households in the highest wealth quintile. With regard to deliveries at home, the proportion of deliveries in a woman's own home increases and the proportion in her parents' home decreases with age and birth order. Mother's education and household wealth both have a strong negative association with deliveries at home.

Women who did not deliver their last child in a health facility were asked about the reason for not delivering in a health facility. The reasons given are shown in Table 8.13. A large majority of women who did not deliver their last birth in a health facility (72 percent) said they did not feel it necessary to deliver in a health facility. In addition, 26 percent reported that it costs too much to deliver in a health facility. Eleven percent said that the health facility is located too far away or that transport was not available to reach the facility. The proportion of women reporting that delivering in a health facility costs too much or that the health facility is too far or no transport was available is higher in rural than in urban areas.

Table 8.13 Reasons for not delivering in a health facility

Percentage of women who had a live birth in the five years preceding the survey by reasons for not delivering the most recent live birth in a health facility, according to residence, India, 2005-06

Reason for not delivering in a health facility	Urban	Rural	Total
Costs too much	21.5	26.9	26.2
Facility not open	2.3	3.6	3.4
Too far/no transport	5.5	11.8	11.0
Don't trust facility/poor quality service	4.0	2.4	2.6
No female provider at facility	1.3	1.1	1.1
Husband/family did not allow	6.0	5.9	5.9
Not necessary	69.6	72.1	71.8
Not customary	5.5	6.5	6.3
Other	5.0	2.7	3.0
Number of women	3,127	20,008	23,135

Note: Percentages do not add to 100.0 because multiple responses were permitted.

All men age 15-49 whose youngest living child was less than three years old were also asked whether their youngest child was delivered in a health facility and, if not, what was the main reason the child was not delivered in a health facility. More than half of men (57 percent) reported that their youngest child was not delivered in a health facility (two-thirds of births in rural areas and one-third of births in urban areas). Forty-five percent of men who said the child was not delivered in a health facility said that either they or their family did not feel it necessary to have the delivery in a health facility (or did not allow it); 24 percent reported that it costs too much; 11 percent reported that mother of the child did not think it was necessary, and 7 percent said that the health facility was too far away or that no transportation was available (Table 8.14).

Table 8.14 Institutional delivery of youngest child: Men's reports

Percent distribution of men age 15-49 whose youngest living child was 0-35 months by whether the child was delivered in a health facility, and percent distribution of men 15-49 whose youngest living child age 0-35 months was not delivered in a health facility by the main reason for not delivering in a health facility, according to residence, India, 2005-06

Place of delivery/reason for not delivering in a health facility	Urban	Rural	Total
Youngest child delivered in a health facility			
Yes	67.4	32.2	42.8
No	32.6	67.8	57.2
Total	100.0	100.0	100.0
Number of men	4,233	9,795	14,028
Main reason for not delivering in a health facility			
Cost too much	20.7	24.3	23.7
Facility not open	2.7	1.7	1.9
Too far/no transportation	4.8	7.7	7.2
Don't trust facility/poor quality service	2.6	1.4	1.6
No female provider at facility	0.2	0.7	0.6
Not the first child	4.1	3.8	3.9
Child's mother did not think it was necessary	14.4	10.1	10.8
Father of child/family did not think it was necessary/ did not allow	43.6	44.9	44.7
Other	4.6	3.3	3.5
Don't know	0.8	0.9	0.8
Missing	1.6	1.2	1.2
Total	100.0	100.0	100.0
Number of men	1,379	6,638	8,018

Thus, a substantial proportion of women and men in India are not convinced about the need to have a delivery in a health facility. These results suggest the need to inform parents and families more about the benefits of delivering in a health facility and to help overcome traditional attitudes and other hurdles that discourage institutional births. In addition, since about one-third of women and men gave reasons dealing with the cost of services and problems of accessibility, utilization of health facilities for deliveries could also be increased by lowering direct and indirect costs and making services more accessible.

8.2.2 Information Given to Men

Men who had a child less than four years of age were asked whether at any time when the mother was pregnant with their youngest child any health provider or health worker spoke to them about family planning or delaying the next children; the importance of delivering the baby in a hospital or health facility; or the importance of proper nutrition for the mother during pregnancy. They were also asked whether anyone explained to them the importance of the mother breastfeeding the baby immediately after delivery, of keeping the baby warm immediately after birth, of cleanliness at the time of delivery, and of using a new or unused blade to cut the cord. Tables 8.15 and 8.16 present the results of this information by background characteristics and states for men whose youngest living child was under three years of age. Only about two out of five men were told about family planning or the importance of delivering the baby in a health facility. Half of men said they were told about the importance of proper nutrition for the mother during pregnancy. Younger men (age less than 20 at the time of the birth) were much less likely to be given the above information than older men. A higher percentage of urban men than rural men were given each type of information. As the number of living children increases, men are less likely to be given each kind of information. The provision of the three types of information increases with the man's education level and the wealth status of the household. For example, 57 percent, 59 percent, and 68 percent of men with 12 or more years of education were given information on family planning, the importance of institutional delivery, and the importance of proper nutrition for the mother during pregnancy, compared with 21 percent, 25 percent, and 29 percent of men with no education. By religion, Muslim men are least likely to be given each type of information. Men who are not from scheduled castes, scheduled tribes, or other backward classes are more likely than men in other caste/tribe groups to be given such information.

About one-third of men were told about the importance of breastfeeding the baby and keeping the baby warm immediately after birth. Forty-eight percent of men were told about the importance of using a new or unused blade to cut the cord and 44 percent were told about the importance of cleanliness at the time of delivery. The pattern of differentials in these four indicators by background characteristics is similar to the earlier pattern.

State differentials in the provision of information related to delivery and newborn care are presented in Table 8.16. Information about the importance of delivering in a health facility was given to the most men in Gujarat and Karnataka (70 percent each). In contrast, less than one-quarter of men in Uttar Pradesh, Bihar, and Jharkhand were given this information. At least 70 percent of men in Kerala, Goa, Gujarat, Sikkim, Karnataka, and Tripura were told about the importance of proper nutrition for the mother during pregnancy. Men in Uttar Pradesh again rank last in this indicator. At least half of the men in Tamil Nadu, Gujarat, Karnataka, Andhra

Table 8.15 Delivery and other related information given to men: Men's reports

Percentage of men age 15-49 whose youngest living child was 0-35 months who were given specific types of pregnancy, delivery, and family planning information by a health provider or health worker during the mother's pregnancy, and percentage whose youngest living child age 0-35 months was not delivered in an institution who were given specific types of information needed to make home deliveries safer, according to background characteristics, India, 2005-06

Background characteristic	Percentage of fathers who said that at some time during the pregnancy, a health provider or worker spoke to them about:			Number of men	Percentage of fathers who said that during the pregnancy, someone explained to them the importance of[1]:				Number of men
	The importance of delivering in a health facility	The importance of proper nutrition for the mother during pregnancy	Family planning or delaying his next child		Breastfeeding the baby immediately after birth	Keeping the baby warm immediately after birth	Cleanliness at the time of delivery	Using a new or unused blade to cut the cord	
Age at birth									
<20	27.3	27.8	21.2	170	17.3	15.6	28.9	33.7	113
20-34	44.2	51.1	41.6	11,127	36.6	33.3	44.8	48.8	6,252
35-49	40.5	46.5	36.8	2,732	33.0	31.1	44.1	47.7	1,653
Number of children ever born									
1	51.8	58.8	46.9	4,388	40.0	37.1	49.0	49.2	1,759
2-3	44.7	51.8	42.9	6,601	38.0	34.1	44.9	48.4	3,767
4+	28.2	33.0	25.6	3,039	28.9	27.2	40.6	47.6	2,491
Residence									
Urban	55.6	61.6	54.2	4,233	42.0	41.1	50.0	53.0	1,379
Rural	38.0	44.9	34.5	9,795	34.3	30.8	43.3	47.4	6,638
Education									
No education	25.0	29.1	20.9	3,412	25.7	24.4	34.9	39.5	2,757
<5 years complete	37.6	44.4	33.5	1,548	35.2	32.5	45.8	47.5	1,040
5-7 years complete	44.7	51.8	41.0	2,350	39.0	36.6	48.5	50.5	1,339
8-9 years complete	46.8	54.2	45.5	2,691	40.7	35.5	48.9	54.5	1,458
10-11 years complete	56.0	62.7	53.8	1,586	42.6	38.6	50.5	53.9	659
12 or more years complete	59.0	67.8	57.3	2,437	50.5	44.9	56.2	61.4	761
Religion									
Hindu	43.7	50.6	41.3	11,189	35.9	32.3	44.0	48.6	6,338
Muslim	38.0	44.0	32.9	2,167	32.6	31.4	44.5	46.6	1,372
Christian	53.8	58.8	47.4	281	37.7	43.4	49.8	45.7	132
Sikh	53.9	59.3	56.3	179	(55.9)	(60.6)	(64.0)	(61.5)	68
Buddhist/Neo-Buddhist	47.7	57.8	53.3	107	45.9	34.5	47.4	46.8	45
Jain	(77.9)	(65.1)	(78.0)	35	*	*	*	*	5
Other	46.3	43.4	31.1	67	48.9	44.4	57.3	59.6	54
Caste/tribe									
Scheduled caste	39.7	46.5	39.3	2,928	33.3	33.1	43.5	50.0	1,857
Scheduled tribe	39.4	46.0	34.4	1,402	37.7	34.0	45.2	48.2	1,088
Other backward class	42.1	47.9	39.0	5,482	33.7	28.7	43.1	47.5	3,121
Other	48.6	56.2	45.1	4,153	39.8	37.7	46.9	48.1	1,921
Don't know	(69.3)	(72.9)	(51.3)	21	*	*	*	*	6
Wealth index									
Lowest	24.9	29.7	21.3	3,130	27.3	25.0	36.8	42.9	2,696
Second	33.8	41.0	32.0	2,936	36.7	33.1	45.4	48.1	2,187
Middle	44.1	51.8	40.2	2,842	37.3	33.8	47.7	51.5	1,619
Fourth	55.0	60.5	51.0	2,818	45.9	43.2	51.4	52.9	1,137
Highest	65.2	73.4	64.5	2,303	50.9	47.3	58.2	61.4	379
Total	43.3	49.9	40.4	14,028	35.6	32.6	44.4	48.3	8,018

Note: Total includes men with missing information on education, religion, and caste/tribe, who are not shown separately.
( ) Based on 25-49 unweighted cases.
* Percentage not shown; based on fewer than 25 unweighted cases.
[1] Men whose youngest living child age 0-35 months was not delivered in a health institution.

Pradesh, Kerala, Punjab, Maharashtra, Goa, and Mizoram were told about family planning or delaying their next child. Bihar ranks lowest in this indicator. More than half of men were told about the importance of breastfeeding and keeping the baby warm immediately after birth, cleanliness at the time of delivery, and using a new or unused blade to cut the cord in Tripura, Sikkim, Punjab, Manipur, Gujarat, Andhra Pradesh, and Karnataka. Tripura ranked first in all four indicators.

Table 8.16 Delivery and other related information given to men by state: Men's reports

Percentage of men age 15-49 whose youngest living child was 0-35 months who were given specific types of pregnancy, delivery, and family planning information by a health provider or health worker during the mother's pregnancy, and percentage whose youngest living child age 0-35 months was not delivered in an institution who were given specific types of information needed to make home deliveries safer, by state, India, 2005-06

State	Percentage of fathers who said that at some time during the pregnancy, a health provider or worker spoke to them about:			Percentage of fathers who said that during the pregnancy, someone explained to them the importance of[1]:			
	The importance of delivering in a health facility	The importance of proper nutrition for the mother during pregnancy	Family planning or delaying his next child	Breastfeeding the baby immediately after birth	Keeping the baby warm immediately after birth	Cleanliness at the time of delivery	Using a new or unused blade to cut the cord
India	43.3	49.9	40.4	35.6	32.6	44.4	48.3
North							
Delhi	47.7	51.1	48.1	36.6	36.0	36.3	37.2
Haryana	34.3	44.4	39.3	41.3	39.0	37.3	37.0
Himachal Pradesh	54.1	64.2	48.5	54.4	47.2	56.4	60.3
Jammu & Kashmir	37.6	46.0	26.0	44.0	45.9	53.8	52.7
Punjab	63.6	66.0	59.1	66.7	68.7	66.7	62.6
Rajasthan	39.6	42.4	38.6	22.7	24.1	28.5	37.3
Uttaranchal	32.9	35.3	30.5	33.6	27.8	45.2	50.9
Central							
Chhattisgarh	38.4	52.6	34.3	44.4	24.5	43.4	57.8
Madhya Pradesh	44.6	45.8	37.5	30.1	21.4	34.9	40.0
Uttar Pradesh	21.8	28.3	22.6	24.0	24.7	40.1	47.1
East							
Bihar	24.2	31.7	16.6	29.1	22.9	46.0	50.1
Jharkhand	24.9	31.3	25.0	27.3	26.3	41.4	55.0
Orissa	50.8	56.7	38.9	44.7	42.1	51.5	50.8
West Bengal	41.4	55.2	41.4	39.4	41.2	46.2	50.0
Northeast							
Arunachal Pradesh	31.9	33.9	25.7	24.6	30.8	30.8	29.7
Assam	35.3	49.3	37.9	43.2	45.2	51.6	51.9
Manipur	55.9	68.9	44.2	55.0	69.8	67.4	65.1
Meghalaya	44.5	45.0	24.0	46.2	45.1	47.2	44.1
Mizoram	62.0	66.2	50.8	(46.3)	(50.7)	(50.7)	(36.3)
Nagaland	47.5	56.0	24.8	49.2	55.3	59.5	62.4
Sikkim	61.9	73.1	47.4	64.4	69.4	77.5	68.5
Tripura	60.1	71.2	45.0	79.8	76.9	79.8	80.4
West							
Goa	53.9	80.0	51.7	*	*	*	*
Gujarat	70.3	74.2	63.6	65.9	50.8	67.6	54.2
Maharashtra	57.4	63.5	56.4	45.0	39.2	48.4	49.9
South							
Andhra Pradesh	64.9	68.0	60.1	59.6	52.4	56.1	51.5
Karnataka	70.1	72.7	60.8	55.5	55.9	54.7	51.4
Kerala	61.3	85.4	59.9	*	*	*	*
Tamil Nadu	60.4	66.3	64.3	53.1	39.4	53.1	46.2

( ) Based on 25-49 unweighted cases.
* Percentage not shown; based on fewer than 25 unweighted cases.
[1] Men whose youngest living child age 0-35 months was not delivered in a health institution.

The Government of India has established protocols to be followed for safe delivery at home. Table 8.17 shows whether or not the protocols were followed for the last live birth delivered at home in the last five years. A clean blade was used to cut the cord in 92 percent of deliveries, but the other protocols were not followed in most cases. The baby was immediately wiped dry and then wrapped without being bathed (as recommended) in 45 percent of deliveries. A disposable delivery kit was used for only 21 percent of deliveries. The situation was slightly better in urban areas than in rural areas with respect to the use of disposable delivery kits and clean blades.

Table 8.17 Adherence to delivery protocol for home delivery

Percentage of women who had a live birth delivered at home in the five years preceding the survey by whether the required protocol was followed at the time of delivery for the most recent live birth delivered at home, according to residence, India, 2005-06

Protocol at delivery	Urban	Rural	Total
Disposable delivery kit (DDK) used	27.1	19.7	20.7
Clean blade used to cut the cord	93.5	91.8	92.1
Either of the above	94.0	92.6	92.8
Baby was immediately wiped dry and then wrapped without being bathed	45.4	45.4	45.4
Number of women	3,127	20,008	23,135

8.2.3 Assistance during Delivery

Obstetric care from a trained provider during delivery is recognized as critical for the reduction of maternal and neonatal mortality. Births delivered at home are more likely than births delivered in a health facility to be assisted by a health professional. Table 8.18 shows the type of assistance during delivery by background characteristics. If more than one type of attendant assisted at the delivery, only the most qualified attendant is shown. Forty-seven percent of births in the five years preceding the survey were assisted by health personnel, including 35 percent by a doctor and 10 percent by an ANM, nurse, midwife, or LHV. More than one-third of births (37 percent) were assisted by a traditional birth attendant (TBA) and 16 percent were assisted by only friends, relatives, or other persons.

The percentage of births assisted by a doctor is lower for mothers age 35-49 than for younger mothers, and the percentage decreases sharply by birth order. First-order births (52 percent) are more than five times as likely as births of order six or above (10 percent) to be assisted by a doctor. Deliveries are much more likely to be assisted by a doctor in urban areas (62 percent) than in rural areas (26 percent). The proportion of deliveries assisted by doctors also increases sharply with the mother's education and the household wealth index. Eighty-one percent of births to mothers who completed at least 12 years of education were assisted by a doctor, compared with only 16 percent of births to mothers with no education. Similarly, 12 percent of births to women in the lowest wealth quintile households were assisted by a doctor, compared with 78 percent of births to women in households in the highest wealth quintile. Among religious groups, Jain women (90 percent) are most likely to have a delivery assisted by a doctor. About half of the deliveries of Buddhist/Neo-Buddhist and Sikh women (50-52 percent) were assisted by a doctor. By contrast, only 30 percent of births to Muslim women were assisted by a doctor. Only 17 percent of births to women who belong to scheduled tribes were assisted by a doctor, compared with 47 percent of births to women who do not belong to a scheduled caste, scheduled tribe, or other backward class.

Eighty-eight percent of deliveries in private health facilities were assisted by a doctor, compared with 77 percent of deliveries in public sector health facilities. Among deliveries at home (the respondents' or their parents' homes), more than half were assisted by a TBA, and only 12-18 percent were assisted by health personnel.

Table 8.18 Assistance during delivery

Percent distribution of live births in the five years preceding the survey by person providing assistance during delivery, and percentage delivered by caesarean section, according to background characteristics, India, 2005-06

Background characteristic	Person providing assistance during delivery									Percentage delivered by a skilled provider[1]	Percentage delivered by caesarean section	Number of births
	Doctor	ANM/ nurse/ midwife/ LHV	Other health personnel	*Dai* (TBA)	Friends/ relatives	Other	No one	Don't know/ missing	Total			
Mother's age at birth												
<20	34.3	11.6	1.3	36.4	15.6	0.2	0.3	0.3	100.0	47.2	6.3	11,882
20-34	36.3	10.1	1.1	35.8	16.1	0.1	0.5	0.1	100.0	47.5	9.2	42,155
35-49	20.1	6.7	1.2	50.2	20.6	0.2	1.1	0.0	100.0	28.0	6.1	2,400
Birth order												
1	52.2	12.0	1.0	24.2	10.1	0.1	0.1	0.3	100.0	65.2	14.8	17,106
2-3	35.8	10.7	1.2	35.9	15.8	0.1	0.4	0.1	100.0	47.7	8.2	24,429
4-5	17.5	8.7	1.1	48.9	22.6	0.1	1.0	0.1	100.0	27.3	1.9	9,522
6+	9.7	5.8	1.0	56.5	25.6	0.0	1.3	0.1	100.0	16.5	1.1	5,381
Residence												
Urban	61.8	11.2	0.4	20.0	6.0	0.1	0.3	0.1	100.0	73.5	16.8	14,303
Rural	26.1	10.0	1.3	42.1	19.6	0.1	0.6	0.1	100.0	37.5	5.6	42,135
Mother's education												
No education	16.3	8.4	1.4	50.4	22.5	0.1	0.8	0.1	100.0	26.1	2.5	28,237
<5 years complete	33.1	10.2	1.6	36.8	17.6	0.1	0.4	0.2	100.0	45.0	5.8	4,100
5-7 years complete	43.4	12.5	1.0	30.1	12.4	0.1	0.3	0.2	100.0	56.9	9.0	8,189
8-9 years complete	53.0	13.4	0.7	22.2	10.2	0.1	0.2	0.1	100.0	67.1	12.7	6,723
10-11 years complete	66.0	13.6	0.7	14.4	5.2	0.0	0.1	0.1	100.0	80.3	18.9	4,282
12 or more years complete	80.6	10.1	0.3	6.3	2.5	0.0	0.0	0.2	100.0	91.0	29.3	4,905
Religion												
Hindu	35.6	10.7	1.1	34.9	16.9	0.1	0.5	0.1	100.0	47.5	8.6	44,152
Muslim	30.2	7.3	1.2	47.0	13.8	0.1	0.3	0.1	100.0	38.8	6.4	9,641
Christian	48.1	11.5	0.5	21.6	16.7	0.0	1.3	0.1	100.0	60.2	16.5	1,109
Sikh	50.2	23.6	1.6	24.1	0.5	0.0	0.0	0.0	100.0	75.4	17.0	716
Buddhist/Neo-Buddhist	52.4	12.4	0.1	16.2	18.8	0.0	0.1	0.1	100.0	64.9	5.7	377
Jain	89.8	4.5	0.0	5.5	0.0	0.0	0.0	0.2	100.0	94.3	38.9	87
Other	8.3	6.2	0.1	67.3	15.4	0.0	2.2	0.5	100.0	14.6	1.8	306
Caste/tribe												
Scheduled caste	29.4	10.4	0.9	37.7	20.7	0.1	0.6	0.1	100.0	40.6	6.0	11,693
Scheduled tribe	17.1	7.0	1.2	50.2	23.0	0.0	1.3	0.2	100.0	25.4	2.8	5,442
Other backward class	33.8	11.7	1.1	37.1	15.5	0.1	0.4	0.2	100.0	46.7	7.7	22,716
Other	47.4	9.3	1.1	30.4	11.3	0.0	0.3	0.1	100.0	57.8	13.2	16,176
Don't know	34.9	11.5	7.9	26.0	18.7	0.0	0.0	1.1	100.0	54.2	7.8	220
Wealth index												
Lowest	11.7	6.4	1.3	52.8	26.6	0.2	1.0	0.1	100.0	19.4	1.5	14,377
Second	21.0	9.4	1.5	45.5	21.9	0.1	0.5	0.1	100.0	31.8	3.5	12,654
Middle	35.0	12.7	1.4	35.9	14.4	0.1	0.5	0.1	100.0	49.0	7.0	11,181
Fourth	52.2	14.3	0.7	25.1	7.3	0.1	0.1	0.1	100.0	67.2	12.4	10,154
Highest	78.1	10.3	0.3	8.8	2.1	0.0	0.1	0.2	100.0	88.8	25.7	8,072
Place of delivery												
Public sector health facility	77.2	21.8	0.3	0.2	0.5	0.0	0.0	0.0	100.0	99.2	15.2	10,166
NGO or trust hospital/clinic	85.8	13.4	0.0	0.0	0.8	0.0	0.0	0.0	100.0	99.2	24.4	251
Private sector health facility	88.4	10.8	0.2	0.3	0.2	0.0	0.0	0.0	100.0	99.4	27.8	11,405
Own home	4.6	6.3	1.4	60.2	26.5	0.1	0.9	0.0	100.0	12.4	0.0	28,980
Parents' home	6.7	8.2	2.9	57.2	24.5	0.4	0.2	0.0	100.0	17.8	0.0	5,218
Other home	10.9	22.1	2.3	43.0	20.6	0.0	1.1	0.0	100.0	35.3	0.0	263
Other[2]	4.5	4.0	6.0	14.9	23.2	1.4	3.8	42.1	100.0	14.5	0.0	156
Total	35.2	10.3	1.1	36.5	16.2	0.1	0.5	0.1	100.0	46.6	8.5	56,438

Note: If the respondent mentioned more than one person attending during delivery, only the most qualified person is considered in this tabulation. Total includes births with missing information on mother's education, religion, and caste/tribe, which are not shown separately.
ANM = Auxiliary nurse midwife; LHV = Lady health visitor; TBA = Traditional birth attendant; NGO = Nongovernmental organization
[1] Skilled provider includes doctor, ANM/nurse/midwife/LHV, and other health personnel.
[2] Includes missing.

8.2.4 Delivery Characteristics

Table 8.18 also shows the percentage of births during the five years preceding the survey that were delivered by caesarean section. Based on mothers' reports, 9 percent of children born in India in the five years before the survey were delivered by caesarean section. The proportion of deliveries by caesarean section was three times as high in urban areas (17 percent) as in rural areas (6 percent). Twenty-eight percent of births delivered in private health facilities and 15 percent of births delivered in public sector health facilities were delivered by caesarean section. There is a positive relationship between deliveries conducted by caesarean section and both the educational level of the mother and the household wealth index.

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. Postnatal check-ups soon after the delivery are particularly important for births that take place in noninstitutional settings. Recognizing the importance of postnatal check-ups, the Reproductive and Child Health Programme recommends three postnatal visits (Ministry of Health and Family Welfare, 1997).

8.3.1 Timing of First Postnatal Check-up

A large proportion of maternal and neonatal deaths occur during the 48 hours after delivery. Hence safe motherhood programmes have increasingly emphasized the importance of postnatal care, recommending that all women receive a check on their health within two days of delivery. The World Health Organization recognizes several 'crucial moments when contact with the health system/informed caregiver could be instrumental in identifying and responding to needs and complications' (World Health Organization, 1998). It is most important to have the first postnatal check-up within a few hours of birth. Another important time for a postnatal check-up is six weeks (42 days) after the birth. By this time, a woman's body should generally have returned to its pre-pregnancy state. To assess the extent of postnatal care check-ups, respondents were asked for the last birth in the five years preceding the survey whether they received a health check after the delivery, the timing of the first check, and the type of health provider. This information is presented by background characteristics in Tables 8.19 and 8.20.

A majority of women (58 percent) did not receive any postnatal check-up after their most recent birth. Only one-quarter of women (27 percent) received a health check-up in the first four hours after birth and only 37 percent received a health check-up within the critical first two days after delivery. The likelihood of a birth being followed by a postnatal check-up at all and within two days increases with the educational level of the mother and the household wealth index. There are no marked variations by mother's age, but utilization of postnatal check-ups decreases with increasing birth order. Births to urban mothers are almost twice as likely to be followed by a postnatal check-up (66 percent) as births to rural mothers (34 percent). By religion, births to Jain women are most likely to be followed by a postnatal check-up and births to Muslim women are least likely to be followed by a postnatal check-up. Births in a private health facility are most likely to have a postnatal check-up (85 percent), as well as a check-up in less than four hours (62 percent). Births in the woman's own home or her parents' home are rarely followed by a prompt postnatal check-up. Only 15 percent of women who gave birth at home or in their parents' home received a postnatal check-up; only 6 percent received a check-up within four hours of delivery.

Table 8.19 Timing of first postnatal check-up

Percent distribution of women giving birth in the five years preceding the survey by whether or not they received a postnatal health check-up after their most recent live birth and the timing of the first postnatal check-up, according to background characteristics, India, 2005-06

Background characteristic	Time between delivery and mother's first postnatal check-up					No postnatal check-up	Total	Number of women
	Less than 4 hours	4-23 hours	1-2 days	3-41 days	Don't know/ missing			
Age at birth								
<20	24.7	5.1	5.1	3.7	0.9	60.5	100.0	6,881
20-34	28.6	5.0	5.2	4.1	1.2	55.8	100.0	30,716
35-49	16.0	2.9	4.2	2.0	1.0	73.9	100.0	2,080
Birth order								
1	36.9	7.8	6.5	3.6	1.9	43.3	100.0	10,457
2-3	30.6	4.8	5.5	4.3	1.0	53.7	100.0	18,207
4-5	15.8	2.4	3.3	4.4	0.8	73.3	100.0	6,955
6+	7.1	1.9	2.8	2.6	0.6	85.0	100.0	4,058
Residence								
Urban	45.2	8.1	7.7	2.7	2.0	34.3	100.0	10,626
Rural	20.8	3.7	4.1	4.4	0.9	66.1	100.0	29,051
Education								
No education	13.4	2.4	3.3	3.9	0.7	76.4	100.0	18,792
<5 years complete	23.7	4.5	5.4	5.3	0.9	60.2	100.0	2,876
5-7 years complete	32.8	5.4	5.6	4.4	1.4	50.3	100.0	5,846
8-9 years complete	36.0	7.4	6.9	4.2	1.6	44.0	100.0	4,892
10-11 years complete	48.6	8.5	8.0	3.3	1.8	29.7	100.0	3,254
12 or more years complete	59.2	10.2	8.1	2.9	2.3	17.2	100.0	4,016
Religion								
Hindu	27.7	4.8	5.1	4.1	1.2	57.1	100.0	31,295
Muslim	21.9	5.1	5.0	3.0	0.9	64.1	100.0	6,486
Christian	41.3	6.3	6.5	4.5	1.8	39.4	100.0	814
Sikh	50.7	6.7	7.0	2.2	1.4	32.0	100.0	514
Buddhist/Neo-Buddhist	36.0	5.0	6.3	5.8	1.2	45.7	100.0	250
Jain	53.6	11.8	4.8	0.0	3.8	26.0	100.0	76
Other	7.8	2.5	2.1	3.7	0.8	83.1	100.0	205
Caste/tribe								
Scheduled caste	23.7	3.9	4.8	3.8	1.0	62.9	100.0	7,946
Scheduled tribe	16.3	2.3	4.4	7.4	1.1	68.6	100.0	3,746
Other backward class	26.4	4.5	4.7	3.7	0.8	59.8	100.0	15,889
Other	34.5	7.0	6.1	3.3	1.7	47.4	100.0	11,789
Don't know	26.3	5.2	5.6	6.9	1.5	54.5	100.0	158
Wealth index								
Lowest	9.9	2.0	2.5	4.5	0.5	80.7	100.0	9,571
Second	16.4	2.6	3.8	4.2	0.7	72.3	100.0	8,605
Middle	27.3	4.5	5.0	5.0	1.2	57.1	100.0	7,774
Fourth	37.7	7.3	7.1	3.1	1.6	43.2	100.0	7,256
Highest	55.9	10.1	8.6	2.4	2.3	20.7	100.0	6,471
Place of delivery								
Public sector health facility	53.1	11.1	8.8	1.7	1.9	23.5	100.0	7,540
NGO or trust hospital/clinic	57.6	15.2	8.3	0.8	2.7	15.4	100.0	190
Private sector health facility	61.9	10.2	7.8	1.9	2.7	15.4	100.0	8,727
Own home	5.3	0.7	2.7	4.9	0.3	86.0	100.0	19,403
Parents' home	7.1	1.2	3.9	8.3	0.4	79.2	100.0	3,552
Other home	10.6	0.4	0.9	7.0	0.0	81.2	100.0	180
Other[1]	8.1	0.4	0.4	2.6	19.2	69.3	100.0	85
Total	27.3	4.9	5.1	3.9	1.2	57.6	100.0	39,677

Note: Postnatal check-ups are checks on the woman's health within 42 days of the birth. Total includes women with missing information on education, religion, and caste/tribe, who are not shown separately.
NGO = Nongovernmental organization
[1] Includes missing.

8.3.2 Type of Provider of First Postnatal Check-up

Table 8.20 shows the percent distribution of type of provider of the mother's first postnatal check-up according to background characteristics of the woman. Thirty-eight percent of mothers received a postnatal check-up from health personnel after their most recent birth. A large majority of the postnatal check-ups were conducted by a doctor. More than half (53 percent) of mothers in urban areas received a postnatal check-up from a doctor, compared with only 21 percent in rural areas. Jain mothers, followed by Christian mothers, are more likely than other mothers to have received a postnatal check-up from a doctor. Women delivering in health facilities (particularly private sector health facilities) are most likely to have a postnatal check-up from a doctor. Postnatal check-ups conducted by a doctor increase with educational attainment and the household wealth index. Only 8 percent of mothers received a postnatal check-up from an ANM, nurse, midwife, or LHV. This proportion was highest for Sikh women.

Table 8.20 Type of provider of first postnatal check-up

Among women giving birth in the five years preceding the survey, the percent distribution by type of provider of the mother's first postnatal health check-up for the last live birth, according to background characteristics, India, 2005-06

Background characteristic	Type of health provider of mother's first postnatal check-up					Don't know/ missing	No postnatal check-up	Total	Number of women
	Doctor	ANM/nurse/ midwife/LHV	Other health personnel	*Dai* (TBA)	Other				
Age at birth									
<20	26.2	8.8	0.5	3.0	0.0	1.0	60.5	100.0	6,881
20-34	31.2	7.9	0.7	3.1	0.0	1.2	55.8	100.0	30,716
35-49	16.3	4.2	0.5	4.0	0.0	1.0	73.9	100.0	2,080
Birth order									
1	43.1	9.0	0.4	2.3	0.0	1.9	43.3	100.0	10,457
2-3	33.1	8.4	0.7	3.2	0.0	1.0	53.7	100.0	18,207
4-5	13.8	7.0	1.0	4.0	0.0	0.8	73.3	100.0	6,955
6+	5.8	4.0	1.0	3.5	0.2	0.6	85.0	100.0	4,058
Residence									
Urban	53.0	8.1	0.2	2.3	0.0	2.0	34.3	100.0	10,626
Rural	20.9	7.8	0.8	3.4	0.0	0.9	66.1	100.0	29,051
Education									
No education	11.9	6.3	0.8	3.8	0.1	0.7	76.4	100.0	18,792
<5 years complete	24.6	9.7	1.2	3.4	0.0	0.9	60.2	100.0	2,876
5-7 years complete	33.6	10.5	0.5	3.6	0.0	1.4	50.3	100.0	5,846
8-9 years complete	41.9	9.4	0.6	2.6	0.0	1.6	44.0	100.0	4,892
10-11 years complete	56.8	9.3	0.6	1.7	0.0	1.8	29.7	100.0	3,254
12 or more years complete	72.5	7.0	0.2	0.7	0.0	2.3	17.2	100.0	4,016
Religion									
Hindu	29.7	8.2	0.7	3.1	0.0	1.2	57.1	100.0	31,295
Muslim	25.5	5.4	0.8	3.3	0.0	0.9	64.1	100.0	6,486
Christian	48.4	8.0	0.2	2.1	0.1	1.8	39.4	100.0	814
Sikh	38.8	17.8	1.8	8.1	0.0	1.4	32.0	100.0	514
Buddhist/Neo-Buddhist	40.3	10.1	1.0	1.6	0.0	1.2	45.7	100.0	250
Jain	69.6	0.6	0.0	0.0	0.0	3.8	26.0	100.0	76
Other	8.6	6.0	0.6	0.9	0.0	0.8	83.1	100.0	205
Caste/tribe									
Scheduled caste	23.6	8.3	0.6	3.6	0.0	1.0	62.9	100.0	7,946
Scheduled tribe	14.2	8.5	1.8	5.6	0.1	1.1	68.6	100.0	3,746
Other backward class	28.2	8.2	0.5	2.4	0.0	0.8	59.8	100.0	15,889
Other	40.3	6.9	0.6	3.1	0.0	1.7	47.4	100.0	11,789
Don't know	35.6	6.1	1.5	0.9	0.0	1.5	54.5	100.0	158
Wealth index									
Lowest	7.9	5.9	1.1	3.8	0.1	0.5	80.7	100.0	9,571
Second	15.3	7.1	0.9	3.7	0.0	0.7	72.3	100.0	8,605
Middle	27.5	9.9	0.7	3.6	0.0	1.2	57.1	100.0	7,774
Fourth	42.8	9.4	0.3	2.7	0.0	1.6	43.2	100.0	7,256
Highest	68.0	7.5	0.2	1.2	0.0	2.4	20.7	100.0	6,471

Continued…

Table 8.20 Type of provider of first postnatal check-up—*Continued*

Background characteristic	Type of health provider of mother's first postnatal check-up: Doctor	ANM/nurse/ midwife/LHV	Other health personnel	*Dai* (TBA)	Other	Don't know/ missing	No postnatal check-up	Total	Number of women
Place of delivery									
Public sector health facility	58.9	15.5	0.1	0.1	0.0	1.9	23.5	100.0	7,540
NGO or trust hospital/clinic	71.7	10.2	0.0	0.0	0.0	2.7	15.4	100.0	190
Private sector health facility	72.3	9.3	0.2	0.1	0.0	2.7	15.4	100.0	8,727
Own home	3.2	4.3	1.0	5.2	0.0	0.3	86.0	100.0	19,403
Parents' home	5.8	7.6	1.4	5.6	0.0	0.4	79.2	100.0	3,552
Other home	5.2	7.0	1.4	5.2	0.0	0.0	81.2	100.0	180
Other[1]	2.8	7.3	0.0	1.4	0.0	19.2	69.3	100.0	85
Total	29.5	7.9	0.7	3.1	0.0	1.2	57.6	100.0	39,677

Note: Postnatal check-ups are checks on the woman's health within 42 days of the birth. Total includes women with missing information on education, religion, and caste/tribe, who are not shown separately.
ANM = Auxiliary nurse midwife; LHV = Lady health visitor; TBA = Traditional birth attendant; NGO = Nongovernmental organization
[1] Includes missing.

8.4 POSTPARTUM COMPLICATIONS

Every woman who had a birth in the five 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 of her most recent child (Table 8.21). Women reported massive vaginal bleeding for 12 percent of births and a very high fever for 14 percent of births. Both complications were more common among rural than urban mothers. While the likelihood of massive vaginal bleeding did not vary much by mother's age or birth order, very high fever was somewhat more likely to be reported for births at higher orders (four or above). The likelihood of having massive vaginal bleeding did not vary much by place of delivery, but very high fever was much more common for home births than for institutional births. Both complications are somewhat lower than average for births assisted by a doctor.

Table 8.21 Symptoms of postpartum complications

Among women giving birth in the five years preceding the survey, percentage who had massive vaginal bleeding or very high fever at any time in the two months after the most recent delivery by background characteristics, India, 2005-06

Background characteristic	Massive vaginal bleeding	Very high fever	Number of women
Residence			
Urban	10.1	8.7	10,626
Rural	13.2	15.2	29,051
Age at birth			
<20	13.3	13.9	6,881
20-34	12.2	13.3	30,716
35-49	10.8	15.7	2,080
Birth order			
1	13.1	12.3	10,457
2-3	12.0	12.0	18,207
4-5	12.2	16.6	6,955
6+	12.2	18.1	4,058
Place of delivery			
Public sector health facility	11.2	9.6	7,540
NGO or trust hospital/clinic	10.3	7.7	190
Private sector health facility	12.3	9.4	8,727
Own home	12.7	16.7	19,403
Parents' home	13.2	14.9	3,552
Other home	6.1	11.1	180
Other[1]	17.7	14.0	85
Assistance during delivery			
Doctor	11.7	10.2	19,937
ANM/nurse/midwife/LHV	11.8	14.9	9,117
Other health personnel	18.6	21.9	414
Dai/TBA	16.7	17.3	458
Other[1]	13.7	18.3	9,751
Total	12.4	13.5	39,677

NGO = Nongovernmental organization; ANM = Auxiliary nurse midwife; LHV = Lady health visitor; TBA = Traditional birth attendant
[1] Includes missing.

8.5 MATERNAL CARE INDICATORS BY STATE

Table 8.22 shows state differentials in five maternal care indicators for births during the five years preceding the survey. These indicators together summarize the extent to which different states have progressed toward achieving safe motherhood goals at all three stages of the birth process: antenatal, delivery, and postnatal. The first indicator is a summary antenatal care indicator which shows the percentage of last live births whose mothers had all of the following: three or more antenatal care visits (with the first visit within the first trimester of pregnancy), two or more tetanus toxoid injections, and iron and folic acid tablets or syrup for three or more months. The next two indicators pertain to care during delivery and show the percentage of births delivered in medical institutions and deliveries assisted by health personnel. The last two indicators pertain to postnatal care for mothers and show the percentage of deliveries with a postpartum check-up within 42 days of the birth and within two days of birth.

Table 8.22 Maternal care indicators by state

Maternal care indicators for births during the five years preceding the survey by state, India, 2005-06

State	Percentage who received all recommended types of antenatal care[1]	Percentage of births delivered in a health facility	Percentage of deliveries assisted by health personnel[2]	Percentage of deliveries with a postnatal check-up[3]	Percentage of deliveries with a postnatal check-up within two days of birth[3]
India	15.0	38.7	46.6	41.2	37.3
North					
Delhi	29.0	58.9	64.1	60.9	58.4
Haryana	14.7	35.7	48.9	57.6	55.9
Himachal Pradesh	17.4	43.0	47.8	50.6	43.2
Jammu & Kashmir	17.5	50.2	56.5	51.6	48.4
Punjab	19.6	51.3	68.2	63.7	62.0
Rajasthan	8.6	29.6	41.0	31.8	28.9
Uttaranchal	16.1	32.6	38.5	35.8	32.4
Central					
Chhattisgarh	11.3	14.3	41.6	36.5	28.4
Madhya Pradesh	7.2	26.2	32.7	33.8	28.5
Uttar Pradesh	4.1	20.6	27.2	14.9	13.3
East					
Bihar	5.8	19.9	29.3	17.8	15.9
Jharkhand	7.5	18.3	27.8	19.6	17.0
Orissa	18.4	35.6	44.0	40.9	33.3
West Bengal	12.3	42.0	47.6	44.3	40.7
Northeast					
Arunachal Pradesh	6.5	28.5	30.2	23.7	22.7
Assam	9.6	22.4	31.0	15.9	13.9
Manipur	10.5	45.9	59.0	50.1	46.4
Meghalaya	8.1	29.0	31.1	33.2	28.8
Mizoram	8.7	59.8	65.4	53.5	50.6
Nagaland	1.9	11.6	24.7	11.8	10.6
Sikkim	27.2	47.2	53.7	52.4	44.9
Tripura	10.6	46.9	48.8	33.7	30.3
West					
Goa	55.7	92.3	94.0	82.8	75.5
Gujarat	25.6	52.7	63.0	61.4	56.5
Maharashtra	21.6	64.6	68.7	64.0	58.7
South					
Andhra Pradesh	28.2	64.4	74.9	73.3	64.1
Karnataka	29.6	64.7	69.7	66.9	58.5
Kerala	63.6	99.3	99.4	87.4	84.9
Tamil Nadu	34.0	87.8	90.6	91.3	87.2

[1] For the last live birth in the five years preceding the survey, mother received three or more antenatal check-ups (with the first check-up within the first trimester of pregnancy), received two or more tetanus toxoid injections, and took iron and folic acid tablets or syrup for three or more months.
[2] Doctor, auxiliary nurse midwife, nurse, midwife, lady health visitor, or other health personnel.
[3] Based on the last live birth in the five years preceding the survey. Postnatal check-ups are checks on the woman's health within 42 days of the birth.

For India as a whole, mothers of only 15 percent of births received all of the required components of antenatal care. This indicator ranges from a high of 64 percent in Kerala and 56 percent in Goa to a low of only 2 percent in Nagaland and 4 percent in Uttar Pradesh. Other states that perform almost as poorly as Uttar Pradesh and Nagaland on this indicator include Bihar, Arunachal Pradesh, Madhya Pradesh, Jharkhand, Meghalaya, Rajasthan, and Mizoram, where only 6-9 percent of women received the recommended components of antenatal care. Kerala, followed closely by Goa, also outperform all other states in terms of delivery care, with nearly all deliveries taking place in medical institutions and a similarly high percentage of deliveries assisted by a health professional. Tamil Nadu, with 88 percent of births delivered in medical institutions and 91 percent assisted by a health professional, ranks third among the states on these delivery care indicators. By contrast, only 12-20 percent of births are delivered in medical institutions in Nagaland, Chhattisgarh, Jharkhand, and Bihar. Only 25-29 percent of deliveries are assisted by health professionals in Nagaland, Uttar Pradesh, Jharkhand, and Bihar.

Tamil Nadu, where 91 percent of deliveries have a postnatal check-up within 42 days of birth and 87 percent within two days, tops the list of states with regard to both of the postnatal care indicators. Kerala and Goa are the other two states which perform quite well on the postnatal care indicators.

An examination of the performance of each state on the different safe motherhood indicators shows that several states consistently perform well below the national average on each of the five indicators. This list includes Rajasthan in the North Region, all states in the Central Region, Bihar and Jharkhand in the East Region, and Arunachal Pradesh, Assam, Meghalaya, and Nagaland in the Northeast Region. Uttaranchal also performs poorly on all the indicators except antenatal care, which is slightly higher than the national average. In contrast, Mizoram performs above the national average on the delivery care indicators and the postnatal care indicators, but poorly on the antenatal care indicator.

8.6 Trends in Maternal Care Indicators

Table 8.23 shows trends in key maternal care indicators over time. All of the measures improved substantially between NFHS-1 and NFHS-3. The first two ANC indicators (percentage with any ANC and at least three ANC visits) improved much more rapidly between NFHS-2 and NFHS-3 than between the first two surveys. The other three indicators improved at a more even pace throughout the period. Over the entire period between NFHS-1 and NFHS-3, most of the indicators improved at a rate of about one percentage point per year. The slowest increase was in the percentage who had at least three antenatal care visits. All of the indicators except the timing of the first ANC visit increased much more rapidly in rural areas than in urban areas. Despite these improvements, at least half of women did not receive appropriate care for their most recent birth. Thus, renewed efforts are required to ensure that women are provided with adequate antenatal and delivery care.

Table 8.23 Trends in maternal care indicators

Maternal care indicators for births during the three years preceding the survey by residence, NFHS-3, NFHS-2, and NFHS-1, India

Indicator	NFHS-3 (2005-06)	NFHS-2 (1998-99)	NFHS-1 (1992-93)
URBAN			
Percentage who received antenatal care[1]	90.7	86.5	83.0
Percentage who had at least three antenatal care visits[1]	73.8	70.1	66.8
Percentage who received antenatal care within the first trimester of pregnancy[1]	63.0	55.8	40.9
Percentage of births delivered in a health facility[2]	69.4	65.1	58.4
Percentage of deliveries assisted by health personnel[2,3]	75.3	73.3	66.4
RURAL			
Percentage who received antenatal care[1]	72.2	59.9	59.2
Percentage who had at least three antenatal care visits[1]	42.8	36.9	37.3
Percentage who received antenatal care within the first trimester of pregnancy[1]	36.1	26.7	20.2
Percentage of births delivered in a health facility[2]	31.1	24.7	16.7
Percentage of deliveries assisted by health personnel[2,3]	39.9	33.5	25.9
TOTAL			
Percentage who received antenatal care[1]	76.9	65.8	64.6
Percentage who had at least three antenatal care visits[1]	50.7	44.2	43.9
Percentage who received antenatal care within the first trimester of pregnancy[1]	43.0	33.1	24.9
Percentage of births delivered in a health facility[2]	40.8	33.6	26.1
Percentage of deliveries assisted by health personnel[2,3]	48.8	42.4	35.1

[1] Based on the last birth to ever-married women in the three years preceding the survey.
[2] Based on the last two births to ever-married women in the three years preceding the survey.
[3] Doctor, auxiliary nurse midwife, nurse, midwife, lady health visitor, or other health personnel.