

## CHAPTER 4

### FERTILITY AND FERTILITY PREFERENCES

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

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

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

#### 4.1 Age at First Cohabitation

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

Table 4.1 shows that, in Delhi, the median age at first cohabitation with husband is 19.3 years for women age 25–49. The median age at first cohabitation has increased from 19.1 for

Table 4.1 Age at first cohabitation with husband								
Median age at first cohabitation with husband among women age 20–49 years by current age and selected background characteristics, Delhi, 1999								
Background characteristic	Current age						20–49	25–49
	20–24	25–29	30–34	35–39	40–49			
<b>Residence</b>								
Urban	NC	20.1	19.4	19.2	19.3	NC	19.5	
Rural	18.9	(17.6)	(17.6)	(17.4)	(17.3)	17.9	17.5	
<b>Education</b>								
Illiterate	17.3	17.1	16.9	17.2	17.1	17.1	17.0	
Literate, < middle school complete	19.5	18.4	18.0	17.6	18.0	18.3	18.0	
Middle school complete	19.9	19.5	18.8	19.1	(18.7)	19.3	19.0	
High school complete and above	NC	21.8	21.7	21.6	22.2	NC	21.8	
<b>Religion</b>								
Hindu	NC	19.9	19.2	18.9	19.1	19.8	19.3	
Muslim	NC	18.3	18.1	(18.3)	(18.2)	18.7	18.2	
Sikh	NC	(22.9)	*	*	(20.1)	NC	21.5	
Other	NC	*	*	*	*	NC	(22.4)	
<b>Caste/tribe</b>								
Scheduled caste	NC	18.7	17.3	17.2	17.2	18.2	17.6	
Other backward class	19.8	17.7	18.0	17.5	18.0	18.1	17.7	
Other <sup>1</sup>	NC	20.7	20.2	20.4	20.3	NC	20.4	
<b>Standard of living index</b>								
Low	*	*	*	*	*	16.4	(16.4)	
Medium	18.9	18.2	17.4	17.7	17.9	18.1	17.8	
High	NC	21.0	20.5	20.0	19.9	NC	20.3	
Total	NC	19.9	19.2	19.1	19.1	19.9	19.3	

Note: Total includes small numbers of scheduled-tribe women and women with missing information on education, religion, caste/tribe, and the standard of living index, who are not shown separately.  
NC: Not calculated because less than 50 percent of women have started living with their husband by age 20  
( ) Based on 25–49 unweighted cases  
\*Median not shown; based on fewer than 25 unweighted cases  
<sup>1</sup>Not belonging to a scheduled caste, scheduled tribe, or other backward class

women age 40–49 to 19.9 for women age 25–29. Most of this increase occurred among the recent cohort of women (i.e., age 25–29).

The median age at first cohabitation rises sharply with women's level of education. Among women age 25–49, it rises from 17.0 years for illiterate women to 21.8 years for women who have completed at least high school. The median is higher for Sikh women (21.5 years) than for Hindu women (19.3 years) or Muslim women (18.2 years). The median age at first cohabitation is lower for women from scheduled castes (17.6) and other backward classes (17.7 years) than for women who do not belong to any of these groups or to a scheduled tribe (20.4 years). The median age at first cohabitation increases steadily as standard of living improves.

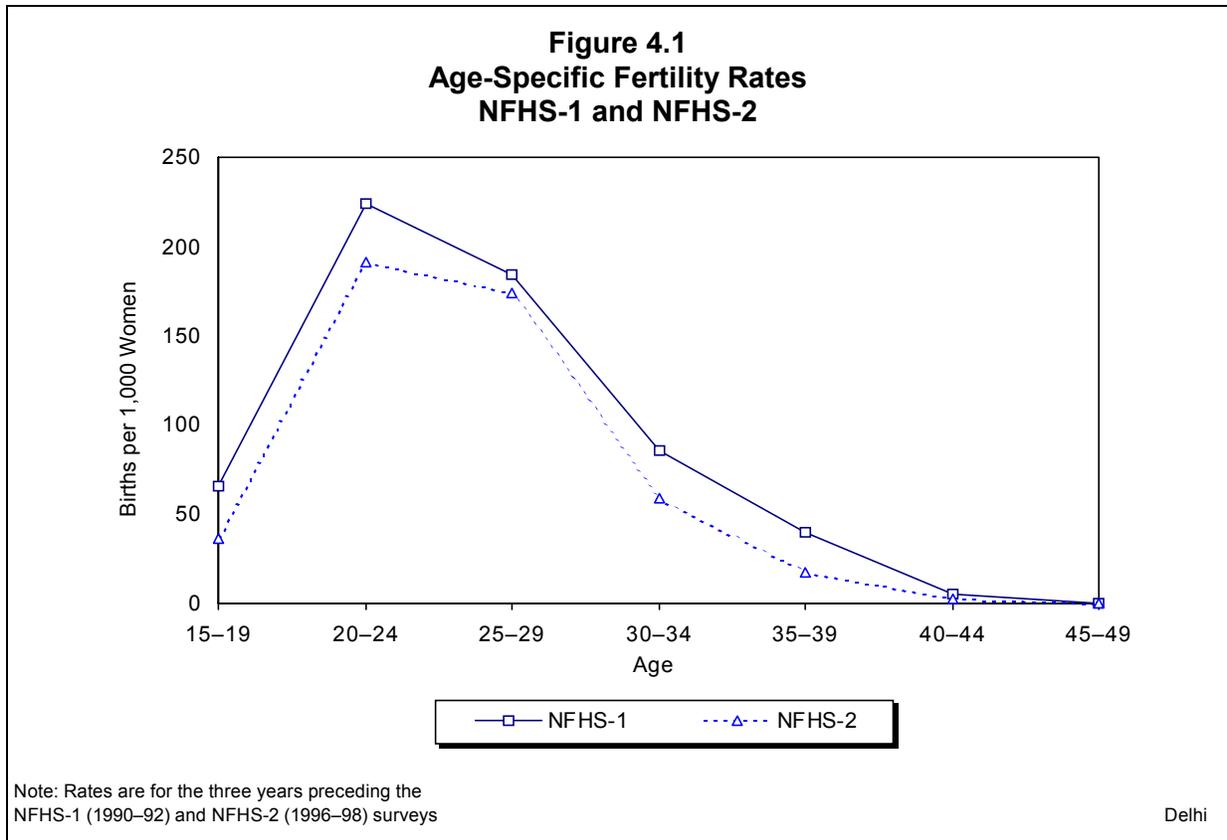
## 4.2 Current Fertility Levels

NFHS-2 provides estimates of age-specific fertility rates (ASFR), total fertility rates (TFR), and crude birth rates (CBR) for the three-year period preceding the survey, which in Delhi corresponds roughly to the period 1996–98. This three-year period was chosen as a compromise between the need to obtain recent information (suggesting the use of a shorter period close to the survey date) and the need to reduce sampling variation and minimize problems related to displacement of births from recent years to earlier years (suggesting the use of a longer period). The ASFR for any specific age group is calculated by dividing the number of births to women in the age group during the period 1–36 months preceding the survey by the number of woman-years lived by women in the age group during the same three-year time period. The TFR is a summary measure, based on the ASFRs, that gives the number of children a woman would bear during her reproductive years if she were to experience the ASFRs prevailing during the 3-year period preceding the survey. Mathematically, the TFR is calculated as five times the sum of the ASFRs in five-year age groups. The CBR is defined as the annual number of births per 1,000 population.

Based on estimates for the three-year period before NFHS-2, the CBR for Delhi is estimated at 21.3 live births per 1,000 population, and the TFR is estimated at 2.4 births per woman, as shown in Table 4.2. The estimates of ASFRs show that three-fourths (76 percent) of total fertility is concentrated in the prime childbearing ages 20–29. Fertility at age 15–19 accounts for 8 percent of total fertility, and fertility at ages 30 and older accounts for 16 percent of total fertility.

Table 4.2 Current fertility		
Age-specific and total fertility rates and crude birth rates from NFHS-1 and NFHS-2, Delhi		
Age	NFHS-1 (1990–92)	NFHS-2 (1996–98)
15–19	0.066	0.036
20–24	0.224	0.191
25–29	0.184	0.174
30–34	0.086	0.059
35–39	0.040	0.017
40–44	0.005	0.003
45–49	0.000	0.000
TFR 15–44	3.02	2.40
TFR 15–49	3.02	2.40
CBR	26.7	21.3

Note: Rates from NFHS-1 and NFHS-2 are for the period 1–36 months preceding the survey. Rates for the age group 45–49 might be slightly biased due to truncation. Age-specific and total fertility rates are expressed per woman.  
TFR: Total fertility rate  
CBR: Crude birth rate, expressed per 1,000 population



Based on estimates for the three-year periods preceding NFHS-1 and NFHS-2, the CBR fell from 26.7 to 21.3 between the two surveys, a decline of 20 percent in approximately six years. Over the same period, the TFR fell from 3.02 to 2.40, a decline of 21 percent. Table 4.2 and Figure 4.1 show that fertility fell in all age groups.

The NFHS-2 estimate of the crude birth rate can be compared with the estimate for 1996-98 from the Sample Registration System (SRS), which is maintained by the Office of the Registrar General, India. The NFHS-2 estimate of the CBR, at 21.3, is slightly higher than the SRS estimate of 20.5. The close agreement between the two sources suggests that fertility estimates for Delhi from NFHS-2 are quite reliable.

### 4.3 Fertility Differentials and Trends

Table 4.3 and Figure 4.2 show how the TFR, the percentage currently pregnant, and the mean number of children ever born to women age 40-49 vary by selected background characteristics. In Delhi, total fertility is 1.5 births higher among illiterate women than among women who have completed at least high school, 0.7 births higher among Muslims than among Hindus, and more than 3 births higher among women in households with a low standard of living than among women in households with a high standard of living. The TFR is 3.0 among scheduled-caste women, 2.8 among women from other backward classes, and 2.1 among women who do not belong to either of these groups or to a scheduled tribe.

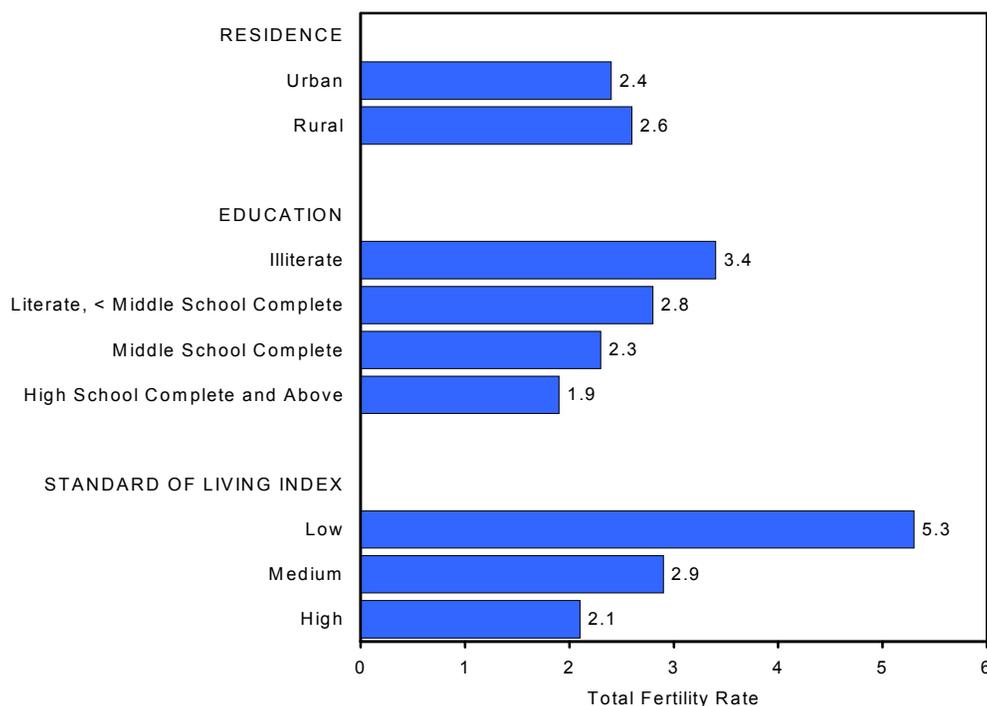
Fertility transitions in other countries have shown that fertility differentials typically diverge early in the transition and reconverge (though rarely completely) towards the end of the

<b>Table 4.3 Fertility by background characteristics</b>			
Total fertility rate for the three years preceding the survey, percentage of all women age 15–49 currently pregnant, and mean number of children ever born to all women age 40–49 by selected background characteristics, Delhi, 1999			
Background characteristic	Total fertility rate <sup>1</sup>	Percentage currently pregnant <sup>2</sup>	Mean number of children ever born to all women age 40–49 years
<b>Residence</b>			
Urban	2.37	4.4	3.60
Rural	2.55	6.3	(5.11)
<b>Education</b>			
Illiterate	3.42	6.6	4.78
Literate, < middle school complete	2.77	3.1	4.28
Middle school complete	2.27	5.3	(3.99)
High school complete and above	1.92	3.8	2.59
<b>Religion</b>			
Hindu	2.35	4.4	3.60
Muslim	3.01	5.7	(5.80)
Sikh	2.20	3.1	(2.85)
Other	(1.25)	6.8	*
<b>Caste/tribe</b>			
Scheduled caste	3.01	5.2	5.10
Scheduled tribe	*	(7.3)	*
Other backward class	2.77	6.3	4.48
Other	2.12	3.9	3.26
<b>Standard of living index</b>			
Low	(5.30)	9.8	*
Medium	2.93	5.9	4.85
High	2.11	3.8	3.38
Total	2.40	4.5	3.68
<p>Note: Total includes women with missing information on education, religion, caste/tribe, and the standard of living index, who are not shown separately.</p> <p>( ) Based on 125–249 woman-years of exposure for the total fertility rate and 25–49 unweighted cases for the percentage currently pregnant and the mean number of children ever born</p> <p>*Not shown; based on fewer than 125 woman-years of exposure for the total fertility rate and 25 unweighted cases for the mean number of children ever born</p> <p><sup>1</sup>Rate for women age 15–49 years</p> <p><sup>2</sup>For this calculation, it is assumed that women who are never married, widowed, divorced, separated, or deserted are not currently pregnant.</p>			

transition as fertility approaches the replacement level. Table 4.3 and Figure 4.3 indicate that in Delhi there are still some differentials in current fertility, but they are generally less pronounced than the differentials in the mean number of children ever born to women age 40–49. This is because women in their forties had many of their births at an earlier stage of the fertility transition when fertility differentials were larger.

Overall, 5 percent of women in Delhi report that they are currently pregnant (slightly lower than the national average of 6 percent). For the most part, differentials in the percentage currently pregnant follow a pattern similar to that for differentials in the TFR, but there are some

**Figure 4.2**  
**Total Fertility Rate by Selected Background Characteristics**



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

NFHS-2, Delhi, 1999

exceptions. These exceptions may be due partly to the fact that the percentage currently pregnant is affected by the age structure of the population.

The last column of Table 4.3 shows the mean number of children ever born to ever-married women age 40–49 at the time of the survey. The average number of children ever born for these women, who are at the end of their childbearing years, is 3.7. The substantial decline in fertility in Delhi over time is evident from the difference of 1.3 children between the average number of children for women who are currently in their forties and the number of children women would have in their lifetime if they were subject to the current age-specific fertility rates (the last column minus the first column of Table 4.3, last row). The pattern of differentials in the mean number of children ever born parallels the pattern of differentials in the TFR.

The preceding section already discussed fertility trends based on estimates from NFHS-1 and NFHS-2 for the three-year period preceding each survey. Table 4.4 shows fertility trends for five-year time periods preceding NFHS-2, estimated solely from the NFHS-2 birth histories. It is not possible to show TFRs in this table because of progressively greater age truncation as one goes back in time. For example, for the period 5–9 years preceding the survey, it is not possible to compute an ASFR for age 45–49 because the women in question would be 50–54 at the time of the survey, whereas NFHS-2 only collected birth histories for women up to age 49. Similarly, for the period 10–14 years preceding the survey, it is not possible to compute ASFRs for women

<u>Table 4.4 Fertility trends</u>				
Age-specific fertility rates for five-year periods preceding the survey, Delhi, 1999				
Age	Years preceding survey			
	0–4	5–9	10–14	15–19
15–19	0.041	0.089	0.112	0.117
20–24	0.201	0.251	0.283	0.265
25–29	0.171	0.186	0.219	0.232
30–34	0.062	0.077	0.109	[0.135]
35–39	0.022	0.028	[0.029]	U
40–44	0.004	[0.000]	U	U
45–49	[0.000]	U	U	U

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

age 40–49, and for the period 15–19 years preceding the survey, it is not possible to compute ASFRs for women age 35–49. Thus Table 4.4 shows only the truncated trends in ASFRs. These results show substantial fertility declines in all age groups below age 35. However, these trends may be distorted by displacement of births to earlier years, which would tend to exaggerate the extent of fertility decline, especially at younger ages.

For the periods 0–4 years and 5–9 years before the survey, it is possible to calculate truncated TFRs (more appropriately called cumulative fertility rates, or CFRs) for the age range 15–39, based on the ASFRs shown in Table 4.4. This is done by summing ASFRs for the age groups 15–19 through 35–39 and multiplying the sum by five. For the state as a whole, CFR(15–39) declined from 3.2 to 2.5 between these two five-year periods, a decline of 0.7 child.

Another way of looking at fertility is to calculate fertility rates by the number of years since first cohabitation with husband. These rates are measures of marital fertility, i.e., fertility within marriage. Table 4.5 shows fertility rates by duration since first cohabitation for ever-

<u>Table 4.5 Fertility by marital duration</u>				
Fertility rates for ever-married women by duration since first cohabitation with husband (in years) for five-year periods preceding the survey, Delhi, 1999				
Duration since first cohabitation (in years)	Years preceding survey			
	0–4	5–9	10–14	15–19
< 5	0.314	0.340	0.363	0.344
5–9	0.181	0.207	0.232	0.269
10–14	0.080	0.103	0.149	0.184
15–19	0.031	0.052	0.071	*
20–24	0.010	0.019	*	*
25–29	0.002	*	*	U

Note: Duration-specific fertility rates are expressed per woman. The duration since first cohabitation with husband is defined as the difference between the woman's age at the specific time period and her age when she began living with her husband.  
U: Not available  
\*Rate not shown; based on fewer than 125 woman-years of exposure

married women over the entire 20-year period preceding the survey.<sup>1</sup> Fertility has declined at all durations, but, again, displacement of births may have exaggerated the extent of decline at shorter durations.

#### **4.4 Children Ever Born and Living**

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

Among women age 15–49, the mean number of children ever born is 2.0 for all women and 2.7 for currently married women. The mean number of children ever born increases steadily with women's age, reaching a high of 3.7 children among all women age 40–44 and also among currently married women in this age group.

For women age 45–49, the number of children ever born is of particular interest because these women have virtually completed their childbearing. For all women in this age group, irrespective of marital status, the modal number of children ever born is three. Twenty-seven percent of all women age 45–49 and also currently married women in this age group have reached the end of childbearing with three children ever born. Thirteen percent of currently married women in this age group have had six or more live births. Less than one percent of currently married women age 45–49 have never given birth, suggesting that primary infertility (which is the proportion of couples who are unable to have any children) is very low in Delhi.

For all women age 15–49, the average number of children who died is 0.15 per woman. For currently married women, the average number of dead children is 0.21, implying that 8 percent of children ever born to currently married women have died.

#### **4.5 Birth Order**

The distribution of births by birth order is yet another way to view fertility. Table 4.7 shows the distribution of births during the three-year period preceding the survey by birth order for selected background characteristics. Overall, as expected, the proportion of births at each order is larger than the proportion of births at the next higher order. Thirty-two percent of all births are first-order births, 29 percent are second-order births, and 18 percent are third-order births. The low proportion of births of order four or higher (22 percent), compared with the national average of 28 percent, is another indication of the relatively low level of fertility in Delhi.

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

**Table 4.6 Children ever born and living**

Percent distribution of all women and currently married women by number of children ever born (CEB) and mean number of children ever born and living, according to age, Delhi, 1999

Age	Children ever born											Total percent	Number of women	Mean number of CEB	Mean number of living children
	0	1	2	3	4	5	6	7	8	9	10+				
<b>ALL WOMEN</b>															
15-19	97.3	2.3	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	671	0.03	0.03
20-24	55.5	22.4	14.6	5.2	1.5	0.7	0.2	0.0	0.0	0.0	0.0	100.0	666	0.78	0.72
25-29	13.8	21.3	30.8	19.5	10.2	3.5	0.7	0.2	0.0	0.0	0.0	100.0	543	2.05	1.93
30-34	4.2	7.3	30.9	26.2	18.0	6.9	4.1	2.0	0.0	0.2	0.2	100.0	492	2.97	2.79
35-39	3.0	5.7	26.5	24.9	19.2	9.7	5.7	2.5	1.5	0.7	0.6	100.0	471	3.35	3.09
40-44	3.2	4.7	21.9	23.1	19.8	11.8	5.6	3.7	3.2	1.2	1.8	100.0	341	3.71	3.30
45-49	1.5	4.2	23.2	26.8	17.1	12.6	7.4	2.0	3.4	0.8	0.8	100.0	239	3.65	3.35
Total	33.5	10.8	19.7	15.4	10.3	5.1	2.6	1.2	0.8	0.3	0.4	100.0	3,423	1.99	1.84
<b>CURRENTLY MARRIED WOMEN</b>															
15-19	70.8	24.5	4.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	62	0.34	0.29
20-24	23.7	38.0	25.2	8.9	2.6	1.3	0.3	0.0	0.0	0.0	0.0	100.0	384	1.34	1.24
25-29	6.9	23.1	33.1	21.3	11.0	3.6	0.8	0.2	0.0	0.0	0.0	100.0	497	2.22	2.08
30-34	2.5	7.5	31.6	26.4	18.4	6.9	4.2	2.1	0.0	0.0	0.2	100.0	475	3.01	2.83
35-39	1.5	4.8	27.8	25.1	19.9	9.7	5.9	2.5	1.6	0.7	0.7	100.0	440	3.42	3.16
40-44	2.8	4.8	22.7	22.0	20.4	11.6	4.8	4.1	3.5	1.3	1.9	100.0	312	3.74	3.33
45-49	0.5	4.0	24.9	26.8	19.2	11.4	6.3	1.4	4.0	0.5	1.0	100.0	203	3.63	3.34
Total	8.3	15.0	27.7	21.0	14.4	6.6	3.3	1.6	1.1	0.3	0.5	100.0	2,372	2.73	2.52

**Table 4.7 Birth order**

Percent distribution of births during the three years preceding the survey by birth order, according to selected background characteristics, Delhi, 1999

Background characteristic	Birth order				Total percent	Number of births
	1	2	3	4+		
<b>Mother's current age</b>						
20–29	37.7	32.2	17.1	13.0	100.0	616
30–39	4.5	20.6	23.0	51.9	100.0	179
<b>Residence</b>						
Urban	31.9	29.0	18.1	21.1	100.0	741
Rural	27.8	30.4	15.2	26.6	100.0	81
<b>Mother's education</b>						
Illiterate	13.8	20.7	19.1	46.4	100.0	249
Literate, < middle school complete	29.5	25.0	20.9	24.6	100.0	138
Middle school complete	28.8	35.9	22.0	13.4	100.0	100
High school complete and above	46.3	34.9	14.3	4.5	100.0	334
<b>Religion</b>						
Hindu	32.4	31.0	17.0	19.6	100.0	669
Muslim	22.3	13.4	21.1	43.2	100.0	103
Sikh	(35.4)	(34.9)	(27.0)	(2.8)	100.0	37
<b>Caste/tribe</b>						
Scheduled caste	29.0	20.6	18.9	31.5	100.0	188
Other backward class	31.3	28.1	18.1	22.5	100.0	153
Other <sup>1</sup>	32.6	33.1	17.1	17.2	100.0	474
<b>Employment status</b>						
Employed by someone else	26.7	23.6	21.2	28.5	100.0	80
Not worked in past 12 months	32.4	30.2	17.2	20.2	100.0	707
<b>Standard of living index</b>						
Low	(8.1)	(24.1)	(30.8)	(36.9)	100.0	47
Medium	22.3	24.6	17.8	35.3	100.0	276
High	38.3	32.2	17.0	12.6	100.0	481
Total	31.5	29.1	17.8	21.6	100.0	822

Note: Total includes 21 and 6 births to mothers currently age 15–19 and 40–49, respectively, 8 births to mothers belonging to other religions, 8 births to scheduled-tribe mothers, 16 births to mothers who work in a family farm/business and 19 births to mothers who are self-employed, and 1, 5, and 17 births with missing information on mother's education, religion, and the standard of living index, respectively, which are not shown separately.

( ) Based on 25–49 unweighted cases

<sup>1</sup>Not belonging to a scheduled caste, scheduled tribe, or other backward class

Thirty-eight percent of births to women age 20–29 are first-order births. By contrast, 52 percent of births to women age 30–39 are of order four or higher. The proportion of births that are of order four or higher is relatively large for births to illiterate women, Muslim women, scheduled-caste women, working women, and women in households with a low or medium standard of living. The range is particularly wide for education groups: 46 percent of births to illiterate women are of order four or higher, compared with 5 percent of births to women who have completed at least high school. The range is also wide according to religion: 43 percent of births to Muslim women, compared with 20 percent of births to Hindu women and just 3 percent of births to Sikh women, are of order four or higher.

## 4.6 Birth Intervals

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

Table 4.8 shows the percent distribution of births during the five years preceding the survey by birth interval according to selected demographic and socioeconomic background characteristics. In Delhi, 15 percent of births occur within 18 months of a previous birth, and 28 percent occur within 24 months. Forty-five percent of births occur after an interval of three years or more.

The median birth interval in Delhi is 34 months. The median birth interval is 29 months for women age 20–29 and 41 months for women age 30–39. The relatively short birth interval for women age 15–19 may result partly from a selection effect: only women who have had two or more births are included in the table, and women age 15–19 with more than one birth are likely to have shorter birth intervals due to high fecundity. Given the finding that the median birth interval increases with mother's age, it is surprising that it does not also increase substantially with the order of the previous birth. Perhaps this is due to the absence of the selection effect just noted. There may also be another type of selection effect operating: mothers of higher-order births may be more fecund, on average, than mothers of lower-order births.

The median birth interval is marginally longer (by 0.7 months) if the previous birth was a boy than if it was a girl. This pattern may result partly from the shorter duration of breastfeeding for girls, which is indicative of son preference (Table 7.8). The median birth interval is 13 months shorter if the previous child died than if it survived. In part, this reflects the shortening of postpartum amenorrhoea that occurs when the preceding child dies in infancy and breastfeeding stops prematurely.

Birth intervals do not show a clear-cut relationship with mother's education. Although the median birth interval is highest for women who have completed at least high school (38 months), the lowest median is for women who have completed middle school (29 months), rather than for illiterate women (32 months). The median birth interval is nearly three months longer for Hindu women than for Muslim women. The median birth interval for scheduled-caste women is two months lower than that for women belonging to other backward classes, and six months lower than that for women not belonging to either of these groups or to a scheduled tribe. The median birth interval increases with standard of living. The median is three months lower for women belonging to households with a low standard of living than for women belonging to households with a high standard of living.

**Table 4.8 Birth interval**

Percent distribution of births during the five years preceding the survey by interval since previous birth and median number of months since previous birth, according to selected background characteristics, Delhi, 1999

Background characteristic	Months since previous birth						Total percent	Median months since previous birth	Number of births
	< 12	12–17	18–23	24–35	36–47	48+			
<b>Mother's current age</b>									
20–29	4.0	13.3	14.9	30.7	21.7	15.3	100.0	29.4	586
30–39	1.7	10.2	9.7	19.8	19.1	39.6	100.0	40.9	353
<b>Residence</b>									
Urban	2.9	11.7	12.7	25.9	20.9	26.0	100.0	34.4	869
Rural	5.5	14.2	17.6	30.9	16.4	15.4	100.0	27.5	94
<b>Mother's education</b>									
Illiterate	4.5	11.5	14.8	28.1	22.0	19.0	100.0	31.8	382
Literate, < middle school complete	3.1	11.3	13.7	28.0	17.5	26.4	100.0	32.8	159
Middle school complete	1.7	13.0	17.9	32.9	16.3	18.2	100.0	28.7	121
High school complete and above	2.1	12.5	8.9	20.7	21.4	34.4	100.0	38.3	300
<b>Religion</b>									
Hindu	3.4	12.2	13.0	25.2	21.2	25.1	100.0	33.5	773
Muslim	3.0	12.2	15.1	30.7	20.0	19.1	100.0	30.8	141
Sikh	(0.0)	(9.0)	(6.1)	(30.8)	(6.0)	(48.1)	100.0	38.3	33
<b>Caste/tribe</b>									
Scheduled caste	7.1	13.5	13.8	28.0	20.7	16.9	100.0	29.4	228
Other backward class	1.7	12.9	14.0	29.4	19.4	22.5	100.0	31.6	177
Other <sup>1</sup>	2.1	11.1	12.5	24.6	20.2	29.5	100.0	35.8	545
<b>Standard of living index</b>									
Low	8.5	5.5	11.3	34.7	23.4	16.6	100.0	31.6	70
Medium	2.2	11.7	13.9	28.4	21.2	22.5	100.0	32.8	363
High	3.2	13.2	12.8	24.5	18.7	27.7	100.0	34.4	508
<b>Order of previous birth</b>									
1	2.0	14.4	11.7	24.1	21.5	26.3	100.0	35.0	408
2	4.5	9.4	13.1	29.0	18.0	26.1	100.0	32.7	252
3	2.8	8.3	16.3	27.9	19.4	25.3	100.0	32.7	145
4+	4.4	13.3	14.0	26.6	22.5	19.2	100.0	32.6	157
<b>Sex of previous birth</b>									
Male	3.2	12.0	12.4	25.9	21.4	25.0	100.0	33.9	474
Female	3.1	11.9	13.8	26.8	19.4	24.8	100.0	33.2	489
<b>Survival of previous birth</b>									
Living	2.5	10.9	13.2	27.1	21.4	25.0	100.0	34.3	900
Dead	13.1	28.1	12.9	16.3	6.3	23.3	100.0	21.2	62
Total	3.2	12.0	13.1	26.4	20.4	24.9	100.0	33.6	963

Note: Table includes only second- and higher-order births. The interval for multiple births is the number of months since the preceding pregnancy that ended in a live birth. Total includes 3 and 20 births to mothers currently age 15–19 and 40–49, respectively, 13 births to mothers belonging to other religions, 13 births to scheduled-tribe mothers, and 1, 3, and 21 births with missing information on mother's education, religion, and the standard of living index, respectively, which are not shown separately.

( ) Based on 25–49 unweighted cases

<sup>1</sup>Not belonging to a scheduled caste, scheduled tribe, or other backward class

## 4.7 Age at First and Last Birth

The ages at which women start and stop childbearing are important demographic determinants of fertility. A higher median age at first birth and a lower median age at last birth are indicators of lower fertility. Table 4.9 shows the median age at first birth for various age groups by selected background characteristics. In this table, the median age at first birth for any group of women is defined as the age by which half of all women in the group have had a first birth, rather than the age by which half of all mothers in the group have had a first birth.

As shown in the last row of the table, the median age at first birth in Delhi has remained virtually unchanged over time at about 21 years. The median for women age 25–29, at 21.5 years, is the same as the median for women age 45–49. As noted earlier, the median age at first cohabitation with husband for the younger cohort of women was nearly a year later than that for the older cohort (Table 4.1). Assuming that the data are not severely distorted by recall errors, this indicates that the interval between cohabitation and first birth has shrunk over time as age at first marriage has increased.

Table 4.9 Median age at first birth						
Median age at first birth among women age 25–49 years by current age and selected background characteristics, Delhi, 1999						
Background characteristic	Current age					
	25–29	30–34	35–39	40–44	45–49	25–49
<b>Residence</b>						
Urban	21.6	21.2	21.1	21.6	21.6	21.4
Rural	(20.3)	(18.7)	(19.8)	*	*	19.6
<b>Education</b>						
Illiterate	19.0	18.9	19.2	19.3	19.5	19.1
Literate, < middle school complete	19.9	19.6	19.8	19.4	(20.8)	19.8
Middle school complete	20.4	20.2	20.5	(20.0)	*	20.4
High school complete and above	23.4	23.1	23.0	23.8	24.0	23.4
<b>Religion</b>						
Hindu	21.5	21.1	20.8	21.2	21.5	21.2
Muslim	19.8	19.5	(20.3)	*	*	19.9
Sikh	(23.8)	*	*	*	*	23.0
Other	*	*	*	*	*	(23.9)
<b>Caste/tribe</b>						
Scheduled caste	20.7	19.3	19.0	18.7	(19.9)	19.5
Other backward class	19.7	19.2	19.7	(20.3)	*	19.7
Other <sup>1</sup>	22.3	21.6	22.1	22.5	22.0	22.1
<b>Standard of living index</b>						
Low	*	*	*	*	*	(18.9)
Medium	19.8	19.3	20.0	19.1	(21.3)	19.8
High	22.5	21.8	21.6	22.1	21.7	22.0
Total	21.5	21.0	21.0	21.3	21.5	21.2

Note: Total includes small numbers of scheduled-tribe women and women with missing information on education, religion, caste/tribe, and the standard of living index, who are not shown separately.  
 ( ) Based on 25–49 unweighted cases  
 \*Median not shown; based on fewer than 25 unweighted cases  
<sup>1</sup>Not belonging to a scheduled caste, scheduled tribe, or other backward class

The median age at first birth is particularly low among women who are rural, illiterate, Muslim, scheduled caste or other backward class, or living in households with a medium standard of living. The median age at first birth is more than four years lower for illiterate women (19.1) than for women who have completed at least high school (23.4). It is more than two years lower for women living in households with a medium standard of living (19.8) than for women living in households with a high standard of living (22.0). It is more than two years lower for scheduled-caste women and women from other backward classes than for women not belonging to either of these groups or to a scheduled tribe. And it is slightly more than one year lower for Muslim women than for Hindu women.

For older women, the age at last childbirth is an indicator of cessation of childbearing. Table 4.10 presents the distribution of ever-married women age 40–49 by age at last birth, as well as the median age at last birth. Although a few of these women may have another birth later on, the very low fertility rates for women in this age group suggest that childbearing is virtually complete by these ages. Nineteen percent of women in this age group had their last birth by age 25, 59 percent by age 30, 89 percent by age 35, and 99 percent by age 40. The median age at last birth is 29 years for both women age 40–44 and women age 45–49. The typical reproductive age span (which is calculated here as the difference between the median age at last birth and the median age of first birth for women age 40–49 who have ever had a birth) is considerably shorter in Delhi (7.6 years) than in India as a whole (9.9 years), consistent with the lower level of fertility in Delhi (see International Institute for Population Sciences and ORC Macro, 2000: Table 4.15).

<u>Table 4.10 Age at last birth</u>											
Percent distribution of ever-married women age 40–49 years by age at last birth and median age at last birth, according to current age, Delhi, 1999											
Current age	No birth	Age at last birth							Total percent	Median age at last birth	Number of women
		< 20	20–24	25–29	30–34	35–39	40–44	45–49			
40–44	2.6	1.2	16.9	40.4	28.0	10.3	0.6	NA	100.0	29.0	339
45–49	0.4	1.3	14.8	40.6	32.2	9.8	0.9	0.0	100.0	28.9	237
40–49	1.7	1.2	16.0	40.5	29.7	10.1	0.7	0.0	100.0	28.9	576
NA: Not applicable											

## 4.8 Postpartum Amenorrhoea, Abstinence, Insusceptibility, and Menopause

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

Table 4.11 shows the percentage of births occurring during the three years preceding the survey whose mothers are postpartum amenorrhoeic, abstaining, or insusceptible, by the number of months since childbirth. These distributions are based on current status information, that is, on the proportions of births occurring within the 36 months before the survey whose mothers were amenorrhoeic, abstaining, or insusceptible. In other words, the table is based on cross-sectional data and does not represent the experience of a real cohort of births over time. The data are

<u>Table 4.11 Postpartum amenorrhoea, abstinence, and insusceptibility</u>				
Percentage of births during the three years preceding the survey whose mothers are postpartum amenorrhoeic, abstaining, or insusceptible by number of months since birth, and median and mean durations, Delhi, 1999				
Months since birth	Percentage of births whose mothers are:			Number of births
	Amenorrhoeic	Abstaining	Insusceptible	
< 4	65.2	45.9	77.4	72
4–5	(51.0)	(9.4)	(55.8)	41
6–7	(29.1)	(1.9)	(29.1)	48
8–9	20.0	5.8	23.7	55
10–11	(14.2)	(2.2)	(16.4)	41
12–13	9.7	0.0	9.7	50
14–15	7.8	0.0	7.8	51
16–17	3.5	1.8	5.3	59
18–19	5.8	7.8	11.7	52
20–21	(0.0)	(2.8)	(2.8)	36
22–23	(2.7)	(2.7)	(5.3)	37
24–25	(5.8)	(5.5)	(8.5)	34
26–27	(0.0)	(0.0)	(0.0)	36
28–29	3.2	1.5	4.7	62
30–31	0.0	3.3	3.3	60
32–33	(2.3)	(2.6)	(4.9)	42
34–35	(2.6)	(0.0)	(2.6)	40
Median <sup>1</sup>	4.2	1.9	4.9	NA
Mean	6.2	3.5	7.3	NA
Prevalence/incidence mean	5.2	2.4	6.3	NA

Note: Median and mean durations are based on current status. Insusceptible is defined as amenorrhoeic, abstaining, or both.  
 NA: Not applicable  
 ( ) Based on 25–49 unweighted cases  
<sup>1</sup>Based on a three-period moving average of percentages

grouped in two-month intervals to minimize fluctuations in the distributions. The table also shows median and mean durations of amenorrhoea, abstinence, and insusceptibility. The prevalence/incidence mean is obtained by dividing the number of mothers who are amenorrhoeic, abstaining, or insusceptible by the average number of births per month over the 36-month period.

Sixty-five percent of women who had a birth less than four months before the survey are still amenorrhoeic. The proportion amenorrhoeic rapidly decreases as the number of months since the birth increases. About half of all women who had a birth 4–5 months before the survey are still amenorrhoeic, and this proportion falls to 10 percent by 12–13 months. Forty-six percent of women are still abstaining from sexual intercourse 0–3 months after a birth, and this proportion declines rapidly thereafter. Overall, when amenorrhoea and abstinence are considered together, 56 percent of women are still insusceptible to pregnancy 4–5 months after giving birth, dropping to 24 percent 8–9 months after giving birth and to 10 percent 12–13 months after giving birth.

The median and mean durations of insusceptibility are 5 and 7 months, respectively. Because the mean is affected by extreme values and the median is not, and because the distribution is skewed towards the higher durations, the mean is somewhat higher than the median. The median duration of amenorrhoea (4 months) is twice the median duration of abstinence (2 months). These results indicate that women in Delhi remain insusceptible to pregnancy for about half a year after a birth, primarily due to the effect of postpartum amenorrhoea.

Menopause is a primary limiting factor of fertility. It is the culmination of a gradual decline in fecundity with increasing age. After age 30, the risk of pregnancy declines with age as an increasing proportion of women become infecund. In NFHS-2, menopause is defined as the absence of menstruation for six or more months preceding the survey among currently married women. Women who report that they are menopausal or that they have had a hysterectomy are also included in this category. Women who are pregnant or postpartum amenorrhoeic are assumed not to be menopausal. Table 4.12 presents data on menopause among women age 30–49

Table 4.12 Menopause		
Percentage of currently married women age 30–49 years who are in menopause by age, Delhi, 1999		
Age	Percentage	Number
30–34	1.5	475
35–39	3.4	440
40–41	11.4	147
42–43	20.9	117
44–45	31.9	129
46–47	35.4	65
48–49	73.4	57
30–49	11.8	1,429

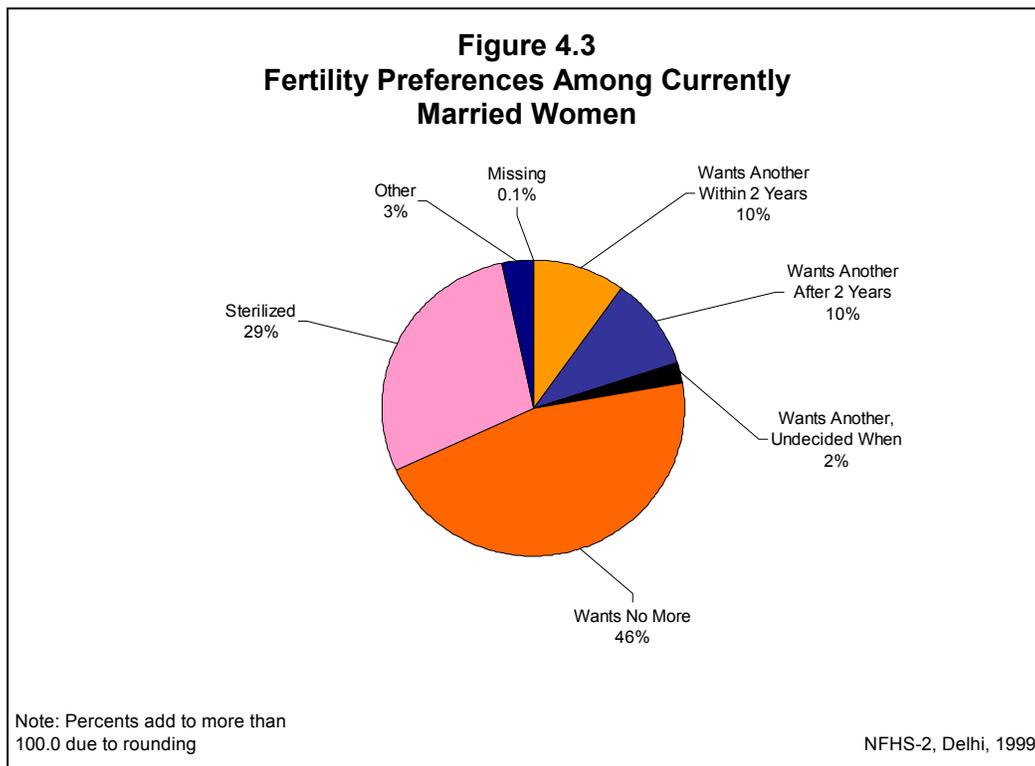
Note: Percentage menopausal is defined as the percentage of currently married women who are not pregnant and not postpartum amenorrhoeic and who reported that their last menstrual period occurred six or more months preceding the survey or that they are menopausal or have had a hysterectomy.

years. In Delhi, menopause is not common among women in their thirties, but its incidence increases rapidly after age 40. By age 42–43, 21 percent of women are menopausal. The proportion menopausal rises to 35 percent by age 46–47 and to 73 percent by age 48–49.

#### 4.9 Desire for More Children

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

Table 4.13 and Figure 4.3 show future fertility preferences of currently married women. Forty-six percent of currently married women say that they do not want any more children, an additional 29 percent cannot have another child because either the wife or the husband has been sterilized, and 1 percent of women say that they cannot get pregnant (that is, they are ‘declared infecund’). More than one-fifth of women (22 percent) say that they would like to have another child (10 percent within two years, another 10 percent after waiting at least two years, and 2 percent undecided when they want the next child). Overall, 84 percent of women either want to space their next birth or do not want any more children, including women who are sterilized or whose husbands are sterilized. Only 2 percent of women say that the decision about having children is up to God.



<b>Table 4.13 Fertility preferences</b>						
Percent distribution of currently married women by desire for children and preferred sex of additional child, according to number of living children, Delhi, 1999						
Desire for children	Number of living children <sup>1</sup>					Total
	0	1	2	3	4+	
<b>Desire for additional child</b>						
Wants another soon <sup>2</sup>	69.5	20.9	4.3	1.9	1.1	9.9
Wants another later <sup>3</sup>	9.5	46.7	5.6	1.8	1.1	10.2
Wants another, undecided when	9.6	5.8	1.7	0.5	0.2	2.2
Undecided	1.9	1.2	1.6	0.7	0.5	1.1
Up to God	3.7	2.3	1.6	0.5	1.1	1.5
Wants no more	0.6	21.6	65.4	48.4	44.9	45.6
Sterilized	0.7	1.1	18.9	45.9	50.5	28.6
Declared infecund	3.7	0.5	0.7	0.2	0.5	0.7
Missing	0.7	0.0	0.1	0.0	0.0	0.1
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	160	364	740	557	551	2,372
<b>Preferred sex of additional child<sup>4</sup></b>						
Boy	26.3	34.5	70.9	*	*	41.0
Girl	6.8	26.3	10.0	*	*	16.1
Doesn't matter	38.9	24.3	5.2	*	*	24.6
Up to god	28.0	14.8	13.9	*	*	18.4
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women wanting more <sup>4</sup>	144	221	80	23	12	480
*Percentage not shown; based on fewer than 25 unweighted cases						
<sup>1</sup> Includes current pregnancy, if any						
<sup>2</sup> Wants next birth within 2 years						
<sup>3</sup> Wants to delay next birth for 2 or more years						
<sup>4</sup> Excludes currently pregnant women						

The desire to have a child within two years falls rapidly with number of living children, from 70 percent of women with no living children to 4 percent or less for women with two or more living children. Among women with one living child, 47 percent want to wait at least two years before having the next child.

Forty-one percent of women who want another child say that they want the next child to be a boy, 16 percent say that they want a girl, and the rest say that the sex of the child is either up to God (18 percent) or does not matter (25 percent). Both the proportion of women expressing a desire for a child of a particular sex and the proportion expressing a desire for a son increase with the number of living children. Among women with no living children, 26 percent want their first child to be a son, 7 percent want a daughter, and 67 percent say that the sex of the child is up to God or does not matter. Among women with two living children, 71 percent want their next child to be a son, 10 percent want a daughter, and only 19 percent say that the sex of the child is up to God or does not matter.

Table 4.14 provides information about differentials in the desire to limit family size by selected background characteristics. In this table, women who are sterilized (or whose husbands are sterilized) are included among those who say that they want no more children. It is striking

**Table 4.14 Desire to have no more children by background characteristics**

Percentage of currently married women who want no more children by number of living children and selected background characteristics, Delhi, 1999

Background characteristic	Number of living children <sup>1</sup>					Total
	0	1	2	3	4+	
<b>Age</b>						
15–24	2.1	9.7	67.8	(85.0)	*	31.9
25–34	(0.0)	22.6	81.4	91.0	91.3	73.7
35–49	*	(69.3)	95.2	98.9	98.3	94.6
<b>Residence</b>						
Urban	1.5	23.9	84.6	94.3	96.0	74.5
Rural	*	(7.7)	(79.9)	94.4	90.1	70.9
<b>Education</b>						
Illiterate	(0.0)	18.3	64.8	91.3	93.9	78.8
Literate, < middle school complete	(0.0)	(7.8)	78.0	92.2	95.7	74.6
Middle school complete	*	(12.4)	81.4	94.5	98.3	69.4
High school complete and above	2.6	28.5	90.3	97.7	100.0	72.4
<b>Religion</b>						
Hindu	1.5	23.4	84.6	95.0	96.7	74.7
Muslim	*	(21.6)	(69.8)	(83.4)	87.7	71.1
Sikh	*	*	(85.8)	(100.0)	*	69.4
Other	*	*	*	*	*	(78.8)
<b>Caste/tribe</b>						
Scheduled caste	(0.0)	9.9	66.6	91.1	96.6	70.3
Other backward class	*	10.8	74.3	89.4	93.2	69.3
Other <sup>2</sup>	2.2	28.8	87.6	96.2	95.5	76.4
<b>Standard of living index</b>						
Low	*	*	*	*	(87.9)	63.4
Medium	(0.0)	10.4	69.5	91.5	95.2	71.1
High	2.1	26.1	88.7	96.3	96.8	76.0
<b>Number of living sons<sup>3</sup></b>						
0	1.3	20.4	52.9	(72.8)	*	24.4
1	NA	30.9	89.3	94.4	92.5	79.5
2	NA	NA	90.1	97.6	98.4	95.4
3+	NA	NA	NA	95.5	97.6	97.1
<b>Number of living daughters<sup>3</sup></b>						
0	1.3	30.9	90.1	95.5	*	52.5
1	NA	20.4	89.3	97.6	97.1	81.4
2	NA	NA	52.9	94.4	98.8	88.4
3+	NA	NA	NA	(72.8)	92.6	90.5
Total	1.3	22.7	84.3	94.3	95.5	74.2

Note: Women who have been sterilized or whose husbands have been sterilized are considered to want no more children. Total includes small numbers of scheduled-tribe women and women with missing information on religion, caste/tribe, and the standard of living index, who are not shown separately.

NA: Not applicable

( ) Based on 25–49 unweighted cases

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

<sup>1</sup>Includes current pregnancy, if any

<sup>2</sup>Not belonging to a scheduled caste, scheduled tribe, or other backward class

<sup>3</sup>Excludes pregnant women

that 84 percent of women with two living children want no more children. As expected, older women are much more likely than younger women to want no more children. Already by age 25–34, 74 percent of women want no more children. At age 35 and above, 95 percent of women want no more children. The proportion wanting no more children does not vary systematically with women’s educational level, ranging from 69 percent among those who have completed middle school to 79 percent among those who are illiterate. However, when controlling for number of living children, the percentage wanting no more children is smallest among illiterate women. For example, in the case of two living children, 65 percent of illiterate women want no more children, compared with 90 percent of women who have completed at least high school.

A somewhat similar proportion of Hindu women (75 percent) and Muslim women (71 percent) want no more children. The proportion wanting no more children ranges from 69 percent among other backward classes to 76 percent among women who do not belong to a scheduled caste, scheduled tribe, or other backward class. The proportion who want no more children increases with standard of living, from 63 percent for women living in households with a low standard of living to 76 percent for women living in households with a high standard of living.

The background characteristic with the strongest effect on women’s desire to limit family size is, however, number of living sons. Only 24 percent of women with no living sons want no more children, compared with 95 percent of women with two living sons. Differences associated with the number of living daughters are also large, but not nearly as large as differences associated with the number of living sons, indicating a strong preference for sons. Fifty-three percent of women with no living daughters want no more children, compared with 88 percent of women with two living daughters. It is noteworthy that 53 percent of women with two daughters and no sons do not want a third child, compared with 90 percent of women with two sons and no daughters.

#### **4.10 Ideal Number of Children**

To assess women’s ideal number of children, NFHS-2 asked each woman the number of children she would like to have if she could start over again. Women with no children were asked, ‘If you could choose exactly the number of children to have in your whole life, how many would that be?’ Women who already had children were asked, ‘If you could go back to the time you did not have any children and could choose exactly the number of children to have in your whole life, how many would that be?’ Some women found it difficult to answer these hypothetical questions, and hence the question sometimes had to be repeated to ensure that the meaning was understood. Yet 97 percent of women in Delhi were able to give a numerical response.

Table 4.15 shows that 63 percent of ever-married women in Delhi consider two to be the ideal number of children. An additional 21 percent consider three to be the ideal number. Among all women who gave a numeric response, the average number of children considered ideal is 2.4, ranging from 2.0 for women who have one child to 3.0 for women who have four or more children.

Asking a question on ideal family size is sometimes criticized on the grounds that women tend to adjust their ideal family size upward as their number of living children increases, in a process of rationalizing previously unwanted children as wanted. It is argued that the question on

Table 4.15 Ideal and actual number of children						
Percent distribution of ever-married women by ideal number of children, and mean ideal number of children, by number of living children, Delhi, 1999						
Ideal number of children	Number of living children <sup>1</sup>					Total
	0	1	2	3	4+	
0	0.0	0.0	0.0	0.0	0.2	0.0
1	11.5	15.3	3.7	2.3	0.5	4.9
2	73.8	72.2	83.6	52.8	37.1	62.9
3	11.5	9.6	10.3	37.6	26.5	20.6
4	1.2	1.3	0.7	3.4	23.6	6.9
5	0.0	0.0	0.1	0.3	3.0	0.8
6+	0.6	0.0	0.1	0.2	2.5	0.7
Non-numeric response	1.3	1.6	1.4	3.4	6.5	3.1
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	163	378	762	586	587	2,477
Mean ideal number <sup>2</sup>	2.1	2.0	2.1	2.5	3.0	2.4
Number of women giving numeric response	161	372	751	566	549	2,400

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

ideal family size prompts many women to state the actual number of children they already have as their ideal. It is evident from Table 4.15, however, that this is not so for many women in Delhi. Among women with four or more living children, for example, 64 percent state that fewer than four children would be ideal. Similarly, among women with three living children, 55 percent report an ideal family size that is smaller than three children. It is evident from these results that a substantial proportion of women in Delhi already have more children than they now consider ideal. This proportion may be taken as another indicator of surplus or unwanted fertility.

Table 4.16 shows the mean ideal number of children for ever-married women by age according to selected background characteristics. The mean ideal number of children shows a marginal increase from 2.2 for women age 20–24 to 2.5 for women age 45–49. The mean ideal number of children for illiterate women is higher than that for women who have completed at least high school by 0.7 child. The pattern is rather similar according to the education level of the husband. The mean ideal number of children ranges from 2.2 for Sikhs to 2.3 for Hindus to 2.9 for Muslims. The ideal family size is only marginally higher—by 0.4 child—for scheduled-caste women than for women who do not belong to a schedule caste, scheduled tribe, or other backward class. The ideal is nearly one child higher for women living in households with a low standard of living than for women living in households with a high standard of living. The mean ideal number of children does not vary much by women’s work status.

**Table 4.16 Ideal number of children by background characteristics**

Mean ideal number of children reported by ever-married women, according to current age and selected background characteristics, Delhi, 1999

Background characteristic	Current age							Total
	15–19	20–24	25–29	30–34	35–39	40–44	45–49	
<b>Residence</b>								
Urban	2.4	2.2	2.2	2.4	2.4	2.5	2.5	2.4
Rural	*	(2.3)	(2.2)	(2.6)	(2.4)	*	*	2.4
<b>Education</b>								
Illiterate	*	2.5	2.6	2.8	2.8	3.1	2.9	2.8
Literate, < middle school complete	*	2.4	2.4	2.6	2.6	(2.7)	(2.7)	2.5
Middle school complete	*	2.2	2.4	2.4	2.4	*	*	2.4
High school complete and above	*	2.0	1.9	2.1	2.1	2.1	2.2	2.1
<b>Religion</b>								
Hindu	2.4	2.2	2.2	2.4	2.4	2.5	2.5	2.3
Muslim	*	(2.7)	(2.8)	2.9	*	*	*	2.9
Sikh	*	*	(1.9)	*	*	*	*	2.2
Other	*	*	*	*	*	*	*	(2.2)
<b>Caste/tribe</b>								
Scheduled caste	*	2.3	2.4	2.6	2.9	3.0	(3.0)	2.6
Other backward class	*	2.3	2.4	2.7	2.6	(2.8)	*	2.5
Other <sup>1</sup>	*	2.1	2.1	2.3	2.3	2.4	2.4	2.2
<b>Work status</b>								
Working in family farm/business	*	*	*	*	*	*	*	2.6
Employed by someone else	*	(2.3)	(2.0)	2.2	2.4	2.3	(2.3)	2.3
Self-employed	*	*	*	*	*	*	*	2.3
Not worked in past 12 months	2.3	2.2	2.3	2.5	2.4	2.6	2.6	2.4
<b>Standard of living index</b>								
Low	*	*	*	*	*	*	*	3.2
Medium	*	2.4	2.4	2.6	2.6	2.9	(2.7)	2.6
High	(2.2)	2.1	2.1	2.3	2.3	2.4	2.5	2.3
<b>Husband's education</b>								
Illiterate	*	(2.4)	(2.7)	(3.0)	(2.7)	(2.9)	*	2.8
Literate, < primary school complete	*	*	*	*	*	*	*	2.9
Primary school complete	*	(2.6)	(2.5)	2.7	(2.7)	(3.1)	*	2.7
Middle school complete	*	2.3	2.4	(2.7)	2.5	(2.7)	*	2.5
High school complete	*	2.2	2.2	2.4	2.4	2.5	2.5	2.3
Higher secondary complete and above	*	2.1	2.0	2.1	2.2	2.2	2.3	2.1
Total	2.3	2.2	2.2	2.4	2.4	2.5	2.5	2.4

Note: Means are calculated excluding women who gave non-numeric responses. Total includes small numbers of scheduled-tribe women and women with missing information on religion, caste/tribe, work status, the standard of living index, and husband's education, who are not shown separately.

( ) Based on 25–49 unweighted cases

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

<sup>1</sup>Not belonging to a scheduled caste, scheduled tribe, or other backward class

#### 4.11 Sex Preference for Children

A strong preference for sons has been found to be pervasive in Indian society, affecting both attitudes and behaviour with respect to children (Arnold et al., 1998; Arnold, 1996; Basu, 1989; Das Gupta, 1987; Kishor, 1995; Koenig and Foo, 1992; Murthi et al., 1995; Nag, 1991; Parasuraman et al., 1994). In NFHS-2, women who gave a numerical response to the question on ideal number of children were asked how many of these children they would like to be boys, how many they would like to be girls, and for how many the sex would not matter. Table 4.17 shows women's mean ideal number of sons and daughters, the percentages who want more children of a particular sex, the percentage who want at least one son, and the percentage who want at least one daughter, according to selected background characteristics. The table shows a consistent preference for sons over daughters. Overall, the average ideal family size of 2.4 children consists of 1.2 sons, 0.9 daughters, and 0.3 children of either sex. Twenty-three percent of women want more sons than daughters, but only 3 percent want more daughters than sons.

The indicator that shows the percentage of women who want at least one son and at least one daughter exhibits the weakest son preference. Although most women in Delhi want more sons than daughters, a large majority (82 percent) of women also want at least one daughter. One reason that a substantial proportion of women want to have at least one daughter is to fulfil the Hindu religious obligation of *kanyadan* (giving a daughter away at the time of her marriage), which is one of the acts that enable the parents to acquire the highest level of merit (*punya*).

Son preference is relatively weak among women who have completed at least high school, women whose husbands have completed at least higher secondary school, and women living in households with a high standard of living. Son preference is considerably stronger among Hindu, Muslim, and Sikh women than among women of other religions. Women who belong to scheduled castes and other backward classes have a stronger preference for sons than do other women. Women who are employed by someone else show somewhat less son preference than other working or non-working women.

#### 4.12 Fertility Planning

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

Table 4.18 shows the percent distribution of births during the three years preceding the survey and current pregnancies according to fertility planning status. Twenty-three percent of all pregnancies that resulted in live births in the three years preceding the survey (including current pregnancies) were unplanned (that is, unwanted at the time the woman became pregnant). Ten percent were wanted later, and 13 percent were not wanted at all. The proportion of births that were unplanned rises sharply with age. Within the unplanned category, the proportion of births

**Table 4.17 Indicators of sex preference**

Mean ideal number of sons, daughters, and children of either sex for ever-married women, percentage who want more sons than daughters, percentage who want more daughters than sons, percentage who want at least one son, and percentage who want at least one daughter by selected background characteristics, Delhi, 1999

Background characteristic	Mean ideal number of:			Percentage who want more sons than daughters	Percentage who want more daughters than sons	Percentage who want at least one son	Percentage who want at least one daughter	Number of women
	Sons	Daughters	Either sex					
<b>Residence</b>								
Urban	1.2	0.9	0.3	22.8	2.7	85.4	82.1	2,210
Rural	1.2	0.9	0.3	26.9	1.6	86.8	80.7	187
<b>Education</b>								
Illiterate	1.5	1.1	0.2	35.5	2.5	90.3	86.9	674
Literate, < middle school complete	1.3	1.0	0.2	30.1	1.6	90.6	88.2	370
Middle school complete	1.2	0.9	0.2	23.4	2.5	88.3	85.7	279
High school complete and above	0.9	0.8	0.4	12.9	3.1	80.0	75.7	1,074
<b>Religion</b>								
Hindu	1.1	0.9	0.3	22.7	2.6	85.7	81.7	2,045
Muslim	1.5	1.1	0.3	33.2	0.5	86.2	84.6	182
Sikh	1.0	0.9	0.3	20.7	4.4	82.5	80.9	115
Other	1.0	0.9	0.3	14.3	3.8	84.0	84.0	50
<b>Caste/tribe</b>								
Scheduled caste	1.4	1.0	0.2	29.7	3.0	90.2	88.1	433
Other backward class	1.3	1.0	0.3	30.5	1.7	89.4	85.9	367
Other <sup>1</sup>	1.1	0.9	0.3	19.6	2.8	83.5	79.6	1,574
<b>Work status</b>								
Working in family farm/business	1.3	1.0	0.3	25.4	0.0	84.8	82.5	86
Employed by someone else	1.1	0.9	0.3	18.9	2.5	81.6	79.3	319
Self-employed	1.0	0.8	0.4	21.2	1.1	78.2	77.1	93
Not worked in past 12 months	1.2	0.9	0.3	23.8	2.8	86.5	82.6	1,898
<b>Standard of living index</b>								
Low	1.8	1.2	0.1	45.4	0.0	94.8	93.2	57
Medium	1.4	1.0	0.2	32.6	2.9	90.5	86.8	664
High	1.1	0.9	0.3	18.5	2.6	83.3	79.7	1,597
<b>Husband's education</b>								
Illiterate	1.4	1.1	0.2	33.0	2.6	89.0	86.3	227
Literate, < primary school complete	1.6	1.2	0.2	40.2	1.6	92.2	88.9	63
Primary school complete	1.4	1.1	0.2	31.3	2.6	92.7	90.9	228
Middle school complete	1.3	1.0	0.2	28.4	2.6	90.3	88.7	311
High school complete	1.2	0.9	0.3	23.9	2.3	87.6	83.4	524
Higher secondary complete and above	1.0	0.8	0.4	16.2	2.8	80.3	75.8	1,028
Total	1.2	0.9	0.3	23.1	2.6	85.5	82.0	2,397

Note: Table excludes women who gave non-numeric responses to the questions on ideal number of children or ideal number of sons and daughters. Total includes 21 scheduled-tribe women and 1, 6, 2, 1, 78, and 15 women with missing information on education, religion, caste/tribe, work status, the standard of living index, and husband's education, respectively, who are not shown separately.

<sup>1</sup>Not belonging to a scheduled caste, scheduled tribe, or other backward class

**Table 4.18 Fertility planning**

Percent distribution of births during the three years preceding the survey and current pregnancies by fertility planning status, according to selected background characteristics, Delhi, 1999

Background characteristic	Planning status of pregnancy				Total percent	Number of births and current pregnancies
	Wanted then	Wanted later	Not wanted at all	Missing		
<b>Mother's age at birth<sup>1</sup></b>						
< 20	79.8	13.5	4.6	2.2	100.0	88
20–24	81.3	11.4	6.1	1.1	100.0	424
25–29	76.0	9.6	14.1	0.3	100.0	329
30–34	56.2	4.9	36.9	2.0	100.0	101
35–39	(52.2)	(13.1)	(31.2)	(3.5)	100.0	29
<b>Residence</b>						
Urban	74.9	11.0	13.0	1.1	100.0	877
Rural	84.1	4.2	10.7	1.0	100.0	98
<b>Mother's education</b>						
Illiterate	67.5	8.6	21.9	2.0	100.0	300
Literate, < middle school complete	76.2	8.2	14.9	0.6	100.0	156
Middle school complete	76.1	12.9	9.4	1.6	100.0	124
High school complete and above	81.9	11.7	6.0	0.5	100.0	394
<b>Religion</b>						
Hindu	75.8	11.4	11.5	1.2	100.0	795
Muslim	72.0	5.1	22.1	0.8	100.0	120
Sikh	(81.0)	(7.2)	(11.8)	(0.0)	100.0	42
<b>Caste/tribe</b>						
Scheduled caste	71.0	12.6	13.6	2.7	100.0	218
Other backward class	78.0	8.7	12.7	0.6	100.0	184
Other <sup>2</sup>	77.5	9.6	12.2	0.7	100.0	563
<b>Standard of living index</b>						
Low	71.4	5.2	19.8	3.5	100.0	54
Medium	72.9	9.1	16.2	1.8	100.0	327
High	78.5	10.9	10.0	0.5	100.0	569
<b>Birth order<sup>3</sup></b>						
1	88.0	10.1	1.4	0.5	100.0	366
2	74.9	16.2	7.7	1.1	100.0	263
3	74.7	5.3	18.2	1.8	100.0	155
4+	54.7	6.7	37.0	1.6	100.0	190
Total	75.8	10.3	12.7	1.1	100.0	975

Note: Table includes the two most recent births in the three years preceding the survey and current pregnancies. Total includes 3 births to mothers age 40–44, 13 births to women belonging to other religions, 10 births to mothers belonging to scheduled tribes, and 1, 5, and 25 births with missing information on mother's education, religion, and the standard of living index, respectively, which are not shown separately.

( ) Based on 25–49 unweighted cases

<sup>1</sup>For current pregnancy, estimated maternal age at birth

<sup>2</sup>Not belonging to a scheduled caste, scheduled tribe, or other backward class

<sup>3</sup>Includes current pregnancy, if any

that were wanted later falls and the proportion that were not wanted at all rises as mother's age increases.

The proportion of births that were unplanned does not vary much by socioeconomic characteristics, although there is some variation by residence and mother's education. The general lack of variation occurs mainly because, when the proportion of births that were wanted later falls across categories of a socioeconomic characteristic, the proportion of births that were not wanted at all usually rises. For example, the proportion of births that were wanted later is 9 percent among illiterate women and 12 percent among women who have completed at least high school education. But the proportion of births that were not wanted at all is, respectively, 22 and 6 percent in the two groups. A similar pattern is observed in the proportion of unplanned births by mother's household's standard of living. Also, the proportion of births that were not wanted at all is considerably higher for Muslim women (22 percent) than for Hindu women (12 percent) whereas the proportion of births that were wanted later is higher for Hindu women (11 percent) than for Muslim women (5 percent). Scheduled-caste women, however, reported higher proportions of births in both the categories than did women in other caste/tribe groups.

Not surprisingly, births of higher order are more likely than births of lower order to be unplanned. The proportion unplanned ranges from 12 percent for first-order births to 44 percent for births of order four or higher. The fact that 37 percent of births of order four or higher were not wanted at all indicates that the family welfare programme is a long way from meeting the family planning needs of women who already have three or more children. The sizeable proportion of women at all parities who would have liked to have their births later suggests that more attention also needs to be given to promoting spacing methods of contraception.

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

Overall, the total wanted fertility rate of 1.72 in Delhi is lower by 0.68 children (i.e., by 28 percent) than the total fertility rate of 2.40. This means that if unwanted births could be eliminated, the TFR would fall below the replacement level of fertility (which is approximately 2.1 children per woman). In fact, if all unwanted births were eliminated, all socioeconomic groups shown in Table 4.19 except illiterate women and women living in households with a low standard of living would have below-replacement fertility. Even in these two exceptional groups, the total wanted fertility rate is more than one child lower than the actual TFR.

**Table 4.19 Wanted fertility rates**

Total wanted fertility rate and total fertility rate for the three years preceding the survey by selected background characteristics, Delhi, 1999

Background characteristic	Total wanted fertility rate	Total fertility rate
<b>Residence</b>		
Urban	1.72	2.37
Rural	1.64	2.55
<b>Education</b>		
Illiterate	2.31	3.42
Literate, < middle school complete	1.80	2.77
Middle school complete	1.65	2.27
High school complete and above	1.53	1.92
<b>Religion</b>		
Hindu	1.71	2.35
Muslim	1.87	3.01
Sikh	1.36	2.20
Other	(1.25)	(1.25)
<b>Caste/tribe</b>		
Scheduled caste	2.03	3.01
Other backward class	1.93	2.77
Other <sup>1</sup>	1.55	2.12
<b>Standard of living index</b>		
Low	(3.83)	(5.30)
Medium	1.92	2.93
High	1.57	2.11
Total	1.72	2.40
<p>Note: Rates are based on births in the period 1–36 months preceding the survey to women age 15–49. The total fertility rates are the same as those presented in Table 4.3. Total includes small numbers of scheduled-tribe women and women with missing information on education, religion, caste/tribe, and the standard of living index, who are not shown separately.</p> <p>( ) Based on 125–249 woman-years of exposure</p> <p><sup>1</sup>Not belonging to a scheduled caste, scheduled tribe, or other backward class</p>		