

## CHAPTER 4

### FERTILITY AND FERTILITY PREFERENCES

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

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

Despite these measures to improve data quality, NFHS-2 is subject to the same types of errors that are inherent in all retrospective sample surveys—namely, the omission of some births (especially births of children who died at a very young age) and the difficulty of determining the date of birth of each child accurately. These difficulties can bias estimates of fertility 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 many parts of India, however, formal marriage is not always immediately followed by cohabitation. Rather, the husband and the wife begin to cohabit only after the *gauna* ceremony. Even in states where *gauna* is not practised, a marriage may not be consummated immediately if it occurs at a very young age. In such instances, there is a difference between age at marriage and age at consummation of marriage. Age at consummation of marriage is, of course, what is relevant for fertility. NFHS-2 measured age at first cohabitation as a proxy for age at consummation of marriage. Accordingly, Table 4.1 presents information on the median age at first cohabitation to supplement the information on the median age at first marriage presented in Chapter 3. In Table 4.1, the median age at first cohabitation for a group of women is defined as the age by which half of the entire group began to cohabit, rather than the age by which half of all ever-cohabiting women in the group began to cohabit.

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, Madhya Pradesh, 1998–99

Background characteristic	Current age						
	20–24	25–29	30–34	35–39	40–49	20–49	25–49
<b>Residence</b>							
Urban	19.9	18.4	17.8	16.8	16.9	18.1	17.5
Rural	16.0	15.5	15.6	15.5	15.5	15.6	15.5
<b>Region</b>							
Chattisgarh	16.8	15.6	16.2	15.7	15.6	16.0	15.8
Vindhya	15.0	15.0	14.8	14.8	14.9	14.9	14.9
Central	17.2	17.2	16.1	16.2	16.3	16.7	16.5
Malwa Plateau	17.7	16.9	16.9	16.3	16.7	16.9	16.7
South Central	16.9	16.4	16.1	15.5	15.8	16.2	16.0
South Western	16.7	15.8	16.2	15.9	16.0	16.1	16.0
Northern	16.8	16.0	16.4	15.9	15.9	16.2	16.0
<b>Education</b>							
Illiterate	15.5	15.2	15.5	15.2	15.5	15.4	15.3
Literate, < middle school complete	17.0	16.0	16.0	16.4	16.4	16.4	16.2
Middle school complete	19.3	18.5	18.3	(18.0)	(16.9)	18.6	18.2
High school complete and above	NC	21.9	21.5	21.5	20.1	NC	21.4
<b>Religion</b>							
Hindu	16.5	15.8	15.9	15.7	15.8	16.0	15.8
Muslim	NC	17.5	17.2	16.3	17.2	17.9	17.1
Jain	NC	*	*	*	*	19.0	18.8
Other	NC	*	*	*	*	NC	19.8
<b>Caste/tribe</b>							
Scheduled caste	16.4	15.5	15.4	15.0	15.3	15.6	15.3
Scheduled tribe	15.7	15.4	15.8	15.6	15.8	15.7	15.7
Other backward class	16.9	15.8	15.9	15.5	15.7	16.0	15.7
Other	19.4	18.3	18.0	17.2	16.7	17.9	17.5
<b>Standard of living index</b>							
Low	15.6	15.3	15.5	15.1	15.3	15.4	15.3
Medium	16.7	15.8	16.0	15.8	15.6	15.9	15.8
High	NC	19.0	18.6	17.6	17.5	18.6	18.2
Total	16.8	16.0	16.1	15.8	15.9	16.1	16.0
NC: Not calculated because less than 50 percent of the women have started living with their husband by age 20							
( ) Based on 25–49 unweighted cases							
*Median not shown; based on fewer than 25 unweighted cases							

Table 4.1 shows that, in Madhya Pradesh, the median age at first cohabitation with husband is 16.1 years for women age 20–49, about the same as it was in NFHS-1 (16.0). The median age at first cohabitation remains almost unchanged for all age groups 25–29 to 40–49, but goes up to 16.8 for the age group 20–24. This suggests a modest increase of one year over a period of about two decades, with most of the change being concentrated only in the most recent period. Table 4.1 also shows that the median age at first cohabitation for women age 20–49 is 2.5 years higher for urban women than for rural women. The urban-rural differential is particularly large for younger women. For women age 20–24, the median age at first cohabitation is about four years higher in urban areas than in rural areas, while for women age 35–49, the urban-rural differential in the median is only about one year. This difference occurs because the median age

at first cohabitation increases sharply between older and younger women (from 16.8–16.9 years for the age group 35–49 to 19.9 for the age group 20–24) in urban areas, but changes very little across age groups in rural areas. Among currently married women age 20–49, the median age at first cohabitation with the husband ranges from 16.0 in the Chattisgarh Region to 16.9 in the Malwa Plateau Region for all regions except the Vindhya Region. In the Vindhya Region, the median age at first cohabitation is only 14.9 years and has changed little over time.

Differentials in the median age at first cohabitation by education are larger than differentials by residence. For women age 25–49, the median age at first cohabitation ranges from 15.3 years for illiterate women to 21.4 years for women who have completed at least high school, a difference of about six years. Increases over time in the median have been small and inconsistent for all educational groups, but the increase among illiterate women has been particularly negligible. The median age at first cohabitation for women age 20–49 is higher for Muslims (17.9 years) than for Hindus (16.0 years) by about two years, but is highest, at 19.0 years, for Jain women. By caste/tribe, the median age at first cohabitation for women age 20–49, ranges from 15.6 years for scheduled-caste women to 17.9 years for women who do not belong to a scheduled caste, scheduled tribe, or other backward class. For the same age group, the median age at first cohabitation is about three years lower for women from households with a low or medium standard of living than for women from households with a high standard of living.

## 4.2 Current Fertility Levels

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

Based on estimates for the three-year period before NFHS-2, the CBR for Madhya Pradesh was 26.7 births per 1,000 population, and the TFR for women age 15–49 was 3.31 births per woman, as shown in Table 4.2. The NFHS-2 TFR estimate is in line with a target couple survey carried out by the Government of India in 1995, which estimated the TFR at 3.62 for Madhya Pradesh (Chaurasia, 1997). Fertility is considerably higher in rural areas than in urban areas. The CBR is 22.9 in urban areas and 27.9 in rural areas, and the TFR is 2.61 in urban areas and 3.56 in rural areas. Under the age schedule of fertility estimated from NFHS-2, a rural woman in Madhya Pradesh will have, on average, almost one child more than an urban woman. The TFR for Madhya Pradesh is much higher than the TFR for India (2.85) and is the fifth highest among all the states of India. Only Meghalaya, Uttar Pradesh, Rajasthan, and Bihar have TFRs higher than the TFR for Madhya Pradesh.

**Table 4.2 Current fertility**

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

Age	NFHS-1 (1989–91)	NFHS-2 (1996–98)		SRS (1997)			
	Total	Urban	Rural	Total	Urban	Rural	Total
15–19	0.153	0.087	0.162	0.142	0.032	0.101	0.088
20–24	0.255	0.195	0.240	0.228	0.192	0.294	0.275
25–29	0.191	0.131	0.170	0.159	0.168	0.224	0.214
30–34	0.106	0.075	0.083	0.081	0.074	0.137	0.126
35–39	0.047	0.030	0.034	0.033	0.030	0.071	0.063
40–44	0.018	0.004	0.015	0.012	0.006	0.034	0.028
45–49	0.010	0.000	0.009	0.006	0.002	0.006	0.005
TFR 15–44	3.85	2.61	3.52	3.27	2.49	4.27	3.98
TFR 15–49	3.90	2.61	3.56	3.31	2.50	4.30	4.00
CBR	31.9	22.9	27.9	26.7	23.1	33.6	31.9

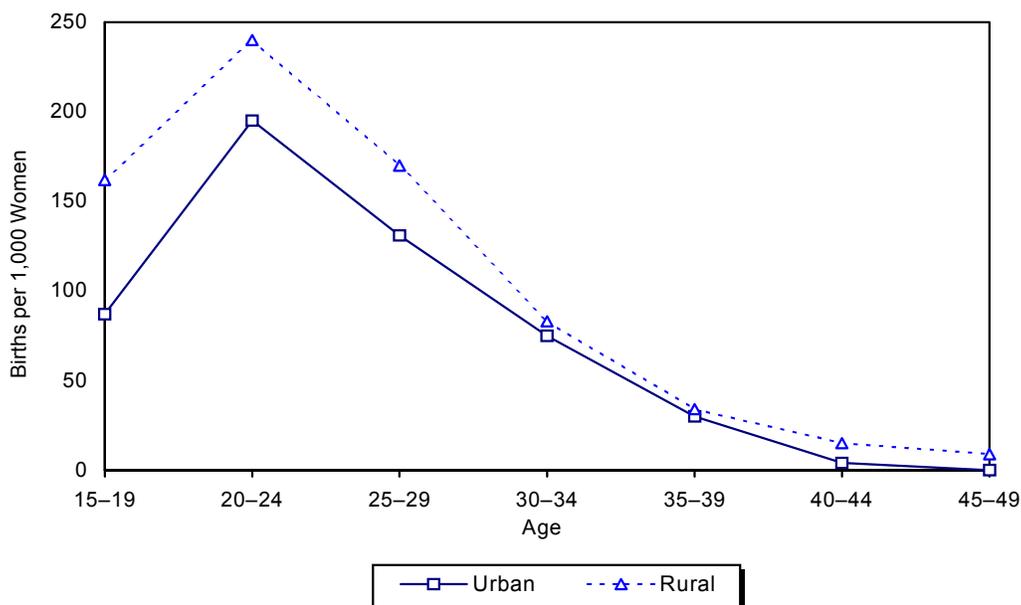
Note: Rates from NFHS-1 and NFHS-2 are for the period 1–36 months preceding the survey. Rates for the age group 45–49 might be slightly biased due to truncation. Rates from the SRS are for one calendar year. Age-specific and total fertility rates are expressed per woman.

TFR: Total fertility rate

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

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

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



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

NFHS-2, Madhya Pradesh, 1998–99

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

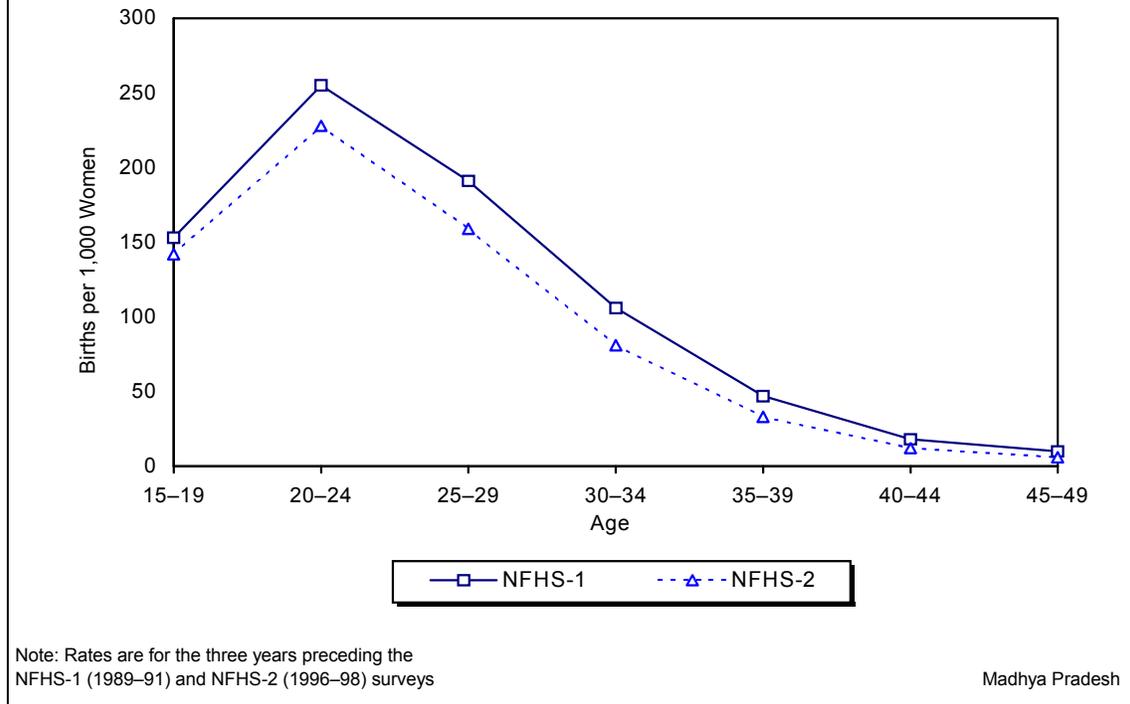


Table 4.2 and Figure 4.1 show that the TFR is lower in urban areas than in rural areas because ASFRs are lower at all ages in urban areas than in rural areas. Fifty-eight percent of rural total fertility and 62 percent of urban total fertility are concentrated in the prime childbearing ages 20-29. There is also a significant amount of early childbearing. Fertility at age 15-19 accounts for 17 percent of total fertility in urban areas, 23 percent in rural areas and 21 percent overall. Fertility at ages 35 and older accounts for only 8 percent of total fertility.

Based on estimates for the three-year periods preceding NFHS-1 and NFHS-2, the CBR fell from 31.9 to 26.7 between the two surveys, a decline of 16 percent in about six and one-half years. Over the same period, the TFR fell by 0.59 of a child, from 3.90 to 3.31, a decline of 15 percent. Fertility fell mainly at ages 20-39 with only a small decline in fertility at age 15-19 (Figure 4.2). Although fertility also fell at ages 40-44 and 45-49, fertility at these ages was already very low in NFHS-1, so that fertility declines above age 40 had a negligible impact on the changes in the CBR and TFR that occurred between the two surveys. The pattern of fertility change by age is consistent with the findings that there has been only a small increase in the age at cohabitation, little success in the promotion of spacing between births, and a predominant use of permanent methods of contraception (discussed elsewhere in this report).

The NFHS-2 fertility estimates can be compared with estimates from the Sample Registration System (SRS), which is maintained by the Office of the Registrar General, India. Since the NFHS-2 rates refer to 1996-98, it is appropriate to compare them with the SRS estimates for 1997, which are also shown in Table 4.2. The NFHS-2 estimate of the CBR, at 26.7, is lower than the SRS estimate of the CBR, at 31.9. Similarly, the NFHS-2 estimate of the TFR, at 3.31, is lower than the SRS estimate of the TFR, at 4.00. Differences between the

fertility estimates from NFHS-2 and the SRS are almost negligible in the urban areas but are substantial in the rural areas. The much larger discrepancy in rural areas may be caused by more age misreporting in rural areas, which tends to result in the displacement of births further into the past in birth histories. Retrospective surveys, such as NFHS-1 and NFHS-2, are subject to such displacement, whereas the SRS, in which births are recorded during the year in which they occur, is not. In the analysis of the earlier NFHS-1 survey, Narasimhan et al. (1997) compared NFHS-1 and SRS estimates of fertility and concluded that both are probably underestimates. Nonetheless, since the SRS estimates are not subject to age displacement, they are likely to be closer to the true level of fertility than the NFHS-1 estimates. This argument is probably equally valid for the NFHS-2 estimates of fertility as compared with the corresponding SRS estimates.

### **4.3 Fertility Differentials and Trends**

Table 4.3 and Figure 4.3 show how the TFR, the percentage currently pregnant, and the mean number of children ever born to women age 40–49 vary by selected background characteristics. In NFHS-2, the fertility rate for illiterate women is almost two children higher than the fertility rate for women who have completed at least high school. The TFR is similar for Muslims and Hindus, and both of these groups have much higher fertility than any other religious group. By caste/tribe, the TFR is 1.4 children higher for scheduled-caste women, 1.2 children higher for scheduled-tribe women, and 0.9 child higher for OBC women than for women who do not belong to any of these groups. The TFR is 1.9 children higher for women living in households with a low standard of living and 1.0 child higher for women living in households with a medium standard of living than for women living in households with a high standard of living. Fertility transitions in other countries have shown that fertility differentials typically diverge early in the transition and reconverge (though rarely completely) towards the end of the transition as fertility approaches the replacement level. Table 4.3 and Figure 4.3 suggest that Madhya Pradesh is in an early stage of transition, with large fertility differentials.

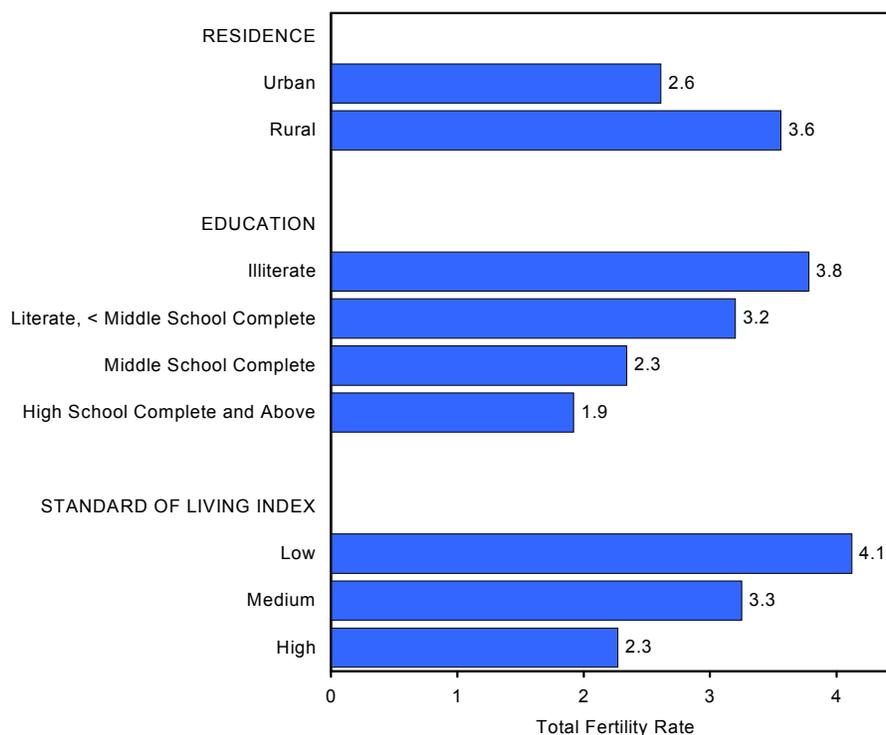
Overall, 7 percent of women age 15–49 report that they are currently pregnant. Differentials in the percentage of women who are currently pregnant do not always parallel differentials in the TFR. In Table 4.3, for example, scheduled-tribe women have a slightly lower TFR than scheduled-caste women but a slightly higher percentage currently pregnant. Such apparent inconsistencies can occur because the TFR is not affected by age structure, whereas the percentage currently pregnant is affected by age structure, which can vary from one group to the next. In most cases in the table, however, the direction of differentials in the percentage currently pregnant parallels the direction of differentials in the TFR.

The last column of Table 4.3 shows the mean number of children ever born to ever-married women age 40–49 at the time of the survey. The average number of children ever born for these women, who are at the end of their childbearing years, is 5.1. The substantial decline in fertility in Madhya Pradesh over time is evident from the difference of 1.8 children between the average number of children for women who are currently in their forties and the number of children women would have in their lifetime if they were subject to the current age-specific fertility rates (the last column and first column of Table 4.3). The pattern of differentials in the mean number of children ever born does not necessarily parallel the pattern of differentials in the TFR. This is because the mean number of children ever born at age 40–49 reflects fertility in the past, whereas the TFR only reflects fertility in the three years preceding the survey.

<b>Table 4.3 Fertility by background characteristics</b>			
Total fertility rates for the three years preceding the survey, percentage of all women age 15–49 currently pregnant, and mean number of children ever born to ever-married women age 40–49 by selected background characteristics, Madhya Pradesh, 1998–99			
Background characteristic	Total fertility rate <sup>1</sup>	Percentage currently pregnant <sup>2</sup>	Mean number of children ever born to ever-married women age 40–49 years
<b>Residence</b>			
Urban	2.61	4.1	4.48
Rural	3.56	7.8	5.36
<b>Region</b>			
Chattisgarh	2.79	5.5	4.57
Vindhya	3.81	7.3	5.66
Central	3.46	7.0	5.02
Malwa Plateau	3.37	7.1	4.86
South Central	3.09	7.2	4.85
South Western	3.61	8.9	5.07
Northern	3.59	6.7	6.15
<b>Education</b>			
Illiterate	3.78	7.5	5.46
Literate, < middle school complete	3.20	7.4	4.69
Middle school complete	2.34	4.7	(3.95)
High school complete and above	1.92	4.2	3.20
<b>Religion</b>			
Hindu	3.35	6.9	5.10
Muslim	3.39	7.7	5.80
Jain	(2.45)	6.4	*
Other	1.86	2.9	*
<b>Caste/tribe</b>			
Scheduled caste	3.87	8.3	5.80
Scheduled tribe	3.69	8.6	4.99
Other backward class	3.34	6.2	5.14
Other	2.49	5.2	4.68
<b>Standard of living index</b>			
Low	4.12	7.6	5.27
Medium	3.25	7.2	5.46
High	2.27	4.8	4.15
Total	3.31	6.8	5.10
( ) Based on 125–249 woman-years of exposure or 25–49 unweighted cases *Mean not shown; based on fewer than 25 unweighted cases <sup>1</sup> Rate for women age 15–49 years <sup>2</sup> For this calculation, it is assumed that women who are never married, widowed, divorced, separated, or deserted are not currently pregnant.			

All three indicators of fertility are lowest for the Chattisgarh Region. The TFR is highest in the Vindhya Region (3.81) followed by the South Western (3.61) and Northern (3.59) Regions and lowest in the Chattisgarh Region (2.79). The proportion of women currently pregnant is highest in the South Western Region (9 percent) and the mean number of children ever born

**Figure 4.3**  
**Total Fertility Rate by Selected Background Characteristics**



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

NFHS-2, Madhya Pradesh, 1998–99

to women age 40–49 is highest in the Northern Region (6.15) followed by the Vindhya Region (5.66). The values of these two indicators for the Chattisgarh Region, by contrast, are 5.5 percent and 4.57 children, respectively.

The preceding section already discussed fertility trends based on estimates from NFHS-1 and NFHS-2 for the three-year period preceding each survey. Table 4.4 shows fertility trends for five-year time periods preceding NFHS-2, estimated solely from NFHS-2 birth histories. It is not possible to show TFRs for some of the age groups because of progressively greater age truncation as one goes back in time. In NFHS-2, birth histories were collected only for women age 15–49. This means, for example, that for the period 5–9 years preceding the survey, it is not possible to compute an ASFR for age 45–49. Similarly, for the period 10–14 years preceding the survey, it is not possible to compute ASFRs for the oldest two age groups, and for the period 15–19 years preceding the survey, it is not possible to compute ASFRs for the oldest three age groups. Thus Table 4.4 shows only the truncated trends in ASFRs. Results are shown separately for urban and rural areas as well as for the entire state. These results show very substantial fertility declines in every age group over the 15-year period in both urban and rural areas, although the decline is not always steady. In many cases, age-specific fertility declined by half or more. The proportionate decline tends to be somewhat greater at the older reproductive ages.

Table 4.4 Fertility trends				
Age-specific fertility rates for five-year periods preceding the survey by residence, Madhya Pradesh, 1998–99				
Age	Years preceding survey			
	0–4	5–9	10–14	15–19
<b>URBAN</b>				
15–19	0.086	0.117	0.151	0.158
20–24	0.201	0.272	0.279	0.320
25–29	0.151	0.194	0.210	0.262
30–34	0.075	0.083	0.124	[0.161]
35–39	0.024	0.031	[0.056]	U
40–44	0.004	[0.018]	U	U
45–49	[0.000]	U	U	U
<b>RURAL</b>				
15–19	0.178	0.243	0.247	0.231
20–24	0.250	0.309	0.323	0.316
25–29	0.176	0.225	0.237	0.254
30–34	0.089	0.116	0.161	[0.216]
35–39	0.041	0.082	[0.090]	U
40–44	0.021	[0.040]	U	U
45–49	[0.010]	U	U	U
<b>TOTAL</b>				
15–19	0.154	0.210	0.220	0.211
20–24	0.238	0.298	0.311	0.318
25–29	0.169	0.217	0.229	0.257
30–34	0.086	0.107	0.150	[0.199]
35–39	0.036	0.067	[0.079]	U
40–44	0.016	[0.033]	U	U
45–49	[0.007]	U	U	U
Note: Age-specific fertility rates are expressed per woman.				
U: Not available				
[ ] Truncated, censored				

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 4.5 to 3.4 in the five-year period, a decline of over one child. The decline was 0.8 child for urban areas and 1.2 children for rural areas, indicating that fertility fell slightly more rapidly in rural areas than in urban areas during this period. This is to be expected because the practice of family limitation tends to start in urban areas and spread to rural areas. It should be noted that these estimated fertility declines may exaggerate to some degree the magnitude of the decline between these two five-year periods, because there is considerable age misreporting in India, especially in rural areas, which could result in displacement of births from the first five-year period into the second five-year period before the survey (Narasimhan et al., 1997).

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

Table 4.5 Fertility by marital duration				
Fertility rates for ever-married women by duration since first cohabitation with husband (in years) and residence for five-year periods preceding the survey, Madhya Pradesh, 1998–99				
Duration since first cohabitation (in years)	Years preceding survey			
	0–4	5–9	10–14	15–19
<b>URBAN</b>				
< 5	0.312	0.335	0.347	0.336
5–9	0.197	0.272	0.254	0.315
10–14	0.104	0.134	0.176	0.249
15–19	0.050	0.068	0.102	0.178
20–24	0.019	0.035	0.106	*
25–29	0.006	0.024	*	U
<b>RURAL</b>				
< 5	0.301	0.331	0.319	0.304
5–9	0.260	0.324	0.323	0.326
10–14	0.160	0.210	0.242	0.255
15–19	0.087	0.121	0.150	0.207
20–24	0.043	0.079	0.111	*
25–29	0.018	0.042	*	U
<b>TOTAL</b>				
< 5	0.304	0.332	0.326	0.311
5–9	0.244	0.311	0.306	0.323
10–14	0.146	0.192	0.224	0.254
15–19	0.078	0.107	0.137	0.200
20–24	0.036	0.067	0.110	*
25–29	0.015	0.037	*	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				

ever-married women for four five-year periods preceding the survey<sup>1</sup>. Marital fertility has declined at all durations (albeit, unsteadily), but more so for the longer durations. The limited decline of fertility at duration 0–4 years since first cohabitation is typical of populations in which contraception is initiated only after the first birth or later, as is the case in Madhya Pradesh (see Table 5.5). The large overall declines in fertility rates by duration since first cohabitation confirm the earlier observation that fertility within marriage has declined substantially in Madhya Pradesh.

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

<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, on average, only 4.5 years.

women who marry when they are younger (Basu, 1993; Pandey et al., 1990). In addition, because breastfeeding is shorter in urban areas (see Table 7.8), another contributing factor may be a shorter period of postpartum amenorrhoea, which results in shorter birth intervals in the absence of birth control (which is rarely practiced in Madhya Pradesh during the first few years of marriage).

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

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

Among women age 15–49 in Madhya Pradesh, the mean number of children ever born is 2.8 for all women and 3.3 for currently married women. The mean number of children ever born increases steadily with age, reaching a high of 5.3 children for all women age 45–49 and 5.4 for currently married women age 45–49. The table also shows that early childbearing is fairly common in Madhya Pradesh. Twenty-three percent of all women age 15–19 have already borne a child.

The number of children ever born to women age 45–49 is of particular interest because these women have virtually completed their childbearing. For all women in this age group, the modal number of children ever born is five: 16 percent of these women have reached the end of childbearing with five children ever born. Among currently married women age 45–49, the distribution of number of children ever born is virtually bi-modal: 17 percent of these women have reached the end of childbearing with five children ever born and another 17 percent have reached the end of childbearing with 6 children ever born. Thirty percent of currently married women in this age group have had seven or more live births, and almost two-thirds have had five or more live births. Only 1.5 percent of currently married women age 45–49 have never given birth. This suggests that primary infertility (which is the proportion of couples who are unable to have any children) is very low in Madhya Pradesh.

For all women age 15–49, the average number of dead children per woman is 0.5. For currently married women it is 0.6, implying that 18 percent of children ever born to currently married women have died. The proportion of children ever born who have died increases with women's age. For currently married women the proportion of children ever born who have died increases from 14 percent for women age 15–19 to 23 percent for women age 45–49.

#### **4.5 Birth Order**

The distribution of births by birth order is yet another way to view fertility. Table 4.7 shows the distribution of births during the three-year period before the survey by birth order for selected background characteristics. Overall, as expected, the proportion of births at each order is larger than the proportion at the next higher order. Twenty-five percent of all births are first-order births, 22 percent are second-order births, 18 percent are third-order births, and 35 percent are births of order four or higher.

**Table 4.6 Children ever born and living**

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

Age	Children ever born											Total percent	Number of women	Mean number of CEB	Mean number of living children
	0	1	2	3	4	5	6	7	8	9	10+				
<b>ALL WOMEN</b>															
15–19	76.9	16.0	6.3	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	1,875	0.31	0.27
20–24	28.1	19.8	25.5	16.6	8.1	1.5	0.4	0.0	0.0	0.0	0.0	100.0	1,541	1.63	1.38
25–29	9.8	8.9	17.6	24.9	20.5	11.3	4.7	1.3	0.7	0.0	0.2	100.0	1,456	3.03	2.56
30–34	6.0	4.8	12.7	19.8	20.3	15.8	10.4	5.7	2.2	1.4	0.7	100.0	1,193	3.91	3.26
35–39	4.3	4.2	9.2	18.0	19.1	16.6	10.5	7.9	5.1	2.1	2.9	100.0	970	4.45	3.61
40–44	3.2	2.7	6.0	15.9	18.7	16.5	13.1	10.4	6.0	3.3	4.2	100.0	712	4.94	3.96
45–49	2.8	2.4	5.3	13.6	15.2	16.4	14.8	10.8	7.7	4.5	6.5	100.0	544	5.32	4.09
Total	26.2	10.4	13.0	14.9	12.9	9.0	5.7	3.6	2.1	1.0	1.3	100.0	8,292	2.76	2.27
<b>CURRENTLY MARRIED WOMEN</b>															
15–19	51.1	33.8	13.5	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	868	0.66	0.57
20–24	13.5	23.3	30.7	20.2	9.9	1.8	0.5	0.1	0.0	0.0	0.0	100.0	1,254	1.97	1.67
25–29	3.6	8.9	18.6	26.8	22.1	12.3	5.2	1.5	0.8	0.1	0.1	100.0	1,315	3.26	2.77
30–34	3.1	4.2	12.6	20.6	21.0	16.9	10.9	6.0	2.4	1.5	0.7	100.0	1,110	4.08	3.40
35–39	2.8	3.6	9.0	18.7	19.6	17.5	10.6	7.4	5.4	2.3	3.1	100.0	904	4.56	3.71
40–44	1.9	2.3	4.8	15.8	19.6	17.0	13.7	11.0	6.1	3.3	4.6	100.0	651	5.10	4.09
45–49	1.5	2.5	5.1	12.0	15.5	16.9	16.8	10.8	7.7	4.3	6.9	100.0	469	5.44	4.18
Total	11.2	12.3	15.6	17.9	15.6	11.0	7.0	4.2	2.5	1.2	1.5	100.0	6,572	3.33	2.73

Table 4.7 Birth order

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

Background characteristic	Birth order				Total percent	Number of births
	1	2	3	4+		
<b>Mother's current age</b>						
15–19	71.9	25.1	2.9	0.0	100.0	482
20–29	19.4	26.6	24.0	30.1	100.0	1,815
30–39	3.0	5.5	10.2	81.3	100.0	504
40–49	(0.0)	(0.0)	(8.0)	(92.0)	100.0	43
<b>Residence</b>						
Urban	31.8	25.0	14.9	28.3	100.0	616
Rural	23.3	21.4	18.5	36.8	100.0	2,229
<b>Region</b>						
Chattisgarh	27.2	24.7	16.8	31.3	100.0	644
Vindhya	22.8	16.7	16.5	44.0	100.0	466
Central	26.5	22.8	15.7	35.0	100.0	284
Malwa Plateau	25.0	23.6	20.7	30.8	100.0	482
South Central	26.5	24.5	18.6	30.4	100.0	338
South Western	22.6	21.7	16.0	39.7	100.0	280
Northern	24.1	20.5	19.3	36.1	100.0	351
<b>Mother's education</b>						
Illiterate	19.3	19.9	18.1	42.7	100.0	1,955
Literate, < middle school complete	34.0	22.2	17.4	26.4	100.0	481
Middle school complete	37.5	34.9	17.3	10.4	100.0	192
High school complete and above	47.4	31.0	15.7	5.9	100.0	216
<b>Religion</b>						
Hindu	25.1	22.3	17.8	34.8	100.0	2,626
Muslim	24.9	17.8	17.2	40.1	100.0	169
<b>Caste/tribe</b>						
Scheduled caste	22.1	21.0	16.6	40.3	100.0	472
Scheduled tribe	20.0	20.0	17.3	42.6	100.0	700
Other backward class	27.3	21.9	18.2	32.6	100.0	1,192
Other	30.3	27.2	18.1	24.4	100.0	480
<b>Mother's work status</b>						
Working in family farm/business	21.7	21.0	17.0	40.3	100.0	686
Employed by someone else	20.1	17.3	17.1	45.6	100.0	759
Self-employed	22.7	14.0	18.5	44.7	100.0	70
Not worked in past 12 months	29.9	26.0	18.4	25.7	100.0	1,330
<b>Standard of living index</b>						
Low	19.0	17.6	17.1	46.3	100.0	1,036
Medium	26.4	23.3	18.1	32.2	100.0	1,377
High	36.5	29.9	17.4	16.3	100.0	424
Total	25.1	22.2	17.7	35.0	100.0	2,844

Note: Total includes 22 births to Jain mothers, 28 births to mothers belonging to 'other' religions, and 1 and 8 births with missing information on caste/tribe and the standard of living index, respectively, which are not shown separately.  
( ) Based on 25–49 unweighted cases

Seventy-two percent of births to mothers age 15–19 are of order one; by contrast, 81 percent of births to mothers age 30–39 are of order four or higher. The proportion of births that are of order four or higher is 28 percent in urban areas and 37 percent in rural areas and varies by region from 30 percent in the South Central Region to 44 percent in the Vindhya Region. The proportion of births of order four or higher is relatively large for births to illiterate women, Muslim women, scheduled-tribe women, and scheduled-caste women. By work status, 40–46 percent of births to women who work are of order four or higher compared with 26 percent of births to women who did not work in the past 12 months. This finding may be partly explained by the fact that working women come disproportionately from rural areas, where fertility is relatively high. For women living in households with a low standard of living, the proportion of births of order four or higher is 46 percent, compared with only 16 percent for women living in households with a high standard of living.

#### **4.6 Birth Intervals**

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

Table 4.8 shows the percent distribution of births during the five years preceding the survey by birth interval according to selected demographic and socioeconomic characteristics. In Madhya Pradesh, 13 percent of births occur within 18 months of a previous birth, and 28 percent occur within 24 months. Thirty-five percent of births occur after an interval of three years or more.

The median birth interval in Madhya Pradesh is 30 months. The median birth interval for women age 15–19 is 25 months, which is substantially less than the median interval of 38 months for women age 40–49. The relatively short birth interval for women age 15–19 at the time of the survey, may result partly from a selection effect: Only women who have had two or more births are included in the table, and women age 15–19 with more than one birth are likely to be more fecund, on average, than other women. Given that the median birth interval increases with mother's age, it is surprising that it does not also increase substantially with the order of the previous birth. Perhaps this is due to the absence of the selection effect just noted in the case of age. There may also be another type of selection effect operating: Mothers of higher-order births may be more fecund, on average, than mothers of lower-order births.

Birth intervals are about one and one-half months shorter among women in urban areas than in rural areas, perhaps because the duration of breastfeeding is shorter for urban women. The median interval between births is longest for women who have completed at least high school (35 months) but does not vary much for women at other education levels (29–30 months). The median birth interval increases steadily with the standard of living index, but there is little variation by religion and caste/tribe status. By region, the median birth interval varies from 27 months in the South Western Region to 32 months in the Chattisgarh Region.

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, Madhya Pradesh, 1998–99									
Background characteristic	Months since previous birth						Total percent	Median months since previous birth	Number of births
	< 12	12–17	18–23	24–35	36–47	48+			
<b>Mother's current age</b>									
15–19	2.2	21.4	24.1	38.3	11.1	2.9	100.0	24.9	146
20–29	3.6	10.3	16.8	37.9	19.8	11.4	100.0	28.8	2,481
30–39	2.4	6.0	12.2	32.9	21.5	25.1	100.0	34.8	999
40–49	3.6	5.4	13.6	21.6	18.1	37.7	100.0	37.9	114
<b>Residence</b>									
Urban	2.1	9.9	14.0	34.5	19.0	20.4	100.0	31.4	733
Rural	3.5	9.3	16.2	36.5	20.1	14.4	100.0	29.8	3,007
<b>Region</b>									
Chhattisgarh	2.9	8.3	14.7	32.3	22.6	19.2	100.0	32.2	837
Vindhya	2.9	7.6	14.6	38.7	21.9	14.4	100.0	30.8	604
Central	3.1	12.7	14.2	33.6	19.7	16.8	100.0	30.7	361
Malwa Plateau	3.6	10.3	16.9	41.1	17.4	10.6	100.0	28.1	628
South Central	4.3	8.7	18.9	32.7	18.6	16.8	100.0	29.9	436
South Western	2.7	11.0	17.6	39.8	16.4	12.4	100.0	27.1	381
Northern	3.2	9.6	14.7	35.0	20.1	17.4	100.0	30.9	493
<b>Mother's education</b>									
Illiterate	3.3	9.6	15.9	35.9	19.5	15.7	100.0	30.1	2,828
Lit., < middle school complete	4.1	9.5	15.1	38.7	20.2	12.4	100.0	29.2	530
Middle school complete	2.6	10.2	18.1	36.9	22.0	10.2	100.0	29.9	192
High school complete and above	0.6	6.0	13.9	30.6	22.3	26.6	100.0	34.9	190
<b>Religion</b>									
Hindu	3.2	9.3	15.7	36.2	20.1	15.5	100.0	30.3	3,443
Muslim	2.9	13.0	17.1	33.5	17.6	15.8	100.0	28.6	228
Other	(6.8)	(5.6)	(16.8)	(40.4)	(20.2)	(10.1)	100.0	(29.3)	45
<b>Caste/tribe</b>									
Scheduled caste	3.5	7.9	15.0	36.3	17.9	19.4	100.0	30.3	626
Scheduled tribe	4.0	10.0	16.8	34.5	20.9	13.9	100.0	29.6	1,009
Other backward class	2.9	9.9	15.4	37.6	20.0	14.2	100.0	30.2	1,507
Other	2.6	9.0	15.8	34.8	20.1	17.7	100.0	30.9	595
<b>Standard of living index</b>									
Low	3.7	9.7	16.5	36.8	18.4	14.9	100.0	29.6	1,457
Medium	2.9	9.1	15.5	36.3	20.7	15.4	100.0	30.3	1,821
High	3.0	10.2	14.8	32.8	21.4	17.8	100.0	31.5	446

Contd...

There is no difference in the median birth interval by sex of the previous child. Birth intervals are much shorter if the previous child died (25 months) than if the previous child survived (31 months). In part, this reflects the shortening of postpartum amenorrhoea that occurs when the preceding child dies in infancy and breastfeeding stops prematurely. Women are also less likely to use temporary methods of contraception to postpone fertility if the previous child died and they want to replace the dead child. Very few women in Madhya Pradesh use temporary methods of contraception, however, so that the main effect is probably through the premature termination of breastfeeding.

Table 4.8 Birth interval (contd.)									
Percent distribution of births during the five years preceding the survey by interval since previous birth and median number of months since previous birth, according to selected background characteristics, Madhya Pradesh, 1998–99									
Background characteristic	Months since previous birth						Total percent	Median months since previous birth	Number of births
	< 12	12–17	18–23	24–35	36–47	48+			
<b>Order of previous birth</b>									
1	4.1	10.4	17.4	35.2	18.6	14.3	100.0	29.0	1,083
2	2.6	10.1	15.0	35.8	21.8	14.6	100.0	30.5	901
3	2.6	8.0	14.3	37.4	21.4	16.4	100.0	31.4	690
4+	3.3	8.8	15.7	36.4	18.6	17.0	100.0	30.1	1,066
<b>Sex of previous birth</b>									
Male	3.1	9.1	15.3	36.1	19.8	16.5	100.0	30.2	1,887
Female	3.3	9.8	16.2	36.1	20.0	14.5	100.0	30.2	1,853
<b>Survival of previous birth</b>									
Living	2.3	7.3	15.2	37.0	21.5	16.8	100.0	31.4	3,118
Dead	8.1	20.0	18.8	31.7	11.9	9.5	100.0	24.5	622
Total	3.2	9.4	15.8	36.1	19.9	15.5	100.0	30.2	3,740
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 23 births to Jain mothers and 1, 3, and 16 births with missing information on mother's education, caste/tribe, and the standard of living index, respectively. These births are not shown separately.									
() Based on 25–49 unweighted cases									

#### 4.7 Age at First and Last Birth

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

As shown in the last row of Table 4.9, the median age at first birth for women age 20–49 is 18.7 years. The median age at first birth fluctuates between 18.4 years and 18.8 years for women in all age groups above 20–24, and rises above 19 years only for the youngest age group (20–24). Among all women age 25–49, the median age at first birth is nearly two years higher for women in urban areas than in rural areas. It also varies by nearly two years by region, ranging from 19.7 years in the Central Region to 17.8 years in the Vindhya Region. The median age at first birth is more than five years higher for women who have completed at least high school than for illiterate women and nearly three years higher for women in households with a high standard of living than for women in households with a low standard of living. The median age at first birth is slightly higher for Muslim women than for Hindu women, but considerably higher for Jain women and for women of other religions. By caste/tribe, scheduled-caste women,

Table 4.9 Median age at first birth

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

Background characteristic	Current age							
	20–24	25–29	30–34	35–39	40–44	45–49	20–49	25–49
<b>Residence</b>								
Urban	NC	20.5	20.1	19.4	19.5	19.4	NC	19.9
Rural	18.2	17.8	18.2	18.1	18.2	18.6	18.1	18.1
<b>Region</b>								
Chattisgarh	19.0	17.8	18.5	17.8	17.5	18.0	18.1	17.9
Vindhya	17.7	17.5	17.8	17.8	17.7	18.4	17.8	17.8
Central	19.7	19.9	19.2	19.3	19.5	20.6	19.7	19.7
Malwa Plateau	19.6	19.7	19.4	18.7	19.3	19.7	19.4	19.4
South Central	19.2	18.2	18.5	17.9	18.4	18.5	18.5	18.3
South Western	18.5	17.5	18.4	18.2	18.5	18.1	18.1	18.1
Northern	19.4	19.0	19.5	19.6	19.4	18.6	19.3	19.2
<b>Education</b>								
Illiterate	17.6	17.6	18.0	17.7	18.0	18.4	17.8	17.9
Literate, < middle school complete	19.2	18.6	18.6	18.7	18.8	19.0	18.8	18.7
Middle school complete	NC	20.0	21.0	(19.8)	*	*	NC	20.0
High school complete and above	NC	23.4	23.1	23.5	23.1	22.7	NC	23.3
<b>Religion</b>								
Hindu	18.8	18.2	18.6	18.3	18.4	18.7	18.5	18.4
Muslim	NC	19.0	19.0	17.8	(18.7)	(18.9)	19.5	18.8
Jain	NC	*	*	*	*	*	NC	20.8
Other	NC	*	*	*	*	*	NC	22.0
<b>Caste/tribe</b>								
Scheduled caste	19.2	17.9	17.9	17.8	18.2	18.3	18.3	17.9
Scheduled tribe	17.3	17.8	17.9	17.7	18.1	18.1	17.7	17.9
Other backward class	19.1	18.1	18.6	18.1	18.1	18.8	18.5	18.3
Other	NC	20.6	20.5	20.0	19.7	19.7	NC	20.2
<b>Standard of living index</b>								
Low	17.6	17.4	18.1	17.8	18.4	17.8	17.7	17.8
Medium	18.8	18.3	18.5	18.1	18.0	18.6	18.4	18.3
High	NC	21.2	21.0	20.0	20.0	20.0	NC	20.5
Total	19.1	18.4	18.7	18.4	18.5	18.8	18.7	18.5
NC: Not calculated because less than 50 percent of women had their first birth by age 20 ( ) Based on 25–49 unweighted cases *Median not shown; based on fewer than 25 unweighted cases								

scheduled-tribe women, and women from other backward classes all have a median age at first birth that is about two years lower than the median age at first birth for women belonging to none of these caste/tribe groups. Notably, however, as in the case of the state as a whole, there is no consistent unidirectional change over time in the age at first birth for women in each of the population subgroups, except perhaps in the most recent years.

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 suggests that childbearing is virtually

Table 4.10 Age at last birth											
Percent distribution of ever-married women age 40–49 years by age at last birth and median age at last birth, according to current age, Madhya Pradesh, 1998–99											
Current age	Age at last birth								Total percent	Median age at last birth	Number of women
	No birth	< 20	20–24	25–29	30–34	35–39	40–44	45–49			
40–44	2.4	2.9	18.6	33.5	25.9	12.4	4.4	NA	100.0	29.0	707
45–49	1.9	2.5	14.1	26.3	30.4	16.8	6.8	1.2	100.0	30.5	539
40–49	2.2	2.7	16.7	30.4	27.8	14.3	5.4	0.5	100.0	29.7	1,245
NA: Not applicable											

complete by these ages. Half of ever-married women in this age group had their last birth by age 30, 78 percent by age 35, and 92 percent by age 40. The median age at last birth in Madhya Pradesh for women age 40–49 is 29.7 years (29.0 for women age 40–44 and 30.5 for women age 45–49). The difference between the median age at first birth and the median age at last birth provides a rough estimate of the typical reproductive age span. Among women age 45–49, this estimated reproductive age span is the difference between 18.8 and 30.5, or 11.7 years. Thus reproduction in Madhya Pradesh begins at a fairly early age and is concentrated in a span of about 12 years.

#### 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, are 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, i.e., on the proportion of births occurring within the 36 months before the survey whose mothers were amenorrhoeic, abstaining, or insusceptible at time of the survey. In other words, the table is based on cross-sectional data and does not represent the experience of a real cohort over time. The data are grouped in two-month intervals to minimize fluctuations in the distributions. Median and mean durations of amenorrhoea, abstinence, and insusceptibility are also shown in the table. The prevalence/incidence mean is obtained by dividing the number of mothers who are amenorrhoeic, abstaining, or insusceptible by the average number of births per month over the 36-month period.

For 94 percent of births mothers are amenorrhoeic in the first month after a birth, and for 82 percent they are amenorrhoeic 2–3 months after a birth. The proportion of mothers amenorrhoeic gradually decreases as the number of months since the birth increases. For more than one-half (58 percent) of births, mothers are still amenorrhoeic 10–11 months after a

Table 4.11 Postpartum amenorrhoea, abstinence, and insusceptibility

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

Months since birth	Percentage of births whose mothers are:			Number of births
	Amenorrhoeic	Abstaining	Insusceptible	
< 2	93.9	83.5	98.8	151
2–3	82.4	51.3	87.8	194
4–5	75.7	31.8	79.9	172
6–7	66.8	16.1	70.6	191
8–9	49.9	14.9	54.8	164
10–11	57.9	16.4	60.1	112
12–13	41.0	17.3	49.0	142
14–15	25.5	6.9	28.4	191
16–17	22.8	8.1	27.3	196
18–19	17.4	2.5	18.6	151
20–21	10.8	5.4	14.0	119
22–23	18.3	5.0	19.9	117
24–25	9.7	5.3	14.0	150
26–27	5.4	2.2	6.9	166
28–29	3.2	1.3	4.5	198
30–31	3.9	6.7	9.0	168
32–33	1.1	1.4	2.5	135
34–35	2.6	2.3	4.9	108
Median <sup>1</sup>	10.3	2.9	11.2	NA
Mean	12.0	5.9	13.3	NA
Prevalence/incidence mean	12.0	5.7	13.3	NA

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

birth, but then the proportion drops off fairly rapidly and is only 10 percent 24–25 months after a birth. The proportion of births for which mothers are abstaining from sexual intercourse within the first month after a birth, at 84 percent, is lower than the proportion amenorrhoeic within the first month after a birth, and this differential widens even more substantially as the number of months since birth increases. For 51 percent of births, mothers are abstaining from sexual intercourse 2 months after a birth, and this percentage drops to 17 percent at 12–13 months and 3 percent at 18–19 months after a birth. Overall, when amenorrhoea and abstinence are considered together, mothers of half the births are still insusceptible to pregnancy 12–13 months after a birth.

The median duration of amenorrhoea (10.3 months) is more than three times the median duration of abstinence (2.9 months). The median and mean durations of insusceptibility are 11.2 and 13.3 months, respectively. The table indicates that women in Madhya Pradesh remain insusceptible to conception for about 11 months after a birth, on average, 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

Table 4.12 Menopause						
Percentage of currently married women age 30–49 years who are in menopause by age and residence, Madhya Pradesh, 1998–99						
Age	Urban		Rural		Total	
	Percentage	Number	Percentage	Number	Percentage	Number
30–34	2.6	316	3.0	795	2.9	1,110
35–39	5.0	241	8.2	663	7.3	904
40–41	15.4	82	15.0	195	15.1	278
42–43	21.5	85	24.5	181	23.5	267
44–45	28.7	65	34.1	161	32.6	225
46–47	36.1	60	48.8	132	44.8	192
48–49	54.4	47	50.8	111	51.9	158
30–49	13.1	896	14.6	2,239	14.2	3,135

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.

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 currently married women age 30–49. In Madhya Pradesh, 24 percent of women age 42–43 have already reached menopause, and the incidence of menopause increases rapidly after age 43. By age 48–49, 52 percent of women are in menopause. Although the pattern is not totally consistent, the onset of menopause appears to occur somewhat later in urban areas than in rural areas.

#### 4.9 Desire for More Children

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

Table 4.13 and Figure 4.4 show future fertility preferences of currently married women, classified by their number of living children. Overall, 23 percent of currently married women say that they do not want any more children, an additional 38 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-third (36 percent) of women say that they would like to have another child (17 percent within two years, 17 percent after waiting at least two years, and 2 percent undecided when). The desire to stop childbearing increases rapidly with the number of living children. Only 2 percent of women with no living children do not want any children (the woman or her husband is sterilized or the woman says she wants no more children), compared with 58 percent of women with two living children and 91 percent of women with four or more living children. One percent of the women say that the

**Table 4.13 Fertility preferences**

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

Desire for children	Number of living children <sup>1</sup>					Total
	0	1	2	3	4+	
<b>URBAN</b>						
<b>Desire for additional child</b>						
Wants another soon <sup>2</sup>	75.5	20.0	7.9	3.7	2.3	13.3
Wants another later <sup>3</sup>	15.4	48.6	13.2	4.0	1.8	13.7
Wants another, undecided when	5.1	4.6	2.3	0.8	0.4	2.0
Undecided	0.0	3.1	0.3	0.6	0.3	0.8
Up to God	0.0	0.7	0.4	0.3	0.2	0.3
Wants no more	0.5	17.9	43.7	26.6	32.5	28.3
Sterilized	0.4	3.3	30.9	63.6	61.3	40.2
Declared infecund	3.0	1.9	0.9	0.4	1.0	1.2
Missing	0.0	0.0	0.6	0.0	0.2	0.2
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	147	273	358	375	500	1,653
<b>Preferred sex of additional child<sup>4</sup></b>						
Boy	23.8	38.1	49.3	(80.9)	*	40.0
Girl	3.8	15.6	15.6	(6.0)	*	11.0
Doesn't matter	65.4	35.5	23.9	(9.8)	*	40.4
Up to God	7.0	10.7	11.2	(3.3)	*	8.6
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women wanting more <sup>4</sup>	143	168	75	28	20	435
<b>RURAL</b>						
<b>Desire for additional child</b>						
Wants another soon <sup>2</sup>	74.2	32.4	16.9	7.3	3.0	18.4
Wants another later <sup>3</sup>	15.3	52.1	25.9	10.1	4.1	17.5
Wants another, undecided when	4.4	5.5	1.9	1.5	1.0	2.3
Undecided	0.4	0.3	0.6	1.1	0.6	0.7
Up to God	0.8	0.9	1.1	0.9	0.8	0.9
Wants no more	1.2	4.7	21.5	20.9	36.4	21.8
Sterilized	1.3	2.5	30.9	57.4	53.1	37.2
Declared infecund	2.3	1.6	1.1	0.7	0.9	1.2
Missing	0.0	0.0	0.2	0.0	0.1	0.1
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	532	673	955	1,137	1,622	4,919
<b>Preferred sex of additional child<sup>4</sup></b>						
Boy	47.3	52.4	65.4	77.2	80.0	58.3
Girl	2.3	15.6	16.8	11.0	6.9	10.7
Doesn't matter	41.1	25.4	15.3	8.4	8.2	24.9
Up to God	9.3	6.7	2.5	3.4	4.9	6.1
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women wanting more <sup>4</sup>	502	489	362	181	114	1,646

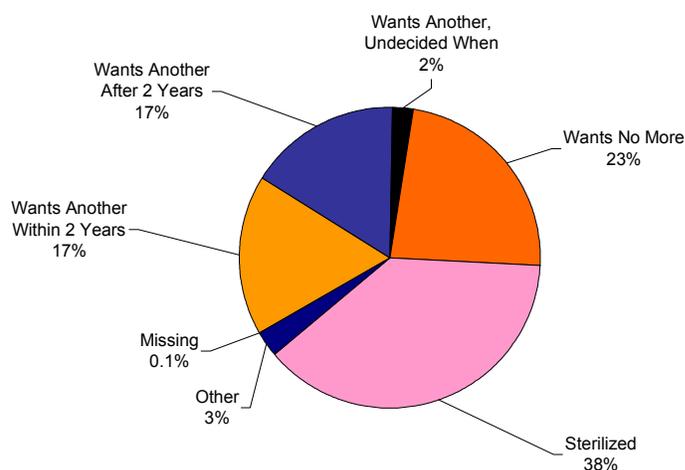
Table 4.13 Fertility preferences (contd.)						
Percent distribution of currently married women by desire for children and preferred sex of additional child, according to number of living children and residence, Madhya Pradesh, 1998–99						
Desire for children	Number of living children <sup>1</sup>					Total
	0	1	2	3	4+	
<b>TOTAL</b>						
<b>Desire for additional child</b>						
Wants another soon <sup>2</sup>	74.5	28.9	14.4	6.4	2.9	17.1
Wants another later <sup>3</sup>	15.4	51.1	22.4	8.5	3.5	16.5
Wants another, undecided when	4.6	5.2	2.0	1.4	0.8	2.2
Undecided	0.3	1.1	0.5	1.0	0.6	0.7
Up to God	0.7	0.8	0.9	0.8	0.6	0.8
Wants no more	1.1	8.5	27.5	22.3	35.5	23.4
Sterilized	1.1	2.7	30.9	58.9	55.0	38.0
Declared infecund	2.4	1.7	1.0	0.6	0.9	1.2
Missing	0.0	0.0	0.3	0.0	0.1	0.1
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	679	946	1,313	1,512	2,122	6,572
<b>Preferred sex of additional child<sup>4</sup></b>						
Boy	42.1	48.7	62.6	77.7	80.0	54.5
Girl	2.6	15.6	16.6	10.3	7.8	10.7
Doesn't matter	46.5	28.0	16.8	8.6	8.1	28.1
Up to God	8.8	7.7	4.0	3.4	4.1	6.6
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women wanting more <sup>4</sup>	645	657	437	209	134	2,081
( ) 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> 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						

decision about having any (more) children is up to God. Overall, 78 percent of women (82 percent in urban areas and 77 percent in rural areas) want to either space their next birth or do not want any more children.

The desire to have a child within two years drops rapidly with the number of living children, from 75 percent for women without any living children to 6 percent or less for women with three or more living children. About half (51 percent) of women with one living child (49 percent in urban areas and 52 percent in rural areas) would like to wait at least two years before having the next child. And yet, as will be seen in the next chapter, very few women in Madhya Pradesh use any temporary method of contraception. These findings suggest that encouraging the use of temporary methods would lower overall fertility and population growth, as well as provide health benefits to mothers and their children through increased birth spacing.

More than half (55 percent) of women who want another child say that they want the next child to be a boy, only 11 percent say that they want the next child to be a girl, and the rest say that the sex of the child does not matter (28 percent) or is up to God (7 percent). Irrespective of their number of living children, women are much more likely to express a desire for a son than

**Figure 4.4**  
**Fertility Preferences Among Currently Married Women**



Note: Percents add to more than 100 due to rounding

NFHS-2, Madhya Pradesh, 1998–99

for a daughter. In addition, the proportion of women expressing a desire specifically for a son increases with number of living children, from 42 percent for women with no living children to 80 percent for women with four or more living children. Among women who have no living children, 47 percent say it does not matter whether they have a son or a daughter, but only a few express a specific desire for a daughter (3 percent) and two out of five (42 percent) say they would like their first child to be a boy.

Table 4.14 provides information about differentials in the desire to limit family size by selected background characteristics. Women who are sterilized (or whose husbands are sterilized) are included with those who say they want no more children. As expected, older women are much more likely than younger women to want no more children. Already by age 25–34, 72 percent of women want no more children. The proportion who want no more children is higher among urban women (69 percent) than among rural women (59 percent). It varies among regions, from 57 percent in the Chattisgarh Region and 58 percent in the Vindhya Region to 67 percent in the South Central and Malwa Plateau Regions. The desire to stop childbearing does not increase consistently with the level of education; nonetheless, mothers who have completed at least high school are much more likely than illiterate or less educated mothers to desire no more children at each parity except 0. A higher proportion of Jain (69 percent) and Muslim women (67 percent) than of Hindu women (61 percent) want no more children. The proportion who want no more children ranges from 54 percent for scheduled-tribe women to 68 percent for women who do not belong to a scheduled caste, scheduled tribe, or other backward class. The desire for no more children increases sharply with the standard of living, overall, and within each parity. Fifty-eight percent of women in households with a low standard of living desire no more children compared with 70 percent of women in households with a high standard of living.

Table 4.14 Desire to have no more children by background characteristics						
Percentage of currently married women who want no more children by number of living children and selected background characteristics, Madhya Pradesh, 1998–99						
Background characteristic	Number of living children <sup>1</sup>					Total
	0	1	2	3	4+	
<b>Age</b>						
15–24	0.1	3.2	36.3	54.1	81.5	20.8
25–34	2.9	20.8	68.7	81.9	84.4	72.1
35–49	19.1	60.3	88.3	95.5	95.9	91.4
<b>Residence</b>						
Urban	0.9	21.2	74.6	90.2	93.8	68.6
Rural	2.5	7.2	52.3	78.3	89.5	59.0
<b>Region</b>						
Chattisgarh	4.0	8.6	53.7	77.4	89.8	56.8
Vindhya	0.9	7.8	42.2	74.7	90.7	57.9
Central	0.0	20.5	66.9	82.7	89.2	62.5
Malwa Plateau	1.2	14.8	69.7	87.2	91.0	66.7
South Central	1.4	11.3	68.4	86.9	92.7	67.2
South Western	3.9	10.2	53.4	80.7	87.1	63.0
Northern	2.2	8.8	51.3	80.5	92.8	60.6
<b>Education</b>						
Illiterate	2.5	7.6	47.5	78.1	89.5	61.8
Lit., < middle school complete	3.1	5.9	67.6	83.0	95.2	60.4
Middle school complete	0.0	9.3	65.9	91.8	91.3	53.3
High school complete and above	0.0	30.1	86.7	97.1	96.6	65.9
<b>Religion</b>						
Hindu	2.3	11.3	58.1	80.7	90.5	61.0
Muslim	(0.0)	(0.0)	62.9	85.8	91.9	66.8
Jain	*	*	*	*	*	69.2
Other	*	*	*	*	*	63.9
<b>Caste/tribe</b>						
Scheduled caste	0.7	7.4	48.8	77.5	89.3	58.1
Scheduled tribe	5.2	6.5	41.7	69.5	84.5	53.6
Other backward class	1.5	9.9	60.0	83.7	93.3	63.4
Other	1.1	21.4	74.1	90.1	93.7	68.3
<b>Standard of living index</b>						
Low	4.0	6.3	46.2	76.4	88.6	58.3
Medium	1.6	7.9	55.5	79.7	90.2	60.2
High	0.5	24.5	78.8	93.4	96.3	69.8

Contd...

The proportion who want no more children is highest for women with three or more living sons (95 percent) and is very low for women with no living sons (9 percent). Differences associated with the number of living daughters are also large but not as large as differences associated with the number of living sons, indicating a preference for sons. The proportion who want no more children is highest for women with three or more living daughters (81 percent) and lowest for women with no living daughters (37 percent). Notably, 78 percent of women with two children and 91 percent of women with three children do not want another child if all children are sons; however, if all children are daughters 20 percent and 25 percent of women, respectively, do not want any more children. Overall, however, the table shows that the majority of women at all

Table 4.14 Desire to have no more children by background characteristics (contd.)						
Percentage of currently married women who want no more children by number of living children and selected background characteristics, Madhya Pradesh, 1998–99						
Background characteristic	Number of living children <sup>1</sup>					Total
	0	1	2	3	4+	
<b>Number of living sons<sup>2</sup></b>						
0	2.2	8.9	20.2	25.3	34.8	9.0
1	NA	16.8	60.4	73.7	80.8	57.2
2	NA	NA	77.7	93.6	95.0	90.7
3+	NA	NA	NA	91.0	96.5	95.3
<b>Number of living daughters<sup>2</sup></b>						
0	2.2	16.8	77.7	91.0	88.8	36.5
1	NA	8.9	60.4	93.6	97.0	68.7
2	NA	NA	20.2	73.7	97.2	78.5
3+	NA	NA	NA	25.3	85.3	80.8
Total	2.2	11.2	58.4	81.3	90.6	61.4

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>Excludes pregnant women

parities two and above do not want any more children. In almost all subgroups also, the majority of women who have two children do not want any more children except for the youngest women, women in the Vindhya Region, and women who are illiterate, belong to the scheduled castes or scheduled tribes, belong to households with a low standard of living, and those who have no sons.

#### 4.10 Ideal Number of Children

To assess women's ideal number of children, NFHS-2 asked each woman the number of children she would like to have if she could start over again. Women with no children were asked, 'If you could choose exactly the number of children to have in your whole life, how many would that be?' Women who already had children were asked, 'If you could go back to the time you did not have any children and could choose exactly the number of children to have in your whole life, how many would that be?' Some women had difficulty answering these hypothetical questions, and hence the question often had to be repeated to ensure that they were understood. Only 4 percent of women in Madhya Pradesh did not give a numerical response.

Table 4.15 shows that 36 percent of ever-married women in Madhya Pradesh consider two children to be the ideal number of children and a similar proportion (35 percent) consider three to be the ideal number of children. Only 25 percent have an ideal number that differs from two or three children. Among all women who gave a numeric response, the average number of children considered ideal is 2.9, ranging from 2.5 for women who have no children or one child to 3.5 for women who already have four or more children.

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, Madhya Pradesh, 1998–99						
Ideal number of children	Number of living children <sup>1</sup>					Total
	0	1	2	3	4+	
0	0.0	0.1	0.0	0.0	0.0	0.0
1	4.9	6.6	2.7	1.5	0.5	2.5
2	51.1	51.7	50.6	29.2	20.5	36.4
3	29.6	29.4	32.5	49.3	29.3	34.5
4	7.6	8.0	10.0	13.5	30.8	16.9
5	1.5	1.3	1.3	2.1	7.2	3.4
6+	0.5	0.9	0.6	1.2	5.2	2.2
Non-numeric response	4.8	2.0	2.3	3.1	6.5	4.1
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	770	1,012	1,374	1,571	2,213	6,941
Mean ideal number <sup>2</sup>	2.5	2.5	2.6	2.9	3.5	2.9
Number of women giving numeric response	733	992	1,342	1,522	2,069	6,658

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

Asking a question on ideal family size is sometimes criticized on the grounds that women tend to adjust their ideal family size upward as the number of their living children increases, in a process of rationalizing previously unwanted children as wanted. It is argued that the question on ideal family size prompts many women to state the actual number of children they already have as their ideal. It is evident from Table 4.15, however, that this is not the case for many women in Madhya Pradesh. Among women with four or more living children, for example, one-half state that fewer than four children would be ideal. Similarly, among women with three living children, 31 percent state that their ideal family size is smaller than three children. It is evident that a substantial proportion of women in Madhya Pradesh already have more children than they now consider ideal. This proportion may be taken as another indicator of surplus or unwanted fertility.

Table 4.16 shows the mean ideal number of children of ever-married women by age according to selected background characteristics. The mean ideal family size increases gradually with age, from 2.7 children for women age 15–24 to 3.3 children for women age 45–49. Ideal family size is 2.6 in urban areas and 3.0 in rural areas. By region, it ranges from 2.6 in the Central Region to 3.2 in the Chattisgarh Region. The mean ideal number of children varies more by women’s own education than by their husbands’ education. The mean ideal number of children for illiterate women, at 3.1, is one child more than the mean ideal number of children for women who have completed at least high school (2.1). By contrast, the mean ideal number of children by husband’s education ranges from 3.2 for women whose husbands’ are illiterate to 2.6 for women whose husbands’ have completed at least high school. The mean ideal number of children is the same, at 2.9, for Hindu and Muslim women, but is lower, at 2.2, for Jain women. It is nearly one child higher for scheduled-tribe women than for women who do not belong to a schedule caste, scheduled tribe, or other backward class. Women from households with a low or

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, Madhya Pradesh, 1998–99

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	2.4	2.4	2.5	2.7	2.8	2.9	2.6
Rural	2.7	2.8	3.0	3.1	3.1	3.2	3.5	3.0
<b>Region</b>								
Chattisgarh	2.8	2.8	3.2	3.3	3.4	3.4	3.5	3.2
Vindhya	2.9	2.9	3.0	3.1	3.1	3.1	3.4	3.0
Central	2.5	2.5	2.6	2.8	2.5	2.9	2.9	2.6
Malwa Plateau	2.5	2.6	2.6	2.7	2.7	2.9	3.2	2.7
South Central	2.5	2.5	2.7	2.9	2.8	3.0	3.2	2.8
South Western	2.8	2.9	2.9	3.1	3.0	2.9	3.1	3.0
Northern	2.5	2.7	2.6	2.7	2.9	2.7	3.4	2.8
<b>Education</b>								
Illiterate	2.8	3.0	3.1	3.2	3.2	3.2	3.5	3.1
Literate, < middle school complete	2.4	2.4	2.7	2.8	2.7	3.1	2.8	2.7
Middle school complete	2.3	2.4	2.4	2.3	(2.2)	*	*	2.4
High school complete and above	(2.0)	2.0	2.0	2.1	2.1	2.3	(2.3)	2.1
<b>Religion</b>								
Hindu	2.7	2.7	2.9	3.0	3.0	3.1	3.2	2.9
Muslim	(2.5)	2.7	2.8	2.9	(3.1)	(3.4)	(3.8)	2.9
Jain	*	*	*	*	*	*	*	2.2
Other	*	*	*	*	*	*	*	3.2
<b>Caste/tribe</b>								
Scheduled caste	2.7	2.7	3.0	3.0	3.1	3.4	3.7	3.0
Scheduled tribe	3.1	3.1	3.3	3.6	3.4	3.5	3.9	3.4
Other backward class	2.6	2.6	2.8	2.9	3.0	3.0	3.2	2.8
Other	2.4	2.4	2.3	2.5	2.5	2.7	2.8	2.5
<b>Work status</b>								
Working in family farm/business	2.9	2.9	3.1	3.3	3.1	3.3	3.6	3.1
Employed by someone else	2.9	2.9	3.1	3.0	3.1	3.1	3.4	3.0
Self-employed	*	(2.6)	2.7	2.9	2.9	(3.0)	*	2.8
Not worked in past 12 months	2.5	2.6	2.6	2.7	2.9	2.9	3.1	2.7
<b>Standard of living index</b>								
Low	2.7	2.9	3.2	3.2	3.3	3.3	3.3	3.1
Medium	2.8	2.8	2.9	3.0	3.0	3.2	3.6	3.0
High	2.2	2.2	2.3	2.4	2.5	2.6	2.8	2.4
<b>Husband's education</b>								
Illiterate	2.9	3.0	3.2	3.4	3.4	3.3	3.7	3.2
Literate, < primary school complete	3.0	2.9	3.0	3.0	3.2	3.1	3.7	3.1
Primary school complete	2.6	2.8	2.9	3.0	2.9	3.1	3.2	2.9
Middle school complete	2.6	2.7	2.6	2.7	3.1	3.1	3.0	2.7
High school complete	2.4	2.4	2.7	2.6	2.7	(2.8)	*	2.6
Higher secondary complete and above	2.3	2.2	2.3	2.4	2.3	2.6	2.6	2.4
Total	2.7	2.7	2.9	3.0	3.0	3.1	3.3	2.9

( ) Based on 25–49 unweighted cases

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

medium standard of living have a mean ideal family size of 3.0–3.1 children, about one child more than the mean ideal family size of 2.4 for women from households with a high standard of living. The mean ideal number of children varies little by women's work status.

#### 4.11 Sex Preference for Children

A strong preference for sons has been found to be pervasive in Indian society, affecting both attitudes and behaviour with respect to children (Arnold et al., 1998; Arnold, 1996; Basu, 1989; Das Gupta, 1987; Kishor, 1995; Koenig and Foo, 1992; Murthi et al., 1995; Nag, 1991; Parasuraman et al., 1994). In NFHS-2, women who gave a numerical response to the question on ideal number of children were also asked how many of these children they would like to be boys, how many they would like to be girls, and for how many the sex would not matter. Table 4.17 shows the mean ideal number of sons and daughters, the percentage who desire more sons than daughters, the percentage who desire more daughters than sons, the percentage who desire at least one son, and the percentage who desire at least one daughter, according to selected background characteristics. In keeping with the results discussed earlier, the table shows a consistent, strong preference for sons over daughters in Madhya Pradesh. Overall, the average ideal family size of 2.9 children consists of 1.5 sons, 1.0 daughter, and 0.3 children of either sex. While the majority of women want an equal number of sons and daughters, 43 percent want more sons than daughters, and only 3 percent want more daughters than sons. Notably, however, 82 percent of women want at least one daughter among their children, only slightly less than the proportion who want at least one son (88 percent). One reason that a substantial proportion of women want to have at least one daughter despite having a preference for sons 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 stronger in rural areas, where 47 percent of women want more sons than daughters, than in urban areas, where 30 percent want more sons. It is much stronger among illiterate women (with 49 percent wanting more sons than daughters) than among women who have completed at least high school (14 percent), and the pattern is similar according to husband's education, though the range of variation is smaller. Son preference is stronger among Hindus (with 44 percent wanting more sons than daughters) than among Muslims (32 percent) or Jains (17 percent). Women who belong to the scheduled castes, scheduled tribes, or other backward classes have a somewhat stronger preference for sons than do other women. Son preference is also stronger among women living in households with a low standard of living than among women in households where the standard of living is high. Women who have not worked in the past 12 months and women who are self-employed show somewhat less son preference than do other working women. Within the state as a whole, son preference varies widely by region: In the Vindhya and Northern Regions, more than 50 percent of women want more sons than daughters, compared with less than 40 percent in the Chattisgarh, Central, and Malwa Plateau Regions.

**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, Madhya Pradesh, 1998–99

Background characteristic	Mean ideal number of:			Percentage who want more sons than daughters	Percentage who want more daughters than sons	Percentage who want at least one son	Percentage who want at least one daughter	Number of women
	Sons	Daughters	Either sex					
<b>Residence</b>								
Urban	1.2	0.9	0.4	29.5	3.2	78.9	75.5	1,703
Rural	1.6	1.1	0.3	47.0	2.8	90.9	84.7	4,953
<b>Region</b>								
Chattisgarh	1.6	1.2	0.4	39.0	5.1	87.7	84.3	1,717
Vindhya	1.7	1.1	0.2	51.8	1.1	93.5	90.3	968
Central	1.4	0.9	0.3	39.7	2.7	85.0	78.0	634
Malwa Plateau	1.3	0.9	0.4	35.2	2.8	80.5	74.4	1,093
South Central	1.5	1.0	0.3	41.5	3.3	87.9	82.5	815
South Western	1.5	1.0	0.4	42.3	2.9	84.3	78.5	610
Northern	1.7	1.0	0.1	52.0	0.7	95.5	85.8	819
<b>Education</b>								
Illiterate	1.7	1.1	0.3	48.9	3.0	91.5	85.2	4,501
Literate, < middle school complete	1.4	0.9	0.4	39.0	1.9	85.7	80.7	1,109
Middle school complete	1.1	0.8	0.4	26.9	2.4	80.0	76.4	394
High school complete and above	0.8	0.7	0.5	13.7	4.3	70.1	69.0	651
<b>Religion</b>								
Hindu	1.6	1.1	0.3	43.7	3.0	88.3	82.7	6,124
Muslim	1.4	1.0	0.5	31.6	1.4	81.8	78.6	359
Jain	1.0	0.8	0.4	16.8	1.0	81.3	79.1	70
Other	1.4	1.1	0.7	27.6	8.0	80.8	76.6	103
<b>Caste/tribe</b>								
Scheduled caste	1.6	1.1	0.3	47.0	2.1	87.7	83.0	998
Scheduled tribe	1.8	1.3	0.3	44.0	4.5	91.8	87.4	1,511
Other backward class	1.5	1.0	0.3	44.9	2.6	88.8	83.0	2,741
Other	1.3	0.8	0.4	33.1	2.4	81.6	75.4	1,403
<b>Work status</b>								
Working in family farm/business	1.7	1.1	0.3	48.3	2.9	91.0	85.4	1,742
Employed by someone else	1.6	1.1	0.3	46.7	3.8	88.1	83.1	1,777
Self-employed	1.5	1.0	0.3	35.7	3.2	86.3	79.1	240
Not worked in past 12 months	1.4	1.0	0.3	37.1	2.4	85.8	80.3	2,896
<b>Standard of living index</b>								
Low	1.7	1.1	0.3	49.3	2.8	91.8	86.9	2,030
Medium	1.6	1.1	0.3	44.0	2.8	88.5	82.4	3,351
High	1.1	0.8	0.4	27.6	3.5	79.6	75.1	1,257
<b>Husband's education</b>								
Illiterate	1.8	1.2	0.2	50.2	3.4	92.6	86.7	2,107
Literate, < primary school complete	1.7	1.1	0.3	46.4	2.3	90.8	84.3	690
Primary school complete	1.6	1.0	0.3	45.2	1.9	87.9	82.7	1,269
Middle school complete	1.5	1.0	0.3	41.3	3.7	88.9	83.2	893
High school complete	1.3	0.9	0.3	37.3	2.2	85.5	79.7	537
Higher secondary complete and above	1.1	0.8	0.5	26.6	3.1	77.1	73.1	1,144
<b>Total</b>	<b>1.5</b>	<b>1.0</b>	<b>0.3</b>	<b>42.5</b>	<b>2.9</b>	<b>87.8</b>	<b>82.4</b>	<b>6,655</b>

Note: Table excludes women who gave non-numeric responses to the questions on ideal number of children or ideal number of sons and daughters. Total includes 1, 3, 1, 18, and 15 women with missing information on education, caste/tribe, work status, the standard of living index, and husband's education, respectively, who are not shown separately.

## 4.12 Fertility Planning

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

Table 4.18 shows the percent distribution of births during the three years preceding the survey and current pregnancies according to fertility planning status. One-fifth (21 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 that the woman became pregnant). Ten percent were wanted later and 11 percent were not wanted at all. The proportion of births that were unplanned is highest for births to women age 35–44 (38–41 percent) and lowest for births to women below age 20 (15 percent). Among unplanned births, the proportion of births that were wanted later goes down, and the proportion that were not wanted at all goes up with the age of the mother. Large variations in the planning status of births are seen by the birth order of the child. The proportion unplanned ranges from 13 percent for first-order births to 28 percent for births of order four or higher.

The proportion of births that were unplanned is substantially higher in urban areas (29 percent) than in rural areas (19 percent) and ranges from 18 percent in the Chattisgarh Region to 27 percent in the Central Region. The proportion unplanned is lower for illiterate and less educated women (18–24 percent) than for women who have at least completed middle school (27–29 percent). It is considerably higher for Muslim women (35 percent) than for Hindu women (20 percent). Among caste/tribe groups, the proportion unplanned ranges from 15 percent for scheduled-tribe women to 28 percent for women who do not belong to a scheduled caste, scheduled tribe, or other backward class. One-fourth of births to mothers from households with a high standard of living are unplanned compared with one-fifth of births to women from households with a medium or low standard of living. Thus, even though urban women, more educated women, women who do not belong to a scheduled caste, scheduled tribe, or other backward class, and women from households with a high standard of living tend to have lower fertility than other women (Table 4.3), they also have a higher proportion of births that are unplanned than other women.

The impact of unwanted fertility can be measured by comparing the total wanted fertility rate with the total fertility rate (TFR). The total wanted fertility rate represents the level of fertility that theoretically would result if all unwanted births were prevented. A comparison of the TFR with the total wanted fertility rate indicates the potential demographic impact of the elimination of all unwanted births. The total wanted fertility rates presented in Table 4.19 are calculated in the same way as the TFR except that unwanted births are excluded from the numerator. In this case, a birth is considered unwanted if the number of living children at the time of conception was greater than or equal to the ideal number of children reported by the

<b>Table 4.18 Fertility planning</b>						
Percent distribution of births during the three years preceding the survey and current pregnancies by fertility planning status, according to selected background characteristics, Madhya Pradesh, 1998–99						
Background characteristic	Planning status of pregnancy				Total percent	Number of births and current pregnancies
	Wanted then	Wanted later	Not wanted at all	Missing		
<b>Mother's age at birth<sup>1</sup></b>						
< 20	85.0	12.8	1.9	0.4	100.0	914
20–24	81.5	11.3	7.0	0.3	100.0	1,226
25–29	75.2	6.6	17.9	0.3	100.0	784
30–34	70.5	4.0	25.3	0.2	100.0	328
35–39	62.4	0.6	36.9	0.0	100.0	109
40–44	(59.3)	(0.0)	(40.7)	(0.0)	100.0	32
<b>Residence</b>						
Urban	71.1	15.5	13.3	0.0	100.0	708
Rural	81.1	7.9	10.6	0.4	100.0	2,694
<b>Region</b>						
Chattisgarh	82.0	8.9	8.9	0.2	100.0	763
Vindhya	81.1	6.4	12.5	0.0	100.0	552
Central	72.4	15.2	11.6	0.8	100.0	338
Malwa Plateau	81.1	7.7	11.2	0.0	100.0	578
South Central	76.8	11.5	11.3	0.4	100.0	409
South Western	78.3	8.3	12.8	0.6	100.0	344
Northern	76.4	11.5	11.8	0.4	100.0	416
<b>Mother's education</b>						
Illiterate	81.3	6.4	11.9	0.4	100.0	2,337
Literate, < middle school complete	75.8	14.2	9.8	0.2	100.0	584
Middle school complete	70.7	19.3	10.1	0.0	100.0	224
High school complete and above	73.0	18.6	8.4	0.0	100.0	256
<b>Religion</b>						
Hindu	80.0	8.9	10.7	0.3	100.0	3,135
Muslim	64.9	17.8	17.4	0.0	100.0	207
<b>Caste/tribe</b>						
Scheduled caste	76.9	9.4	13.1	0.6	100.0	569
Scheduled tribe	84.6	5.6	9.3	0.4	100.0	853
Other backward class	79.4	10.2	10.4	0.1	100.0	1,403
Other	72.2	13.5	14.1	0.3	100.0	576
<b>Standard of living index</b>						
Low	79.7	7.7	12.2	0.4	100.0	1,212
Medium	80.0	8.4	11.3	0.2	100.0	1,675
High	74.1	17.4	8.4	0.1	100.0	505
<b>Birth order<sup>2</sup></b>						
1	87.0	10.9	1.9	0.2	100.0	984
2	80.3	15.0	4.5	0.2	100.0	733
3	77.0	9.7	12.6	0.6	100.0	572
4+	72.2	4.5	23.1	0.3	100.0	1,113
Total	79.0	9.5	11.2	0.3	100.0	3,402
<p>Note: Table includes only the two most recent births in the three years preceding the survey. Total includes 7 births to mothers whose age at birth was 45–49, 27 births to Jain mothers, 33 births to mothers belonging to 'other' religions, and 1 and 10 births with missing information on caste/tribe and the standard of living index, respectively. These births are not shown separately.</p> <p>( ) Based on 25–49 unweighted cases</p> <p><sup>1</sup>For current pregnancy, estimated maternal age at birth</p> <p><sup>2</sup>Includes current pregnancy, if any</p>						

Table 4.19 Wanted fertility rates		
Total wanted fertility rates and total fertility rates for the three years preceding the survey by selected background characteristics, Madhya Pradesh, 1998–99		
Background characteristic	Total wanted fertility rate	Total fertility rate
<b>Residence</b>		
Urban	1.84	2.61
Rural	2.61	3.56
<b>Region</b>		
Chattisgarh	2.33	2.79
Vindhya	2.78	3.81
Central	2.26	3.46
Malwa Plateau	2.49	3.37
South Central	2.25	3.09
South Western	2.41	3.61
Northern	2.26	3.59
<b>Education</b>		
Illiterate	2.73	3.78
Literate, < middle school complete	2.36	3.20
Middle school complete	1.84	2.34
High school complete and above	1.50	1.92
<b>Religion</b>		
Hindu	2.44	3.35
Muslim	2.15	3.39
Jain	(2.11)	(2.45)
Other	1.70	1.86
<b>Caste/tribe</b>		
Scheduled caste	2.56	3.87
Scheduled tribe	2.83	3.69
Other backward class	2.44	3.34
Other	1.79	2.49
<b>Standard of living index</b>		
Low	2.91	4.12
Medium	2.36	3.25
High	1.77	2.27
Total	2.40	3.31
Note: Rates are based on births in the period 1–36 months preceding the survey to women age 15–49. The total fertility rates are the same as those presented in Table 4.3.		
( ) Based on 125–249 woman-years of exposure		

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 that they had.

Overall the total wanted fertility rate in Madhya Pradesh of 2.4, is lower by nearly one child (i.e., by 27 percent) than the total fertility rate of 3.3. This means that if unwanted births could be eliminated, the TFR would be much closer to the replacement level of fertility (approximately 2.1 children per woman). Total wanted fertility is less than the TFR in every subgroup of women. It is at least one child less than the TFR for the following groups: women in the Vindhya, Central, and Northern Regions, women who are illiterate, Muslim women, scheduled-caste women, and women from households with a low standard of living. Women

living in urban areas, women who have completed at least middle school, women who do not belong to a scheduled caste, scheduled tribe or other backward class, and women living in households with a high standard of living, would have well under two children, on average, if they had only the children they wanted.