

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 Himachal Pradesh, formal marriage is almost immediately followed by cohabitation (see Table 3.3), suggesting that *gauna* or other practices that introduce a lag between marriage and cohabitation do not play an important role in the state. Even in contexts where *gauna* or similar practices are not widespread, 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 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, Himachal Pradesh, 1999							
Background characteristic	Current age						
	20–24	25–29	30–34	35–39	40–49	20–49	25–49
Residence							
Urban	NC	21.3	20.1	19.9	20.1	NC	20.4
Rural	NC	19.8	18.6	18.6	18.1	19.2	18.7
Education							
Illiterate	19.1	18.3	18.0	18.1	17.9	18.2	18.0
Literate, < middle school complete	19.5	19.0	18.4	18.5	18.1	18.7	18.5
Middle school complete	NC	19.4	18.7	19.2	18.4	19.4	18.9
High school complete and above	NC	22.0	21.9	21.1	21.0	NC	21.7
Religion							
Hindu	NC	20.0	18.7	18.7	18.1	19.3	18.8
Muslim	*	*	*	*	*	18.6	18.4
Sikh	NC	*	*	*	*	NC	(20.5)
Buddhist/Neo-Buddhist	NC	*	*	*	*	NC	(19.8)
Caste/tribe							
Scheduled caste	19.7	18.8	18.1	17.6	17.2	18.3	18.0
Other backward class	NC	20.6	18.8	19.5	18.6	19.8	19.4
Other ¹	NC	20.0	18.9	18.8	18.5	19.7	19.0
Standard of living index							
Low	(18.8)	18.4	(17.8)	(18.1)	18.1	18.3	18.2
Medium	NC	19.4	18.4	18.5	18.0	19.0	18.5
High	NC	21.1	20.5	19.5	18.7	NC	20.1
Total	NC	19.9	18.7	18.7	18.2	19.3	18.8
Note: Total includes small numbers of women belonging to other religions, scheduled-tribe women, and women with missing information on religion 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 ¹ Not belonging to a scheduled caste, a scheduled tribe, or an other backward class							

Table 4.1 shows that, in Himachal Pradesh, the median age at first cohabitation with the husband is 19.3 years for women age 20–49. The median age at first cohabitation has increased from 18.2 for women age 40–49 to 19.9 for women age 25–29, suggesting a modest increase in the median age at first cohabitation, particularly in recent years.

For women age 25–49, the median age at first cohabitation is almost two years higher for women in urban areas (20.4) than for women in rural areas (18.7). The median age at first cohabitation has risen faster in rural areas than in urban areas, so the urban-rural gap has been narrowing over time. There is a positive relationship between the median age at first cohabitation and women's education, with the most noticeable difference existing between women who completed at least high school (21.7) and those who did not (18.0–18.9). Hindus (18.8) have a slightly higher median age at first cohabitation than Muslims (18.4), but each of these groups has a much lower median age at cohabitation than Sikhs or Buddhists/Neo-Buddhists. Scheduled-caste women have a considerably lower median age at first cohabitation (18.0) than other women (19.0–19.4). The median age at first cohabitation is almost two years higher for women living in households with a high standard of living (20.1) than women living in households with a low standard of living (18.2).

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 Himachal Pradesh, corresponds roughly to the period 1996–98. This three-year period was chosen as a compromise between the need to obtain recent information (suggesting the use of a short period 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 at the time of the survey. Mathematically, the TFR is calculated as 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 Himachal Pradesh is estimated at 19.9 live births per 1,000 population, and the TFR is estimated at 2.14 births per woman, as shown in Table 4.2. According to NFHS-2, fertility is much lower in urban areas than in rural areas. The CBR is 23 percent lower in urban areas (15.7) than in rural areas (20.4), and the urban TFR (1.74) is 20 percent lower than the rural TFR (2.18). ASFRs are lower in urban areas than in rural areas for most age groups, as shown in Figure 4.1. Seventy-one percent of total fertility in urban areas and 78 percent in rural areas is concentrated in the prime childbearing ages of 20–29. Regardless of the place of residence, fertility at age 15–19 accounts for only 7 percent of total fertility, indicating that the contribution of early childbearing to total fertility in Himachal Pradesh is much less than the average for the country as a whole (19

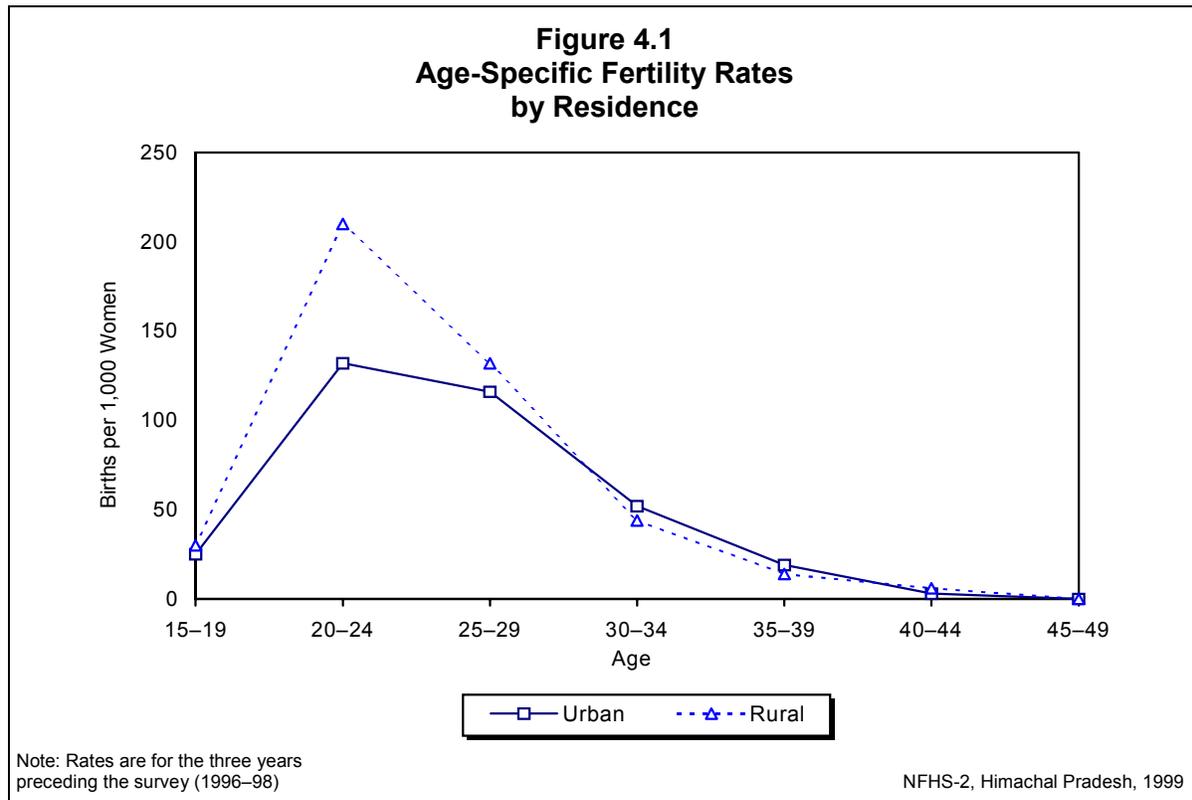


Table 4.2 Current fertility

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

Age	NFHS-1 (1990-92)	NFHS-2 (1996-98)		SRS (1997)			
	Total	Urban	Rural	Total	Urban	Rural	Total
15-19	0.075	0.025	0.030	0.029	0.005	0.024	0.023
20-24	0.259	0.132	0.210	0.203	0.140	0.230	0.223
25-29	0.172	0.116	0.132	0.130	0.152	0.152	0.152
30-34	0.046	0.052	0.044	0.045	0.045	0.062	0.060
35-39	0.034	0.019	0.014	0.015	0.015	0.015	0.015
40-44	0.007	0.003	0.006	0.006	0.003	0.004	0.004
45-49	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TFR 15-44	2.97	1.74	2.18	2.14	1.80	2.44	2.39
TFR 15-49	2.97	1.74	2.18	2.14	1.80	2.44	2.39
CBR	28.2	15.7	20.4	19.9	16.8	23.1	22.6

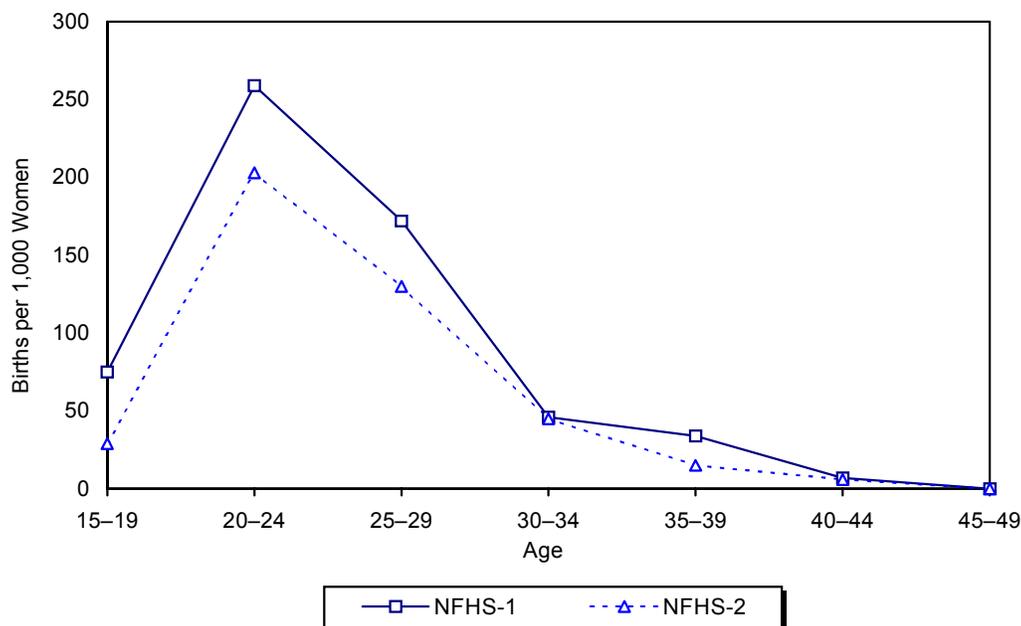
Note: Rates from NFHS-1 and NFHS-2 are for the period 1-36 months preceding the survey. Rates for the age group 45-49 might be slightly biased due to truncation. Rates from the SRS are for one calendar year. Age-specific and total fertility rates are expressed per woman.

TFR: Total fertility rate

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

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

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



Note: Rates are for the three years preceding the NFHS-1 (1990-92) and NFHS-2 (1996-98) surveys

Himachal Pradesh

percent). For the state as a whole, fertility at ages 35 and older accounts for 5 percent of total fertility.

Based on estimates for the three-year periods preceding NFHS-1 and NFHS-2, the CBR fell from 28.2 to 19.9 between the two surveys, a decline of 29 percent in almost seven years. Over the same period, the TFR fell from 2.97 to 2.14, a decline of 28 percent. This decline in the TFR is consistent with the corresponding increase in contraceptive use in the state over the same period (see Chapter 5). Notably too, in the period between NFHS-1 and NFHS-2, fertility has declined faster in Himachal Pradesh than in India as a whole (16 percent). Table 4.2 and Figure 4.2 show that fertility fell for all age groups, particularly for the younger ages.

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 19.9, is lower than the SRS estimate of 22.6. The NFHS-2 estimate of the TFR (2.14) is 0.25 children lower than the SRS estimate of 2.39. Minor differences between the NFHS-2 and SRS estimates may be caused partly by age misreporting in NFHS-2, which tends to result in the displacement of births further into the past. Retrospective surveys, such as NFHS-1 and NFHS-2, are subject to such displacement, whereas the SRS, in which births are recorded during the year in which they occur, is not. Narasimhan et al. (1997) compared NFHS-1 and SRS estimates of fertility and concluded that both are probably underestimates. However, the SRS estimates are likely to be closer to the true level of fertility than either the NFHS-1 or NFHS-2 estimates (Retherford et al., 2001).

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 Himachal Pradesh, the TFR is nearly one child higher among illiterate women than among women who have completed at least high school, more than one child higher among Muslims than among Hindus, and more than half a child higher among women in households with a low standard of living than among women in households with a high standard of living. Women from other backward classes have a TFR (2.37) that is higher than the TFRs for scheduled-caste women (2.15) and women who do not belong to scheduled castes, scheduled tribes, or other backward classes (2.05).

Fertility transitions in other countries have shown that fertility differentials typically diverge early in the transition and reconverge (though rarely completely) towards the end of the transition as fertility approaches the replacement level. Table 4.3 and Figure 4.3 indicate that fertility differentials still exist in Himachal Pradesh, with the TFR and other fertility indicators varying considerably among population groups.

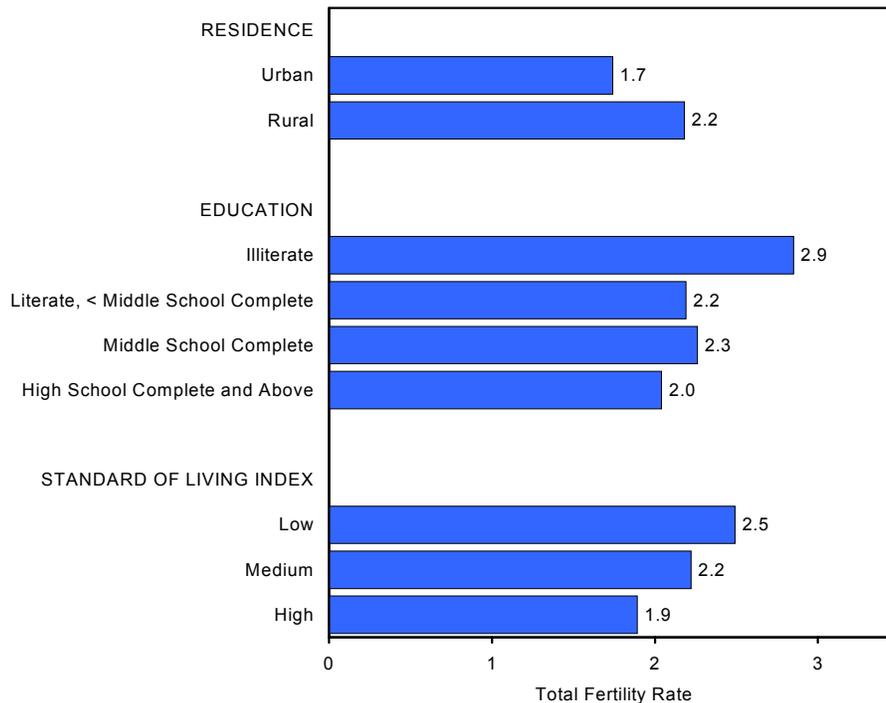
Overall, 4 percent of women in Himachal Pradesh report that they are currently pregnant (slightly lower than the national average of 6 percent). With the exception of differences by residence and religion, differentials in the percentage currently pregnant do not follow a pattern similar to that for differentials in the TFR. This may be due partly to the fact that the TFR is not

Table 4.3 Fertility by background characteristics			
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, Himachal Pradesh, 1999			
Background characteristic	Total fertility rate ¹	Percentage currently pregnant ²	Mean number of children ever born to all women age 40–49 years
Residence			
Urban	1.74	3.1	2.89
Rural	2.18	4.4	3.93
Education			
Illiterate	2.85	3.7	4.10
Literate, < middle school complete	2.19	4.3	3.80
Middle school complete	2.26	3.7	3.42
High school complete and above	2.04	5.1	2.80
Religion			
Hindu	2.11	4.1	3.82
Muslim	3.23	11.2	*
Sikh	(2.71)	6.6	*
Buddhist/Neo-Buddhist	(1.95)	3.9	*
Caste/tribe			
Scheduled caste	2.15	5.1	3.98
Other backward class	2.37	4.2	4.02
Other ³	2.05	4.0	3.71
Standard of living index			
Low	2.49	4.2	4.40
Medium	2.22	4.5	3.90
High	1.89	4.0	3.60
Total	2.14	4.3	3.83
Note: Total includes small numbers of women belonging to other religions, scheduled-tribe women, and women with missing information on religion and the standard of living index, who are not shown separately. () Based on 125–249 woman-years of exposure *Mean not shown; based on fewer than 25 unweighted cases ¹ Rate for women age 15–49 years ² For this calculation, it is assumed that women who are never married, widowed, divorced, separated, or deserted are not currently pregnant. ³ Not belonging to a scheduled caste, a scheduled tribe, or an other backward class			

affected by the age structure, whereas the percentage currently pregnant is affected by the age structure. Of all the background characteristics included in Table 4.3, religion shows the greatest variation with respect to the percentage currently pregnant. Muslim women have a much higher percentage currently pregnant (11 percent) than other women (4–7 percent).

The last column of Table 4.3 shows the mean number of children ever born to all 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 3.83. The substantial decline in fertility in Himachal Pradesh over time is evident from the difference of 1.69 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 parallels the pattern of differentials in the TFR.

Figure 4.3
Total Fertility Rate by Selected Background Characteristics



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

NFHS-2, Himachal Pradesh, 1999

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 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 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. Results are shown separately for urban and rural areas as well as for the entire state. These results show substantial fertility declines in all age groups. As mentioned earlier, however, these trends are distorted by displacement of births to earlier years, and this displacement tends to exaggerate the extent of fertility decline.

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, the CFR(15–39) declined from 2.92 to 2.27 between these two five-year periods, a decline of 0.7 children. The decline was 0.5 children for urban areas and 0.7 children for rural areas, indicating that the absolute level of fertility fell somewhat more rapidly in rural areas than in urban areas.

Table 4.4 Fertility trends				
Age-specific fertility rates for five-year periods preceding the survey by residence, Himachal Pradesh, 1999				
Age	Years preceding survey			
	0-4	5-9	10-14	15-19
URBAN				
15-19	0.026	0.058	0.071	0.082
20-24	0.151	0.202	0.206	0.237
25-29	0.121	0.144	0.156	0.181
30-34	0.059	0.046	0.059	[0.077]
35-39	0.014	0.013	[0.043]	U
40-44	0.002	[0.005]	U	U
45-49	[0.000]	U	U	U
RURAL				
15-19	0.040	0.077	0.116	0.106
20-24	0.225	0.273	0.307	0.300
25-29	0.133	0.161	0.209	0.228
30-34	0.049	0.065	0.090	[0.153]
35-39	0.017	0.021	[0.025]	U
40-44	0.005	[0.003]	U	U
45-49	[0.000]	U	U	U
TOTAL				
15-19	0.039	0.075	0.111	0.103
20-24	0.218	0.266	0.295	0.293
25-29	0.131	0.159	0.203	0.223
30-34	0.050	0.063	0.087	[0.147]
35-39	0.016	0.020	[0.026]	U
40-44	0.005	[0.003]	U	U
45-49	[0.000]	U	U	U
Note: Age-specific fertility rates are expressed per woman.				
U: Not available				
[] Truncated, censored				

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 ever-married women over the entire 20-year period preceding the survey.¹ With the exception of women married less than five years, fertility has declined at all durations, but more at longer durations than at shorter durations.

It is also evident from Table 4.5 that marital fertility is lower in urban areas than in rural areas for most durations and time periods. This pattern is common in populations in which the age at first cohabitation is higher in urban areas than in rural areas, as is the case in Himachal Pradesh (Table 4.1).

¹Since 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 4.5 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, Himachal Pradesh, 1999				
Duration since first cohabitation (in years)	Years preceding survey			
	0–4	5–9	10–14	15–19
URBAN				
< 5	0.305	0.339	0.337	0.351
5–9	0.116	0.139	0.156	0.218
10–14	0.026	0.044	0.068	0.087
15–19	0.013	0.014	0.028	*
20–24	0.002	0.008	*	U
25–29	0.004	*	U	U
RURAL				
< 5	0.371	0.386	0.379	0.343
5–9	0.146	0.189	0.269	0.295
10–14	0.052	0.076	0.126	0.159
15–19	0.019	0.038	0.045	(0.091)
20–24	0.008	0.006	(0.016)	*
25–29	0.001	(0.000)	*	U
TOTAL				
< 5	0.365	0.381	0.374	0.344
5–9	0.143	0.184	0.257	0.288
10–14	0.049	0.073	0.121	0.155
15–19	0.018	0.036	0.043	(0.090)
20–24	0.007	0.006	(0.015)	*
25–29	0.001	(0.000)	*	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 () Based on 125–249 woman-years of exposure *Rate not shown; based on fewer than 125 woman-years of exposure				

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, 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 3.9 children among all women age 45–49 and 4.1 among currently married women in this age group. The table also shows the extent of early childbearing in Himachal Pradesh. Three percent of all women age 15–19 and 34 percent of currently married women age 15–19 have already had a child.

For women age 45–49, the number of children ever born is of particular interest because these women have virtually completed their childbearing. For all women in this age group, irrespective of marital status, the modal number of children ever born is four (Table 4.6).

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, Himachal Pradesh, 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+				
ALL WOMEN															
15-19	97.4	2.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	858	0.03	0.03
20-24	54.2	21.1	18.6	5.3	0.6	0.2	0.0	0.0	0.0	0.0	0.0	100.0	799	0.77	0.73
25-29	11.9	14.8	39.2	23.8	8.1	1.4	0.8	0.0	0.0	0.0	0.0	100.0	677	2.09	1.97
30-34	3.6	6.9	31.2	33.8	14.6	7.5	2.2	0.0	0.2	0.0	0.0	100.0	578	2.81	2.68
35-39	2.4	3.8	22.4	31.3	19.7	12.3	5.9	1.9	0.1	0.3	0.0	100.0	486	3.34	3.14
40-44	2.4	1.7	15.5	28.3	21.3	17.8	9.3	1.5	1.3	0.9	0.0	100.0	426	3.76	3.49
45-49	2.5	1.9	10.5	26.7	28.0	16.9	6.4	4.5	1.8	0.4	0.4	100.0	348	3.92	3.58
Total	33.6	8.7	19.3	18.3	10.3	6.0	2.6	0.7	0.3	0.2	0.0	100.0	4,173	1.98	1.86
CURRENTLY MARRIED WOMEN															
15-19	66.1	32.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	65	0.36	0.36
20-24	26.5	33.7	29.9	8.6	1.0	0.3	0.0	0.0	0.0	0.0	0.0	100.0	492	1.25	1.17
25-29	4.4	16.1	42.4	25.9	9.0	1.6	0.7	0.0	0.0	0.0	0.0	100.0	611	2.26	2.14
30-34	2.3	6.6	31.8	34.7	14.9	7.4	2.1	0.0	0.2	0.0	0.0	100.0	551	2.85	2.72
35-39	1.6	3.4	22.5	31.5	20.4	12.9	5.3	2.0	0.1	0.3	0.0	100.0	462	3.38	3.17
40-44	1.1	1.5	15.3	29.8	20.8	17.9	9.7	1.6	1.4	0.9	0.0	100.0	396	3.83	3.55
45-49	1.8	1.7	9.6	24.2	30.4	17.0	7.5	4.8	2.1	0.4	0.4	100.0	297	4.05	3.70
Total	8.0	12.1	27.0	25.3	14.2	8.1	3.5	1.0	0.5	0.2	0.0	100.0	2,874	2.74	2.57

Twenty-eight percent of all women age 45–49 and 30 percent of currently married women in this age group have reached the end of childbearing with four children ever born. Almost two-thirds (63 percent) of currently married women in this age group have had four or more live births. Only 2 percent of currently married women age 30–49 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 Himachal Pradesh.

For all women age 15–49, the average number of children who died is 0.12 per woman. For currently married women, the average number of dead children is 0.17, indicating that 6 percent of children ever born to currently married women have died. For currently married women, the proportion of children ever born who have died increases from 6 percent for women age 20–24 to 9 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 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-six percent of all births are first-order births, 31 percent are second-order births, 19 percent are third-order births, and 14 percent are births of order four or higher. The low proportion of births of order four or higher (14 percent), compared with the national average of 28 percent, is another indication of the relatively low level of fertility in Himachal Pradesh.

Thirty-nine percent of births to women age 20–29 are first-order births and 8 percent are of order four or higher. By contrast, almost half (49 percent) of births to women age 30–39 are of order four or higher. In addition to births to older women, the proportion of births that are of order four or higher is relatively large for births to illiterate women, Muslim women, scheduled-caste women, women who work on a family farm or in a family business, and women from households with a low standard of living. Births to rural women are twice as likely to be of order four or higher as births to urban women. The range in the proportion of high-order births is particularly wide for education groups: 30 percent of births to illiterate women are of order four or higher, compared with only 3 percent of births to women who have completed at least high school. The range is also wide according to the household standard of living: 33 percent of births to women in households with a low standard of living are of order four or higher, compared with 6 percent of births to women 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 background characteristics. In Himachal Pradesh, 15 percent of births occur within 18 months of a previous

Table 4.7 Birth order						
Percent distribution of births during the three years preceding the survey by birth order, according to selected background characteristics, Himachal Pradesh, 1999						
Background characteristic	Birth order				Total percent	Number of births
	1	2	3	4+		
Mother's current age						
20–29	38.9	34.7	18.7	7.7	100.0	753
30–39	10.0	13.3	27.4	49.3	100.0	129
Residence						
Urban	38.2	39.6	15.1	7.1	100.0	69
Rural	35.6	30.2	19.6	14.6	100.0	847
Mother's education						
Illiterate	23.2	23.6	23.7	29.6	100.0	231
Literate, < middle school complete	26.8	30.8	26.7	15.7	100.0	219
Middle school complete	39.7	32.3	17.8	10.2	100.0	147
High school complete and above	49.3	35.7	11.7	3.4	100.0	320
Religion						
Hindu	36.1	31.2	18.8	13.9	100.0	846
Muslim	(29.4)	(18.8)	(32.8)	(19.0)	100.0	39
Caste/tribe						
Scheduled caste	32.6	30.2	19.4	17.8	100.0	194
Other backward class	32.5	30.3	22.4	14.8	100.0	188
Other ¹	38.1	31.6	18.1	12.2	100.0	528
Mother's work status						
Working in family farm/business	28.9	26.0	21.0	24.0	100.0	84
Employed by someone else	45.5	36.3	15.3	3.0	100.0	54
Not worked in past 12 months	35.9	31.1	19.4	13.7	100.0	778
Standard of living index						
Low	13.3	27.3	26.1	33.3	100.0	85
Medium	35.9	29.6	19.8	14.7	100.0	566
High	43.8	34.7	15.5	6.1	100.0	256
Total	35.8	30.9	19.3	14.0	100.0	916
Note: Total includes 23 births to mothers age 15–19, 11 births to mothers age 40–49, 17 births to Sikh mothers, 15 births to Buddhist/Neo-Buddhist mothers, 6 births to scheduled-tribe mothers, 1 birth to a self-employed mother, and 10 births with missing information on the standard of living index, which are not shown separately. () Based on 25–49 unweighted cases ¹ Not belonging to a scheduled caste, a scheduled tribe, or an other backward class						

birth and 32 percent occur within 24 months. Thirty-two percent of births occur after an interval of three years or more.

The median birth interval in Himachal Pradesh is 29 months. By mother's age, the median birth interval ranges from 27 months for births to women age 20–29 to 35 months for births to women age 30–39. Given the finding that the median birth interval increases with mother's age, it is not surprising that it generally increases with the order of the previous birth. In Himachal Pradesh, the median birth interval increases from 28 months for first-order births to 35 months for births of order four or higher order.

It is noteworthy that the median birth interval is more than two and a half months shorter if the previous birth was a boy than if it was a girl. The median birth interval is more than six

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, Himachal Pradesh, 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+			
Mother's current age									
20–29	1.4	16.4	19.8	38.2	14.9	9.4	100.0	27.1	739
30–39	1.3	6.7	11.9	32.5	20.9	26.6	100.0	35.0	271
Residence									
Urban	3.6	7.7	15.4	29.1	20.1	24.1	100.0	33.2	72
Rural	1.2	13.9	17.5	36.5	16.3	14.6	100.0	29.2	964
Mother's education									
Illiterate	0.8	9.8	18.2	36.8	18.9	15.5	100.0	31.0	336
Literate, < middle school complete	1.9	15.4	15.4	36.8	17.3	13.4	100.0	29.1	299
Middle school complete	1.8	13.6	19.9	39.4	11.7	13.5	100.0	27.4	154
High school complete and above	1.0	15.9	17.0	32.0	15.6	18.6	100.0	28.8	247
Religion									
Hindu	1.4	13.3	16.9	36.8	16.5	15.1	100.0	29.4	954
Muslim	1.8	12.2	23.1	29.1	18.6	15.2	100.0	28.9	55
Caste/tribe									
Scheduled caste	0.1	15.8	17.8	37.1	20.2	8.9	100.0	28.9	246
Other backward class	0.7	14.4	20.3	33.7	17.0	13.9	100.0	28.4	219
Other ¹	2.1	12.2	16.2	36.0	14.7	18.8	100.0	30.0	564
Standard of living index									
Low	3.6	3.6	12.1	43.2	21.0	16.5	100.0	32.8	140
Medium	0.9	16.3	18.5	36.3	16.4	11.6	100.0	27.7	653
High	1.4	10.8	16.8	31.3	14.5	25.2	100.0	31.3	233
Order of previous birth									
1	1.5	17.6	17.7	36.4	14.1	12.8	100.0	28.0	516
2	1.1	9.1	18.5	37.4	17.5	16.5	100.0	30.0	280
3	0.5	13.7	15.0	37.1	16.7	16.9	100.0	29.4	119
4+	2.1	5.5	15.2	30.3	25.1	21.7	100.0	34.7	121
Sex of previous birth									
Male	1.7	14.7	18.9	36.3	14.8	13.7	100.0	27.8	452
Female	1.1	12.5	16.1	35.8	17.9	16.6	100.0	30.4	584
Survival of previous birth									
Living	0.8	12.4	17.7	36.6	16.8	15.6	100.0	29.7	974
Dead	9.6	29.6	11.1	26.5	12.6	10.7	100.0	23.5	63
Total	1.3	13.4	17.3	36.0	16.6	15.3	100.0	29.4	1,036

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 1 birth to a mother age 15–19, 25 births to mothers age 40–49, 15 births to Sikh mothers, 13 births to Buddhist/Neo-Buddhist mothers, 7 births to scheduled-tribe mothers, and 10 births with missing information on the standard of living index, who are not shown separately.

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

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 are four months longer for births to urban women than births to rural women. There is no consistent pattern in birth intervals by mother's education, although the

median birth interval is higher among births to illiterate women (31 months) than births to literate women (27–29 months). Differences by religion and caste/tribe group are negligible, and there is no clear pattern by the household standard of living.

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. 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.

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, Himachal Pradesh, 1999						
Background characteristic	Current age					
	25–29	30–34	35–39	40–44	45–49	25–49
Residence						
Urban	22.8	21.9	21.6	22.0	22.3	22.1
Rural	21.2	20.0	20.3	19.8	20.1	20.4
Education						
Illiterate	19.3	19.2	19.7	19.4	19.9	19.5
Literate, < middle school complete	20.4	19.8	20.1	20.0	20.3	20.1
Middle school complete	20.8	20.3	21.5	(21.1)	*	20.6
High school complete and above	23.6	23.6	23.1	22.6	23.1	23.4
Religion						
Hindu	21.3	20.1	20.4	19.8	20.1	20.5
Muslim	*	*	*	*	*	20.1
Sikh	NC	*	*	*	*	(21.6)
Buddhist/Neo-Buddhist	*	*	*	*	*	(21.2)
Caste/tribe						
Scheduled caste	20.2	19.2	19.3	19.5	19.2	19.4
Other backward class	21.7	20.1	20.9	20.3	20.7	20.9
Other ¹	21.5	20.7	20.7	19.9	20.6	20.8
Standard of living index						
Low	19.5	(19.1)	(20.0)	(19.5)	*	19.5
Medium	20.8	19.7	20.2	19.6	20.2	20.1
High	23.2	22.6	21.3	21.0	20.3	21.8
Total	21.3	20.2	20.4	19.9	20.3	20.5
Note: Total includes small numbers of women belonging to other religions, scheduled-tribe women, and women with missing information on religion and the standard of living index, who are not shown separately. NC: Not calculated because less than 50 percent of women had their first birth by age 25 () Based on 25–49 unweighted cases *Median not shown; based on fewer than 25 unweighted cases ¹ Not belonging to a scheduled caste, a scheduled tribe, or an other backward class						

As shown in the last row of the table, the median age at first birth in Himachal Pradesh is 21 years for women age 25–49. It has increased in recent decades, ranging from 20 years among women age 30 and older to 21 years among women age 25–29.

The median age at first birth is lower for illiterate women, scheduled-caste women, and women who live in households with a low standard of living than for other women. There is also a large urban-rural difference, with women in rural areas (20.4) having a lower median age at first birth than women in urban areas (22.1). The median age at first birth is 3–4 years higher for women who completed at least high school (23.4) than for less-educated women (19.5–20.6 years). Hindu (20.5) and Muslim (20.1) women do not differ much with respect to the median age at first birth, but they tend to initiate childbearing earlier than Sikh or Buddhist/Neo-Buddhist women. Women belonging to other backward classes (20.9) and women from ‘other’ castes/tribes (20.8) are almost identical with respect to the median age at first birth, but women in these two groups initiate childbearing about one and a half years later than scheduled-caste women (19.4). The median age at first birth steadily increases with the standard of living, ranging from 19.5 among women with a low standard of living to 21.8 among women with a high standard of living.

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. Sixty-three percent of women in this age group had their last birth by age 30, 89 percent by age 35, and 97 percent by age 40. The median age at last birth is 27.8 years for women age 40–44, 28.9 years for women age 45–49, and 28.3 years for women age 40–49. The typical reproductive age span (which is the difference between the median age at last birth and the median age at first birth for women who have ever had a birth) is shorter in Himachal Pradesh (8.3 years) than in India as a whole (9.9 years). (see International Institute for Population Sciences and ORC Macro, 2000: Table 4.15). This finding is consistent with the lower level of fertility in Himachal Pradesh.

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, Himachal Pradesh, 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	1.4	1.3	23.2	44.9	20.4	6.8	1.9	NA	100.0	27.8	422
45–49	2.3	1.9	17.7	36.0	32.7	8.1	1.2	0.0	100.0	28.9	348
40–49	1.8	1.6	20.8	40.9	26.0	7.4	1.6	0.0	100.0	28.3	769
NA: Not applicable											

4.8 Postpartum Amenorrhoea, Abstinence, and 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 the birth. 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 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.

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, Himachal Pradesh, 1999				
Months since birth	Percentage of births whose mothers are:			Number of births
	Amenorrhoeic	Abstaining	Insusceptible	
< 2	(96.7)	(93.3)	(100.0)	38
2-3	73.0	56.7	82.7	67
4-5	(63.7)	(24.4)	(71.4)	53
6-7	38.1	9.2	45.0	55
8-9	49.1	3.8	53.0	64
10-11	38.2	2.2	38.2	58
12-13	(21.2)	(4.1)	(21.2)	31
14-15	16.9	0.0	16.9	54
16-17	4.8	2.4	7.2	53
18-19	(3.0)	(0.0)	(3.0)	43
20-21	(2.8)	(0.0)	(2.8)	46
22-23	6.1	0.0	6.1	67
24-25	2.2	2.2	2.2	57
26-27	(0.0)	(0.0)	(0.0)	32
28-29	(0.0)	(0.0)	(0.0)	42
30-31	2.3	0.0	2.3	57
32-33	(0.0)	(2.5)	(2.5)	49
34-35	(0.0)	(0.0)	(0.0)	39
Median ¹	6.5	2.9	7.7	NA
Mean	8.6	4.3	9.3	NA
Prevalence/incidence mean	8.7	3.9	9.5	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
¹Based on a three-period moving average of percentages

Due to the small number of cases presented in Table 4.11, the results should be interpreted with caution. Almost all women (97 percent) who had a birth less than two months before the survey and 73 percent of women who had a birth 2–3 months before the survey are still amenorrhoeic. The proportion amenorrhoeic gradually decreases as the number of months since the birth increases. In Himachal Pradesh, the majority of women are still amenorrhoeic up to 6–7 months after the birth. The proportion of women abstaining from sexual intercourse within two months after the birth is quite high (93 percent), although it is slightly lower than the proportion amenorrhoeic during that same time interval (97 percent). Only one-fourth of women who had a birth 4–5 months before the survey are still abstaining. This percentage declines rapidly thereafter. Overall, when amenorrhoea and abstinence are considered together, the majority of women remain insusceptible to pregnancy up to 6–7 months after giving birth.

The median and mean durations of insusceptibility are 8 and 9 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 (7 months) is four months longer than the median duration of abstinence (3 months). These results indicate that women in Himachal Pradesh remain insusceptible to pregnancy for less than one year after a birth, primarily due to the effect of postpartum amenorrhoea.

Menopause is a primary limiting factor of fertility. It is the culmination of a gradual decline in fecundity with increasing age. After age 30, the risk of pregnancy declines with age as 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 years. In Himachal Pradesh, menopause is not common among women in their thirties, but its incidence increases rapidly after age 41. By age 42–43, 22 percent of women are menopausal. The proportion menopausal rises to 46 percent by age 46–47 and to 72 percent by age 48–49.

Table 4.12 Menopause						
Percentage of currently married women age 30–49 years who are in menopause by age and residence, Himachal Pradesh, 1999						
Age	Urban		Rural		Total	
	Percentage	Number	Percentage	Number	Percentage	Number
30–34	1.6	61	0.8	490	0.9	551
35–39	1.3	49	5.5	413	5.0	462
40–41	12.1	19	9.3	163	9.6	182
42–43	(12.8)	13	23.3	135	22.4	147
44–45	(22.4)	13	33.1	122	32.1	135
46–47	(38.6)	10	46.7	111	46.0	121
48–49	(73.7)	10	71.8	98	72.0	108
30–49	11.2	175	15.4	1,531	15.0	1,706

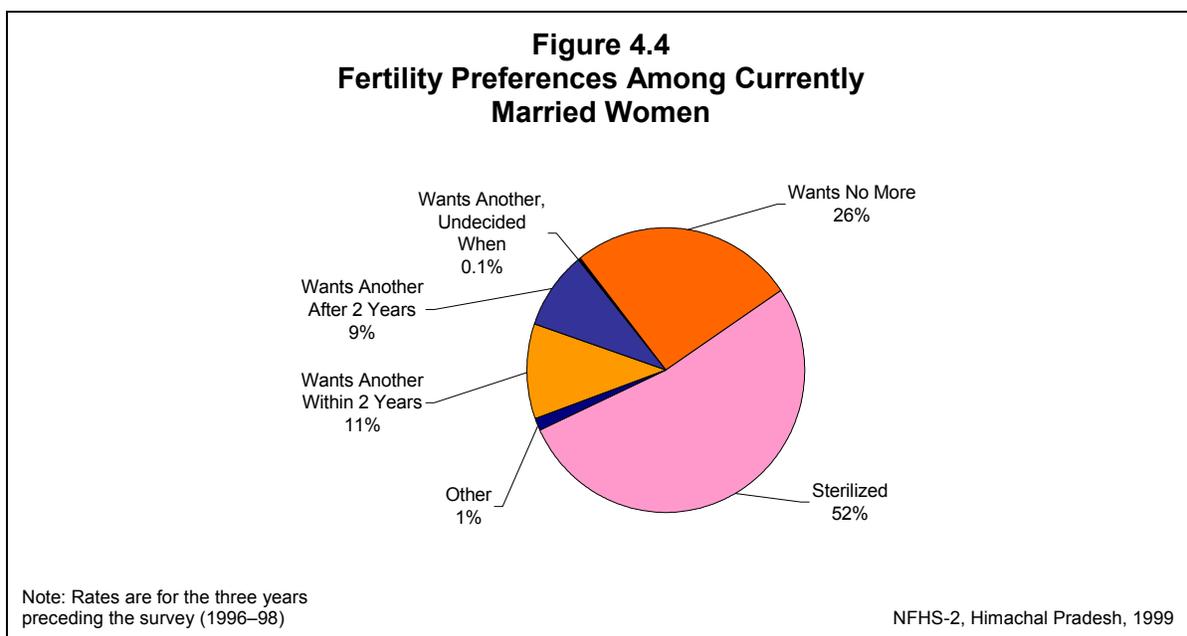
Note: Percentage menopausal is defined as the percentage of currently married women who are not pregnant and not postpartum amenorrhoeic and who reported that their last menstrual period occurred six or more months preceding the survey or that they are menopausal or have had a hysterectomy.
() Based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

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. Twenty-six percent of currently married women say that they do not want any more children, an additional 52 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’). Twenty percent of women say that they would like to have another child (11 percent want another child within two years, 9 percent want another child after waiting at least two years, and less than 1 percent are undecided when they want the next child). Overall, almost 8 out of 10 currently married women do not want any more children, including women who are sterilized or whose husbands are sterilized. The proportion who are sterilized or who want no more children is higher in urban areas (83 percent) than rural areas (78 percent).

The desire to have a child within two years drops rapidly with the number of living children, from 86 percent of women with no living children to 3 percent or less for women with at least two living children. For women with one living child, 49 percent (31 percent in urban areas and 52 percent in rural areas) want to wait at least two years before having the next child. And yet, as will be seen in Chapter 5, very few women in Himachal Pradesh use a 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.



Almost half (48 percent) of women who want another child say that they want the next child to be a boy, only 12 percent say that they want a girl, and the rest say that the sex of the child either does not matter (27 percent) or is up to God (14 percent). The proportion of women expressing a desire for a son increases substantially with the number of living children: 18 percent of women with no living children desire a son, compared with 92 percent of women with three living children. The proportion of women expressing a desire for a daughter initially increases from 3 percent among women with no living child to 19 percent among women with one living child and then declines thereafter. It is noteworthy that 80 percent of women with no

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, Himachal Pradesh, 1999						
Desire for children	Number of living children ¹					Total
	0	1	2	3	4+	
URBAN						
Desire for additional child						
Wants another soon ²	(77.2)	23.1	2.8	0.6	0.0	9.5
Wants another later ³	(9.2)	30.6	0.6	1.2	0.0	6.2
Wants another, undecided when	(0.0)	0.7	0.0	0.0	0.0	0.1
Undecided	(0.0)	2.2	0.0	0.0	0.0	0.4
Wants no more	(9.1)	35.9	58.4	37.6	36.4	44.9
Sterilized	(0.0)	5.9	38.2	60.0	63.6	38.3
Declared infecund	(4.5)	1.5	0.0	0.6	0.0	0.6
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	14	44	116	57	29	261
Preferred sex of additional child⁴						
Boy	(29.0)	40.7	*	*	*	42.4
Girl	(2.6)	23.4	*	*	*	14.6
Doesn't matter	(52.6)	18.6	*	*	*	27.5
Up to God	(15.7)	17.3	*	*	*	15.6
Total percent	100.0	100.0	100.0	100.0	*	100.0
Number of women wanting more ⁴	12	21	4	1	0	38
RURAL						
Desire for additional child						
Wants another soon ²	87.0	29.0	3.4	2.7	1.4	11.0
Wants another later ³	5.7	51.9	5.2	1.6	0.4	9.2
Wants another, undecided when	0.8	0.4	0.0	0.2	0.0	0.1
Undecided	0.0	0.7	0.8	0.7	0.6	0.7
Wants no more	0.0	12.2	37.5	21.0	24.7	24.4
Sterilized	0.0	5.5	52.6	73.4	72.4	53.8
Declared infecund	6.5	0.4	0.5	0.4	0.6	0.8
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	155	342	769	702	646	2,613
Preferred sex of additional child⁴						
Boy	16.6	50.9	(79.1)	(92.0)	*	47.9
Girl	2.6	18.0	(12.5)	(8.0)	*	11.4
Doesn't matter	53.1	22.0	(2.1)	(0.0)	*	27.0
Up to God	27.7	9.2	(6.3)	(0.0)	*	13.7
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women wanting more ⁴	145	217	60	32	11	465

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, Himachal Pradesh, 1999

Desire for children	Number of living children ¹					Total
	0	1	2	3	4+	
TOTAL						
Desire for additional child						
Wants another soon ²	86.2	28.3	3.3	2.5	1.3	10.9
Wants another later ³	6.0	49.4	4.6	1.6	0.4	8.9
Wants another, undecided when	0.7	0.4	0.0	0.2	0.0	0.1
Undecided	0.0	0.9	0.7	0.7	0.6	0.6
Wants no more	0.8	14.9	40.2	22.3	25.2	26.2
Sterilized	0.0	5.6	50.7	72.4	72.0	52.4
Declared infecund	6.3	0.5	0.4	0.4	0.6	0.8
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	169	386	885	759	675	2,874
Preferred sex of additional child⁴						
Boy	17.6	50.0	79.2	(92.3)	*	47.5
Girl	2.6	18.5	12.3	(7.7)	*	11.6
Doesn't matter	53.0	21.7	2.0	(0.0)	*	27.1
Up to God	26.8	9.9	6.4	(0.0)	*	13.9
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women wanting more ⁴	157	238	64	33	11	503
() Based on 25–49 unweighted cases *Percentage not shown; based on fewer than 25 unweighted cases ¹ Includes current pregnancy, if any ² Wants next birth within 2 years ³ Wants to delay next birth for 2 or more years ⁴ Excludes currently pregnant women						

living children say that the sex of the child is either up to God or does not matter. In contrast, among women with two or more living children, at least 79 percent of women want their next child to be a son, but only 12 percent or less want the next child to be a daughter.

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 that 91 percent of women with two living children want no more children. More than one-third of women age 15–24 want no more children. However, by age 25–34, 83 percent of women want no more children. Among women age 35 and above, 96 percent want no more children. The proportion who want no more children is higher among urban women (83 percent) than among rural women (78 percent). Interestingly, the proportion wanting no more children decreases with increasing education, from 87 percent for illiterate women to 64 percent for women who completed at least high school, probably because illiterate women tend to be older than other women. A higher proportion of Hindu and Buddhist/Neo-Buddhist women (79 percent each) want no more children than Muslim (73 percent) or Sikh (71 percent) women. There is not much variation by caste/tribe, although women from scheduled castes (80 percent) are slightly more likely to want no more children than other women (77–79 percent). The proportion who want no more children is higher among women with a low standard of living (83 percent) than among women with a medium or high standard of living (78 percent).

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, Himachal Pradesh, 1999

Background characteristic	Number of living children ¹					Total
	0	1	2	3	4+	
Age						
15–24	0.0	8.1	72.9	(82.8)	*	33.5
25–34	(1.0)	28.2	93.8	91.3	95.5	82.9
35–49	*	(68.4)	98.5	99.2	97.7	96.1
Residence						
Urban	(9.1)	41.8	96.6	97.7	100.0	83.2
Rural	0.0	17.7	90.0	94.4	97.1	78.2
Education						
Illiterate	*	27.6	88.0	93.2	96.1	86.7
Literate, < middle school complete	(0.0)	17.4	92.3	96.4	98.1	83.6
Middle school complete	(0.0)	14.2	90.2	93.2	(100.0)	72.1
High school complete and above	1.3	21.0	92.3	96.2	(100.0)	64.3
Religion						
Hindu	0.8	21.1	90.8	94.3	97.5	78.9
Muslim	*	*	*	(98.8)	(87.4)	73.0
Sikh	*	*	*	*	*	70.6
Buddhist/Neo-Buddhist	*	*	*	*	*	(78.6)
Caste/tribe						
Scheduled caste	(0.0)	14.5	89.9	93.4	97.1	79.5
Other backward class	(0.0)	11.0	86.6	94.1	100.0	77.0
Other ²	1.3	25.1	92.6	95.4	96.8	79.0
Standard of living index						
Low	*	*	(83.3)	92.3	97.3	83.1
Medium	0.4	16.7	88.6	94.3	97.0	78.3
High	1.6	24.5	95.9	96.7	98.4	78.2
Number of living sons³						
0	0.8	10.9	50.2	(39.7)	*	19.6
1	NA	34.9	96.4	94.8	98.1	86.3
2	NA	NA	96.6	99.7	99.5	98.6
3+	NA	NA	NA	97.3	97.8	97.6
Number of living daughters³						
0	0.8	34.9	96.6	97.3	*	61.6
1	NA	10.9	96.4	99.7	95.5	85.2
2	NA	NA	50.2	94.8	99.4	89.4
3+	NA	NA	NA	(39.7)	96.7	91.3
Total	0.8	20.4	90.9	94.7	97.2	78.6

Note: Women who have been sterilized or whose husbands have been sterilized are considered to want no more children. Total includes small numbers of women belonging to other religions, scheduled-tribe women, and women with missing information on religion 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

¹Includes current pregnancy, if any

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

³Excludes pregnant women

The background characteristic with the strongest effect on women's desire to limit family size, however, is number of living sons. Only 20 percent of women with no living sons want no more children, compared with at least 98 percent of women with two or more 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.

Sixty-two percent of women with no living daughters want no more children, compared with 91 percent of women with three or more living daughters. Interestingly, 50 percent of women with two daughters and no sons do not want a third child.

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, as shown in Table 4.15, 98 percent of women in Himachal Pradesh were able to give a numerical response.

Table 4.15 shows that 91 percent of ever-married women in Himachal Pradesh consider two or three to be the ideal number of children. Only 7 percent have an ideal that differs from two or three children. Among all women who gave a numeric response, the average number of children considered ideal is 2.2, ranging from 1.9–2.0 for women who have two or fewer living children to 2.5 for women who have four or more living 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 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

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, Himachal Pradesh, 1999						
Ideal number of children	Number of living children ¹					Total
	0	1	2	3	4+	
1	14.5	14.6	5.0	2.4	0.8	5.2
2	80.4	78.5	87.4	64.2	55.7	72.2
3	3.4	5.5	6.5	30.4	32.5	18.6
4	0.0	0.0	0.4	1.0	4.4	1.4
5	0.0	0.0	0.0	0.0	0.7	0.2
6+	0.0	0.0	0.0	0.0	0.2	0.1
Non-numeric response	1.7	1.4	0.6	2.0	5.7	2.3
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	182	402	920	797	711	3,012
Mean ideal number ²	1.9	1.9	2.0	2.3	2.5	2.2
Number of women giving numeric response	179	396	915	780	671	2,941

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

Himachal Pradesh. Among women with four or more living children, for example, 89 percent state that fewer than four children would be ideal. Similarly, among women with three living children, 67 percent state that their ideal family size is smaller than three children.

Table 4.16 shows the mean ideal number of children for ever-married women by age according to selected background characteristics. As seen in the table, there is very little variation in the mean ideal number of children. The mean ideal number of children increases gradually from 2.0 for women age 15–19 to 2.4 for women age 45–49. Urban women have a

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, Himachal Pradesh, 1999

Background characteristic	Current age							Total
	15–19	20–24	25–29	30–34	35–39	40–44	45–49	
Residence								
Urban	*	1.9	1.9	1.9	2.0	2.0	2.2	2.0
Rural	(2.0)	2.1	2.1	2.1	2.2	2.4	2.4	2.2
Education								
Illiterate	*	2.3	2.2	2.3	2.4	2.4	2.5	2.4
Literate, < middle school complete	*	2.1	2.1	2.2	2.1	2.3	2.3	2.2
Middle school complete	*	2.0	2.0	2.0	2.1	(2.3)	*	2.1
High school complete and above	*	1.9	1.9	1.8	1.9	1.9	2.1	1.9
Religion								
Hindu	(2.0)	2.0	2.0	2.1	2.2	2.3	2.4	2.2
Muslim	*	*	*	*	*	*	*	2.5
Sikh	*	*	*	*	*	*	*	(2.3)
Buddhist/Neo-Buddhist	*	*	*	*	*	*	*	2.4
Caste/tribe								
Scheduled caste	*	2.1	2.1	2.4	2.3	2.3	2.4	2.2
Other backward class	*	2.0	2.2	2.1	2.2	2.5	2.6	2.2
Other ¹	(2.0)	2.0	2.0	2.0	2.2	2.3	2.3	2.1
Work status								
Working in family farm/business	*	(2.1)	2.1	2.2	2.3	(2.4)	(2.4)	2.2
Employed by someone else	*	*	(2.0)	2.0	2.0	2.1	(2.1)	2.0
Not worked in past 12 months	2.0	2.1	2.1	2.1	2.2	2.4	2.4	2.2
Standard of living index								
Low	*	(2.3)	2.2	(2.4)	(2.6)	(2.5)	*	2.4
Medium	(2.0)	2.1	2.1	2.2	2.2	2.3	2.5	2.2
High	*	1.9	1.9	1.9	2.0	2.2	2.3	2.0
Husband's education								
Illiterate	*	(2.4)	2.3	2.4	2.5	2.4	2.6	2.4
Literate, < primary school complete	*	*	*	*	(2.2)	*	*	2.3
Primary school complete	*	2.2	2.1	2.1	2.4	2.4	(2.4)	2.2
Middle school complete	*	2.2	2.1	2.3	2.3	2.3	(2.3)	2.2
High school complete	*	2.0	2.0	2.1	2.1	2.3	2.3	2.1
Higher secondary complete and above	*	1.9	1.9	1.8	1.9	2.1	2.2	1.9
Total	2.0	2.1	2.1	2.1	2.2	2.3	2.4	2.2

Note: Means are calculated excluding women who gave non-numeric responses. Total includes small numbers of women belonging to other religions, scheduled-tribe women, self-employed women, and women with missing information on religion, 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

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

slightly lower mean ideal number of children (2.0 children) than rural women (2.2 children). The mean ideal number of children is half a child higher for illiterate women (2.4) than for women who have completed at least a high school education (1.9). The pattern is the same according to the education level of the husband. The mean ideal number of children does not vary much according to caste/tribe or women's work status. Muslim women have a higher ideal number of children (2.5) than Hindu women (2.2). The mean ideal number of children is slightly higher for women with a low standard of living (2.4) than women with a high standard of living (2.0).

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; Kulkarni et al, 1996; Murthi et al., 1995; Nag, 1991; Parasuraman et al., 1994). In NFHS-2, women who gave a numerical response to the question on the 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 2.2 children consists of 1.1 sons, 0.8 daughters, and 0.3 children of either sex. Twenty-sixty percent of women want more sons than daughters, but less than 1 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 a weak son preference. Although more than one-fourth of ever-married women in Himachal Pradesh want more sons than daughters, 79 percent want at least one daughter. A higher proportion (88 percent) want at least one son. 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*). There is some evidence that daughters are also perceived by women as a greater source of emotional security (Jejeebhoy and Kulkarni, 1989).

Son preference is relatively weak among women who live in urban areas, who have completed at least middle school, whose husbands have completed at least higher secondary school, and who live in households with a high standard of living. Son preference is weaker among Hindu women than among women of other religions. Twenty-five percent of Hindu women want more sons than daughters, compared with 33–42 percent of other women. Almost one-third (31 percent) of women from scheduled castes want more sons than daughters, compared with 24–26 percent of other women. Women who are employed by someone else show less son preference than women in other work-status categories.

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, Himachal Pradesh, 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					
Residence								
Urban	0.9	0.7	0.4	16.4	0.7	76.8	68.0	268
Rural	1.1	0.8	0.2	26.8	0.6	88.6	80.5	2,673
Education								
Illiterate	1.3	0.9	0.2	39.8	0.4	94.6	84.2	1,053
Literate, < middle school complete	1.1	0.8	0.2	24.3	0.6	90.7	83.9	826
Middle school complete	0.9	0.8	0.4	14.1	0.6	80.8	76.7	374
High school complete and above	0.8	0.7	0.4	12.8	1.0	76.7	67.9	689
Religion								
Hindu	1.1	0.8	0.3	25.0	0.7	87.4	79.3	2,750
Muslim	1.4	0.9	0.3	39.4	0.0	90.1	79.2	92
Sikh	(1.2)	(0.8)	(0.3)	(32.7)	(0.0)	(85.1)	(73.6)	38
Buddhist/Neo-Buddhist	1.4	0.9	0.1	42.2	0.0	94.0	88.7	54
Caste/tribe								
Scheduled caste	1.2	0.8	0.2	31.1	0.2	91.1	81.8	646
Other backward class	1.1	0.9	0.2	25.7	1.3	89.7	84.9	555
Other ¹	1.1	0.8	0.3	23.9	0.6	85.5	76.7	1,729
Work status								
Working in family farm/business	1.2	0.9	0.2	26.5	0.4	91.8	84.3	344
Employed by someone else	0.9	0.7	0.4	20.7	1.2	74.1	66.3	258
Not worked in past 12 months	1.1	0.8	0.3	26.4	0.6	88.4	80.1	2,328
Standard of living index								
Low	1.4	0.9	0.1	41.4	0.0	94.0	84.3	272
Medium	1.1	0.8	0.2	27.8	0.7	90.2	81.9	1,758
High	0.9	0.7	0.4	17.5	0.8	80.4	72.7	889
Husband's education								
Illiterate	1.4	0.9	0.2	42.0	0.0	94.2	82.3	449
Literate, < primary school complete	1.3	0.9	0.1	35.6	0.0	95.1	87.5	109
Primary school complete	1.2	0.9	0.2	28.6	1.1	92.9	84.1	505
Middle school complete	1.1	0.8	0.2	26.8	0.1	90.0	83.7	473
High school complete	1.0	0.8	0.3	22.1	1.0	85.4	77.7	929
Higher secondary complete and above	0.8	0.7	0.4	11.7	0.7	75.5	68.7	475
Total	1.1	0.8	0.3	25.9	0.6	87.5	79.4	2,941

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 4 women belonging to other religions, 12 scheduled-tribe women, 11 self-employed women, and 3, 22, and 2 women with missing information on religion, the standard of living index, and husband's education, respectively, who are not shown separately.

() Based on 25–49 unweighted cases

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

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. Seventeen 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), including 8 percent that were wanted later and 9 percent that were not wanted at all. The

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, Himachal Pradesh, 1999					
Background characteristic	Planning status of pregnancy			Total percent	Number of births and current pregnancies
	Wanted then	Wanted later	Not wanted at all		
Mother's age at birth¹					
< 20	90.7	9.3	0.0	100.0	102
20–24	86.4	9.6	4.0	100.0	566
25–29	82.1	6.7	11.2	100.0	299
30–34	63.2	3.9	32.9	100.0	90
35–39	(69.6)	(0.0)	(30.4)	100.0	26
Residence					
Urban	83.2	6.8	10.0	100.0	81
Rural	83.1	8.1	8.8	100.0	1,009
Mother's education					
Illiterate	79.0	7.2	13.8	100.0	274
Literate, < middle school complete	82.8	3.9	13.2	100.0	263
Middle school complete	80.5	12.5	7.0	100.0	170
High school complete and above	87.3	9.4	3.3	100.0	384
Religion					
Hindu	83.1	7.7	9.1	100.0	1,001
Muslim	80.9	11.7	7.5	100.0	52
Caste/tribe					
Scheduled caste	77.4	10.0	12.7	100.0	237
Other backward class	82.6	8.2	9.1	100.0	220
Other ²	85.1	7.3	7.6	100.0	625
Standard of living index					
Low	80.8	2.5	16.7	100.0	100
Medium	82.6	8.4	9.0	100.0	673
High	84.2	9.3	6.6	100.0	307
Birth order³					
1	92.1	7.3	0.6	100.0	452
2	85.7	12.4	2.0	100.0	307
3	77.0	5.8	17.3	100.0	195
4+	55.9	3.9	40.2	100.0	136
Total	83.1	8.0	8.9	100.0	1,091
Note: Table includes the two most recent births in the three years preceding the survey and current pregnancies. Total includes 8 births to women age 40–49, 21 births to Sikh women, 18 births to Buddhist/Neo-Buddhist women, 9 births to scheduled-tribe women, and 11 births with missing information on the standard of living index, who are not shown separately.					
() Based on 25–49 unweighted cases					
¹ For current pregnancy, estimated maternal age at birth					
² Not belonging to a scheduled caste, a scheduled tribe, or an other backward class					
³ Includes current pregnancy, if any					

proportion of births that were unplanned is highest for women age 30–34 (37 percent) and lowest for women below age 20 (9 percent). Within the unplanned category, the proportion of births 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 widely by most of the background characteristics presented in Table 4.18. Higher-order births are much more likely than lower-order births to be unplanned. The proportion unplanned ranges from 8 percent for first-order births to 44 percent for births of order four or higher. The fact that 40 percent of births of order four or higher were not wanted at all indicates that the family welfare programme has failed to meet the needs of women who already have at least three children to control their fertility. The higher proportion of births wanted later relative to those not wanted at all among women in the lower parities also suggests that attention should be given to the promotion of spacing methods of contraception.

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

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, Himachal Pradesh, 1999		
Background characteristic	Total wanted fertility rate	Total fertility rate
Residence		
Urban	1.41	1.74
Rural	1.50	2.18
Education		
Illiterate	1.99	2.85
Literate, < middle school complete	1.40	2.19
Middle school complete	1.59	2.26
High school complete and above	1.64	2.04
Religion		
Hindu	1.48	2.11
Muslim	2.02	3.23
Sikh	(1.73)	(2.71)
Buddhist/Neo-Buddhist	(1.81)	(1.95)
Caste/tribe		
Scheduled caste	1.52	2.15
Other backward class	1.56	2.37
Other ¹	1.47	2.05
Standard of living index		
Low	1.44	2.49
Medium	1.54	2.22
High	1.46	1.89
Total	1.50	2.14
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 scheduled-tribe women and women with missing information on the standard of living index, who are not shown separately. () Based on 125–249 woman-years of exposure ¹ Not belonging to a scheduled caste, a scheduled tribe, or an other backward class		

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 1.5 in Himachal Pradesh is lower by 0.64 children (i.e., by 30 percent) than the total fertility rate of 2.14. If all unwanted births were eliminated, the level of total fertility in Himachal Pradesh would fall well below replacement.