

India

National Family Health Survey (NFHS-2) Key Findings



International Institute for
Population Sciences



ORC MACRO

1998–99

The National Family Health Survey (NFHS-2) conducted in 1998–99 provides a comprehensive portrait of population, health, and nutrition in India, as well as in each of its states. The information was collected from a representative sample of approximately 90,000 ever-married women age 15–49 years drawn from all the states. The first NFHS was conducted in 1992–93 and proved to be a major landmark in the development of a comprehensive demographic and health database for India. NFHS-2 collected most of the types of information collected in NFHS-1 and, in addition, covered a number of new or expanded topics with important policy implications, such as reproductive health, women’s autonomy, domestic violence, women’s nutrition, anaemia, and salt iodization.

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POPULATION AND HOUSEHOLD LIVING CONDITIONS

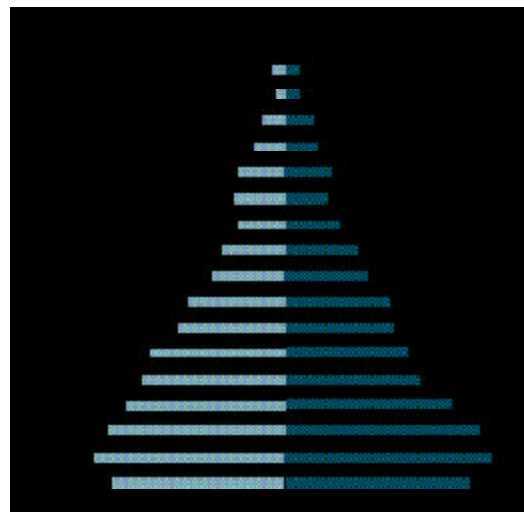
Data collected on the age and sex distribution of the population and on a variety of socioeconomic indicators provide the household-level context within which demographic and health choices are made and changes occur.

Age-sex distribution of the household population

Thirty-six percent of India's population is below 15 years of age and 5 percent is age 65 or older. The young age structure of the population highlights the momentum for continued population growth in the country. The sex ratio of the population is 949 females per 1,000 males, similar to the sex ratio in NFHS-1 (1992-93) of 944 females per 1,000 males.

Household composition

One in 10 households is headed by a woman. Eighty-two percent of household heads are Hindu, 12 percent are Muslim, 3 percent are Christian, and 2 percent are Sikh. The majority of household heads are Hindu in all states except Jammu and Kashmir where the majority are Muslim, Punjab where the majority are Sikh, and several of the northeastern states where the majority are Christian or belong to other religions. One out of 5 household heads (19 percent) belongs to a scheduled caste, 1 out of 10 (9 percent) belongs to a scheduled tribe, and 1 out of 3 belongs to an other backward class (32 percent). Thirty-nine percent of household heads do not belong to a scheduled caste, scheduled tribe, or other backward class. The majority (57 percent) of households are nuclear¹ in composition and households are composed of 5.4 persons, on average.



Housing characteristics

Seventy-two percent of households live in rural areas and 28 percent live in urban areas. Forty percent of households do not have electricity, 61 percent do not have piped water for drinking, and 64 percent do not have any toilet facility. Urban households are much more likely to have all of these amenities than rural households. Access to these amenities has increased in both rural and urban areas since NFHS-1; even so, the majority of rural households do not have electricity, piped water, or a toilet facility. More than 95 percent of households in Delhi, Himachal Pradesh, and Punjab have electricity compared with less than 35 percent of households in Bihar and Assam. The majority of households use wood as the main cooking fuel, although two-thirds of urban households use LPG or kerosene. One-third of all households live in poor quality houses (with roof, walls, and floor all made from low-quality materials).



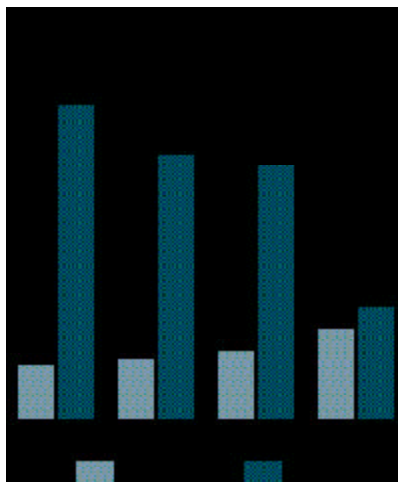
Asset ownership

Nine out of ten households own a house. House ownership is more common in rural areas than in urban areas. Sixty-one percent of rural households own agricultural land but only 39 percent own land that is irrigated. About one-fifth of rural households own a television, and one-third own a radio or transistor. Television ownership has increased from 21 percent in NFHS-1 to 34 percent in NFHS-2 and has doubled in rural areas.

¹Consisting of an unmarried adult living alone or a married person or couple and their unmarried children, if any.

Salt iodization and water purification

The Government of India has set the minimum iodine content of salt at 15 parts per million at the consumer level. However, only 49 percent of all households use cooking salt that is iodized at the recommended level. Twenty-eight percent of households use cooking salt that is not iodized at all. The percentage using adequately iodized salt is much higher in urban areas than in rural areas. Households in the following states are least likely to use iodized salt: Tamil Nadu, Kerala, Goa, Rajasthan, and Andhra Pradesh. More than two-thirds of households do not purify water before drinking. The most common method used for purifying water is by straining the water through a cloth.



Chewing of paan masala or tobacco, smoking, and consumption of alcohol

According to information provided by household respondents, 29 percent of males age 15 and above smoke, 17 percent drink alcohol, and 28 percent chew *paan masala* or tobacco.

While few women drink alcohol (2 percent) or smoke (3 percent), more than 1 in 10 chew *paan masala* or tobacco. About 60 percent of both men and women chew *paan masala* or tobacco in Mizoram and this practice is also particularly common among males and females in Arunachal Pradesh and Orissa and among males in Bihar. Alcohol consumption is most common in Arunachal Pradesh where 65 percent of men and 49 percent of women

drink alcohol. At least one in four males smoke in all states except Maharashtra, Punjab, Goa, Sikkim, and Delhi. Between 8 and 22 percent of women currently smoke in Mizoram, Manipur, Jammu and Kashmir, and Sikkim.

Source of health care for households

More than two-thirds of households normally use the private medical sector when a household member gets sick and only 29 percent normally use the public medical sector. Even among poor households, public-sector medical services are used by only 34 percent of households. Reliance on the private medical sector is higher in urban areas than in rural areas. In the public medical sector, hospitals are the most popular source of health care, whereas in the private medical sector, private doctors are visited slightly more often than hospitals for health care.

Why consume iodized salt?

A lack of iodine in the diet can lead to Iodine Deficiency Disorders, which can cause miscarriages, brain disorders, cretinism, and retarded psychomotor development. Iodine deficiency is the single most important and preventable cause of mental retardation worldwide. Consuming salt fortified with iodine can help prevent iodine deficiency.

◆ NFHS-2, with its representative sample of households throughout the country, was an ideal vehicle for measuring the degree of iodization of salt used in households throughout India.

◆ NFHS-2 interviewers measured the iodine content of cooking salt in each interviewed household using a rapid-test. The rapid-test kit can be reliably used for semi-quantitative estimation of the iodine content of salt used in the community.

◆ In India, more than one-quarter of households use salt that is not iodized at all and one-fifth use salt that is inadequately iodized.

◆ Seventy-eight percent of households with a high standard of living use adequately iodized salt compared with only 35 percent of households with a low standard of living.

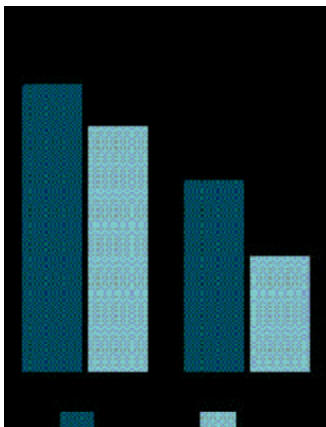
◆ Consumption of iodized salt is particularly low in households headed by persons from scheduled castes, scheduled tribes, and other backward classes.

Education in rural India

A closer look at the educational attainment of the rural population in India is warranted since three-fourths of India's population lives in rural areas.

In rural areas:

- ◆ Fifty-six percent of females and 31 percent of males age 6 and above remain illiterate.
- ◆ Only 6 percent of females and 16 percent of males age 6 and above have completed high school;
- ◆ Illiteracy is declining but remains high even among the young: about one in four of the population age 10–19 is illiterate compared with over half the population age 30 and above;
- ◆ With 30 percent of females and 19 percent of males age 6–14 not attending school, the legacy of high rates of rural illiteracy is likely to continue;
- ◆ Educational attainment is also likely to remain low, especially among females: Only 33 percent of females and 55 percent of males age 15–17 are attending school.

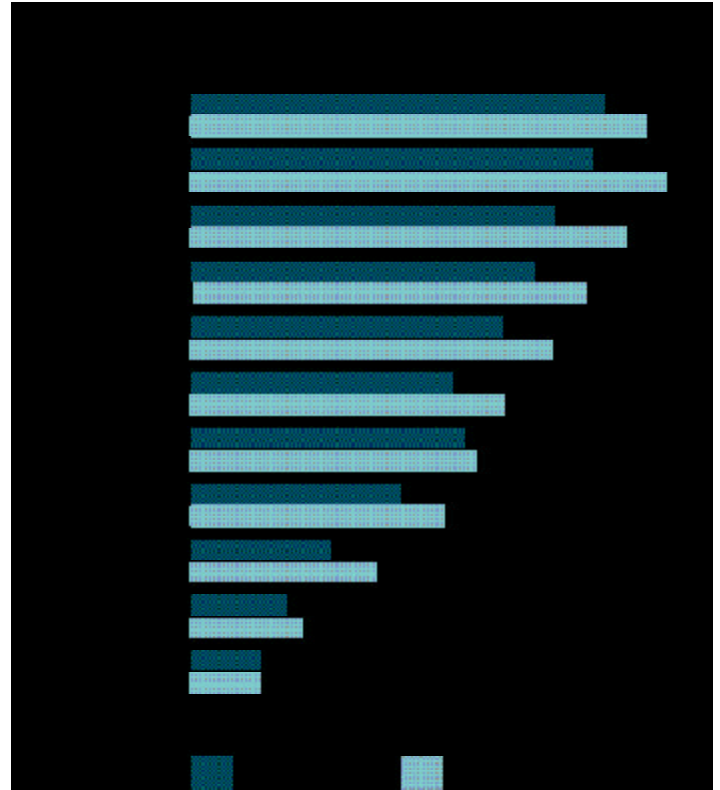


EDUCATION, WOMEN'S EMPLOYMENT, AND WOMEN'S STATUS

The National Population Policy, 2000, explicitly recognizes education and women's employment and empowerment as essential for achieving the country's population and reproductive health goals.

Illiteracy

Thirty-seven percent of India's population age 6 and above is illiterate. Illiteracy is twice as high for the rural population (43 percent) than for the urban population (20 percent). Forty-nine percent of females and 26 percent of males age six and above are illiterate. Illiteracy has declined for both females and males since NFHS-1, when 57 percent of females and 31 percent of males were illiterate. Despite the decline, at least one in three females are illiterate in every state except Mizoram, Kerala,



Delhi, Goa, Himachal Pradesh, and Nagaland. The literacy gap between males and females has narrowed since NFHS-1, but even at age 10–14 when both boys and girls should be in school, a much higher proportion of females (24 percent) than males (13 percent) are illiterate.

Educational attainment

Nineteen percent of the population age 6 and above are literate but have not completed primary school, 27 percent have completed primary school or middle school but not high school, and 17 percent have completed at least high school. Even among the population age 20–29, only 31 percent have completed at least high school. The percentage of the population age 6 and above completing at least high school is much higher in urban areas (32 percent) than in rural areas (11 percent). Twenty-two percent of males and 12 percent of females have completed at least high school. Delhi, Kerala, Goa, and Punjab are the only states where more than one in five females have completed at least high school.

Current school attendance among children

Although improvements are being made, the goal of universal primary education is far from being a reality in India. Seventy-nine percent of children age 6–14 are attending school, up from 68 percent in NFHS-1. Among

children age 15–17, however, the school attendance rate is only 49 percent indicating a high rate of school dropout. Since NFHS-1, school attendance rates for the age group 6–14 have increased more rapidly for females (from 59 percent to 74 percent) than for males (from 76 percent to 83 percent). School attendance rates at all ages are much higher in urban areas than in rural areas. Also, school attendance rates are similar for male and female children in urban areas, but in rural areas, male children are much more likely than female children to be attending school. School attendance rates are highest in Himachal Pradesh and Kerala where over 90 percent of children age 6–17 attend school and lowest in Bihar where only 60 percent do so. For both boys and girls, the cost of schooling is the most frequently mentioned reason for never attending school and the child is not interested in studies is the most frequently mentioned reason for not currently attending school. For both boys and girls, work (in the household, on the family farm or business, or outside the home for payment) and for girls only, looking after siblings, are also important reasons given for children not attending school.

Exposure to mass media

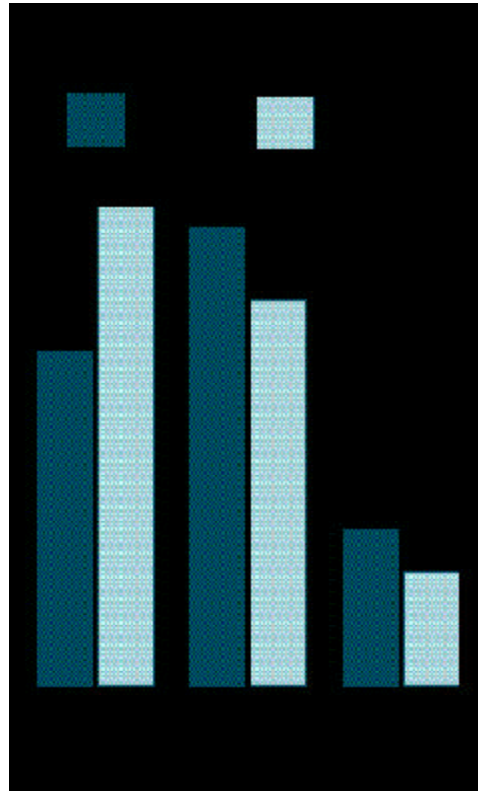
Forty percent of women are not regularly exposed to any form of mass media. Television is the most popular form of media. Forty-six percent of women watch television at least once a week, up from 32 percent at the time of NFHS-1. This rapid increase in exposure to television has been accompanied by decreases in exposure to radio at least once a week (from 44 percent to 37 percent) and visits to the cinema/theatre at least once a month (from 15 percent to 11 percent).

Marriage

Marriage is early and almost universal in India. Thirty percent of women age 15–19 have married and 4 percent are married but *gauna* has not been performed. Women age 25–29 have almost all (94 percent) married. The average age at marriage for males is five years later than the average age at marriage for females. The mean age at marriage is about two and a half years lower in rural areas than in urban areas for both males and females. The age at first marriage has been rising steadily over time and marriage at very early ages is less common among younger cohorts than it was among older cohorts. Nonetheless, even among women age 20–24, almost one-quarter married before age 15 and half married before age 18, the legal minimum age at marriage for women set by the Child Marriage Restraint Act of 1978.

Women's employment

Thirty-seven percent of ever-married women age 15–49 are currently employed, up from 32 percent in NFHS-1. Another 2 percent were employed at some point



Eighteen percent of working women report that the family is entirely dependent on their earnings.

Measuring women's autonomy

Recognizing the many dimensions of autonomy, NFHS-2 included questions on several different aspects....

Household decision making:

Who makes the following decisions in your household:

- ♦ What items to cook?
- ♦ Obtaining health care for yourself?
- ♦ Purchasing jewellery or other major household items?
- ♦ Your going and staying with parents or siblings?

Decisions on use of earnings (for women who earn cash):

Who mainly decides how the money you earn will be used?

Freedom of movement Do you need permission to:

- ♦ Go to the market?
- ♦ Visit relatives or friends?

Control over money: Are you allowed to have some money set aside that you can use as you wish?

NFHS-2 data suggest that most women in India do have autonomy in areas that are traditionally accepted as a woman's domain, but in most other areas their autonomy is greatly constrained.





during the 12 months preceding the survey. Forty-four percent of rural women but only 26 percent of urban women worked during the year preceding the survey. Three in 10 working women in rural areas and 1 in 10 working women in urban areas are unpaid workers. Two-thirds of working women work in agricultural occupations. A significant feature of women's work in India is their substantial contribution to family earnings. Eighteen percent of working women report that the family is entirely dependent on their earnings and an additional 26 percent report that their earnings constitute at least half (but not all) of total family earnings. Nonetheless, only 41 percent of women who earn cash can decide independently

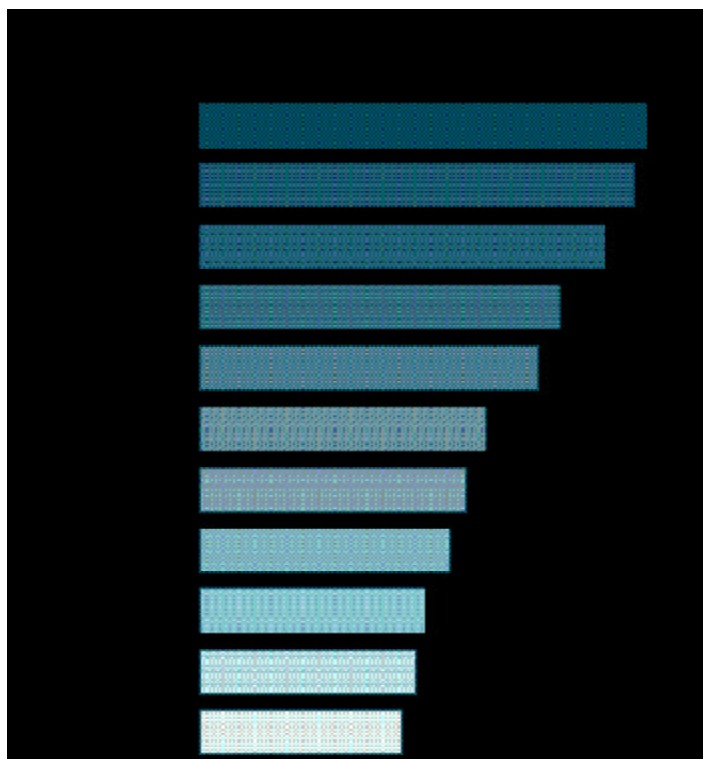
how to spend the money that they earn.

Women's autonomy

While 85 percent of ever-married women participate in decisions about what to cook, only about half participate in decisions about their own health care. Most need permission (or are not allowed at all) to go to the market (68 percent) and to visit friends or relatives (76 percent). Only 60 percent have access to some money that they can use as they wish. Autonomy in decision making is relatively high in Himachal Pradesh, Punjab, and several of the northeastern and southern states and relatively low in Bihar, Uttar Pradesh, Rajasthan, and Madhya Pradesh.

Domestic violence

Almost three out of five women (56 percent) believe that wife-beating is justified for at least one of six specific reasons. At least one-third of women agree that a husband is justified in beating his wife if she neglects the house or the children, she goes out without telling him, she shows disrespect for in-laws, or he suspects that she is unfaithful. One-quarter of women think a husband is justified in beating his wife if she does not cook food properly, but less than 1 in 10 think that a husband is justified in beating his wife if her family does not give money or other items as expected. Rural and illiterate women are more likely to accept wife-beating as justified for any reason than their urban, educated counterparts. The pervasiveness of norms supporting wife-beating is also evident from the fact that, even among the more educated women, more than one-third agree with one or more reasons justifying a husband beating his wife. At least 1 in 5 ever-married women have experienced domestic violence since age 15 and at least 1 in 9 have experienced domestic violence in the 12 months preceding the survey. Most women beaten at all are beaten by their husbands. About one-fourth of illiterate women report being beaten and nearly one-third of poorer women report beatings. Due to the inherent tendency for underreporting of domestic violence, however, these results should be treated as setting only a lower bound for the proportion of ever-married women who have experienced any domestic violence.



FERTILITY AND FAMILY PLANNING

On 11 May, 2000, the Indian population crossed the 1 billion mark having increased five-fold over the past 100 years. The world's population during the same period only tripled. For almost half of these 100 years India has had a national family planning programme aimed at stabilizing the population at levels consistent with national development needs. The programme has had limited success in helping to reduce fertility and mortality. The National Population Policy, 2000, reiterates the need to stabilize population and aims to reduce the total fertility rate to replacement level by 2010. One of the immediate objectives of the policy is to address the unmet need for contraception.

Fertility

Fertility in India continues to decline. The crude birth rate (CBR) is 25 births per 1,000 population, down from 29 births per 1,000 population in NFHS-1. The total fertility rate (TFR), which is the average number of children a woman would bear if she experienced current fertility rates during her reproductive years, is 2.9 births per woman, down by half a child from 3.4 births per woman in NFHS-1. The TFR is 3.1 in rural areas and 2.3 in urban areas. In other words, at current fertility rates, a rural woman will have about one child more than an urban woman, on average. These fertility estimates are somewhat lower than the corresponding estimates from the Sample Registration System (SRS). According to the SRS, the CBR was 27 and the TFR was 3.3 for 1997, a slightly earlier period. Completed fertility among women age 40–49 years who have already lived through most of their reproductive years is 4.5 children (3.8 in urban areas and 4.7 in rural areas), on average. This rate is much higher than the TFR because most of the fertility experienced by women age 40–49 took place further back in time when fertility rates were higher.

Childbearing is concentrated at age 20–29 years, an age group that contributes 62 percent of total fertility. Nonetheless, current fertility continues to be characterized by a considerable amount of very early childbearing: the age group 15–19 contributes 19 percent of total fertility. Childbearing is negligible for women in their forties. Fertility declines sharply with women's education. The TFR for women who have completed at least high school is 2.0 children compared with a TFR of 3.5 children for illiterate women. Muslims have a TFR of 3.6, higher than the TFR for Hindu women (2.8) and for women of all other religions. Fertility has declined more for Muslim women than for Hindu women since NFHS-1, however. At the time of NFHS-1 the TFR was 4.4 for Muslim women and 3.3 for Hindu women. Uttar Pradesh, Rajasthan, Bihar, and Madhya Pradesh continue to have the highest fertility rates of any of the major states, whereas Goa and Kerala have already achieved below-replacement level fertility.

Health risks to mother and child are increased when children are born to very young mothers, are born less than 24 months following a previous birth, or are high parity births. The median age at first birth for women age 20–49 is 19.6, unchanged from NFHS-1. Thus, half of the women in India are having their first child before their twentieth birthday. One birth out of every eight occurs within 18 months of a previous birth and more than one in four occurs within 24 months of a previous birth. These proportions are almost unchanged since NFHS-1. The proportion of births that are of order four or higher has, however, decreased slightly from 31 percent in NFHS-1 to 28 percent in NFHS-2.

Fertility Preferences

Women may have large families because they want many children, or they may prefer small families, but for a variety of reasons may have more children than they actually want. Nine percent of recent births or pregnancies were not wanted by the mother and for 12 percent mothers would have pre-



ferred to have delayed the pregnancy. The mean ideal number of children is 2.7, slightly lower than 2.9 at the time of NFHS-1. Women in Bihar, Uttar Pradesh, and all the northeastern states except Sikkim and Assam, however, continue to desire more than three children on average. Nonetheless, in all of India, two-fifths of women with three children and one-quarter women with four or more children consider the two-child family ideal. If women were to have only the number of children they wanted the TFR would be 2.1 instead of 2.9. In all states except Kerala, Mizoram, Goa, Andhra Pradesh, and Tamil Nadu, at current fertility rates, women will have at least half a child more than they currently want and in Uttar Pradesh, Rajasthan, and Sikkim they will have at least one child more than they currently want. This suggests that in helping women meet their own desired family-size goals, the family planning programme can successfully meet the objective of replacement level fertility.

Twenty-eight percent of currently married women in the country do not desire more children, 40 percent cannot have more children (because of sterilization or other reasons), and 13 percent want to wait at least two years for another child. Only 15 percent of currently married women want a child in the next two years. The percentage of women who say they want another child at any time in the future declined from 34 percent in NFHS-1 to 30 percent in NFHS-2.

The desire for children declines rapidly as the number of children increases. Even among women with two children, only 23 percent want another child. Women with only one child express the greatest desire to space their next child: 44 percent of women with one child want to wait at least two years to have their second child compared with 12 percent or less with no children or two or more children.

In India, the proportion of women who want at least one son (85 percent) and the proportion who want at least one daughter (80 percent) is similar. Nonetheless, son preference continues to play an important role in fertility preferences. Among women with two children, 83 percent with two sons and 76 percent with one son want no more children, whereas only 47 percent with two daughters want no more children. Similarly, among women with three children, 90–93 percent want no more children if they have two or more sons, but only 50 percent want no more children if all their children are daughters. Overall, one-third of women want more sons than daughters and only 2 percent want more daughters than sons. The percentage who want more sons than daughters is highest in Uttar Pradesh (53 percent), closely followed by Bihar and Rajasthan (48 percent each).



women know about the pill, 71 percent know about condoms, 71 percent know about IUDs, and 49 percent know about the rhythm/safe period method or withdrawal.

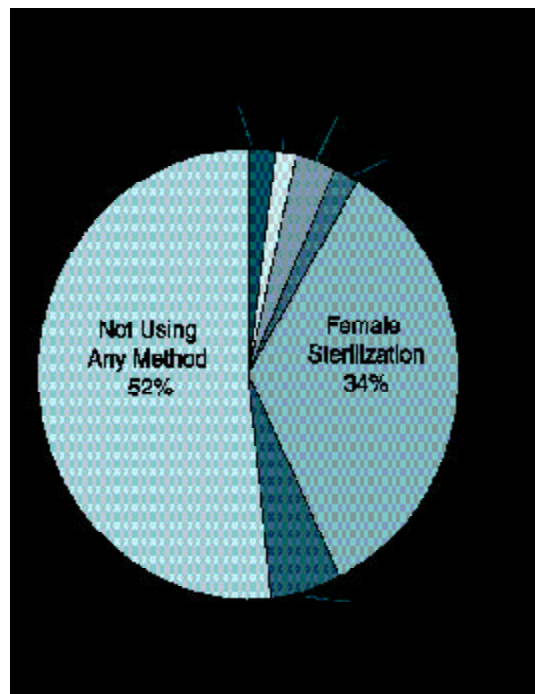
Knowledge of sterilization was already high at the time of NFHS-1, but knowledge of other methods has increased by about 10–13 percentage points since then. Methods other than female sterilization are much less widely known in rural areas than in urban areas. Knowledge of all three of the officially sponsored temporary methods – pills, IUDs, and condoms – is particularly low in Andhra Pradesh, Madhya Pradesh, and Orissa, and only half the women in Karnataka know about condoms.

Contraceptive use

Almost half (48 percent) of currently married women age 15–49 use a contraceptive method. Thirty-four percent of women are sterilized and 2 percent reported that their husbands are sterilized. Sterilization thus dominates contraceptive-method use, accounting for 75 percent of current contraceptive prevalence. Only 18 percent of couples who are sterilized have ever

Knowledge of family planning methods

Knowledge of contraception is nearly universal: 99 percent of currently married women know of at least one modern method of contraception. The largest proportion of women know about female sterilization (98 percent) and male sterilization (89 percent). Eighty percent of currently married



used any other method of contraception. Despite women's expressed desires to space their children, the condom is used by only 3 percent of women and the pill and the IUD are each used by only 2 percent of women. Five percent of women are currently using the rhythm/safe period method or withdrawal. Contraceptive prevalence is not only higher in urban areas (58 percent) than in rural areas (45 percent), but women in urban areas are much more likely than women in rural areas to be using modern temporary methods. Contraceptive prevalence increased in the six and a half years since NFHS-1 from 41 percent to 48 percent – an increase of 18 percent. Almost all of this increase (91 percent) is due to increased use of female sterilization. The use of modern temporary methods increased only from 5 percent in NFHS-1 to 7 percent in NFHS-2.

Almost half of currently married women (48 percent) are using some method of contraception.

Contraceptive prevalence varies across states from 67–68 percent in Himachal Pradesh, Punjab, and West Bengal to 20–30 percent in Meghalaya, Bihar, Uttar Pradesh, and Nagaland. Female sterilization is the single most popular method in every state but there is still substantial variation in the method mix used by women in different states. Use of modern temporary methods is highest in Delhi (28 percent) and Punjab (23 percent)

and is negligible in the southern states. West Bengal, where 9 percent of currently married women use the rhythm/safe period method and 10 percent use withdrawal, has the highest traditional-method use in the country.

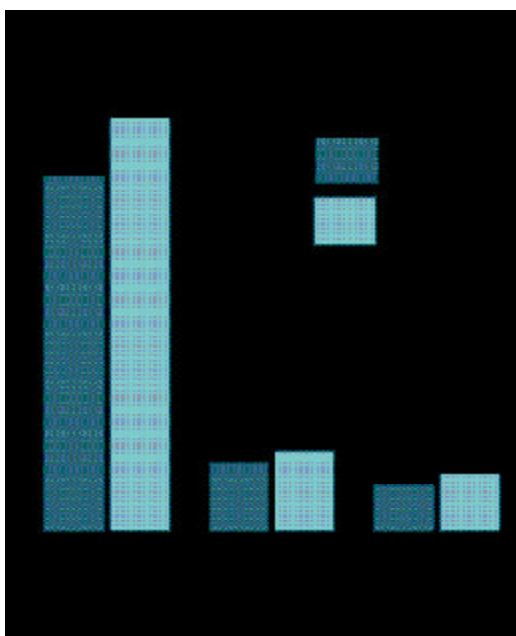
The median age of women at the time when they are sterilized or their husbands are sterilized is currently 25.7 years, down from 26.6 years at the time of NFHS-1. Thus, among the 36 percent of currently married women who are sterilized (or whose husbands are sterilized), half were less than age 26 years at the time of sterilization. The median age at sterilization is even lower than the national average in Andhra Pradesh, Karnataka, Maharashtra, West Bengal, and Tamil Nadu. In Andhra Pradesh, where the proportion sterilized (57 percent) is higher than in any other state and sterilization accounts for 96 percent of current contraceptive prevalence, half the women using sterilization were less than 24 years of age at the time of sterilization.

Muslim women, women belonging to scheduled tribes, and poorer women are least

likely to be using contraception. Sterilization is particularly uncommon among Muslim women but they are more likely than Hindu women to be using a modern temporary method. Contraceptive use is positively related to the number of living children. Only 24 percent of women with one child are using contraception; this proportion rises to 68 percent for women with three children and falls to 57 percent for women with four or more children. Son preference is evident in women's use of contraception. At each parity, women with sons are much more likely than women with no sons to be using contraception. This pattern is most evident among women with three children: 74–75 percent of these women with two or three sons, 62 percent with one son, but only 38 percent with no sons are using contraception.

Source of modern contraceptives

The public medical sector (predominantly government/municipal hospitals, Primary Health Centres, and sub-centres) is the source of contraception for 83 percent of rural users, 60 percent of urban users, and 76 percent of all users of modern contraceptives, down from 79 percent in NFHS-1. The share of the private medical sector (mainly private hospitals/clinics and pharmacies/drugstores) is 17 percent, up slightly since NFHS-1 when it was 15 percent. Five percent of current users obtain their method from other sources such as shops, friends, and relatives, and 1 percent from NGOs. The private medical sector and shops are, however, the main source for three out of four users of pills and condoms.



Quality of care

In 1994, the International Conference on Population and Development in Cairo focused attention on the need to make population programmes client-oriented, with an emphasis on the quality of services and care. Quality family planning services should, at a minimum, provide clients with:

- ◆ Opportunities to make an informed choice about the method best suited to their needs, by providing information on the entire range of available methods and on side-effects and problems associated with each method
- ◆ Follow-up care for family planning acceptors

The Government of India's Reproductive and Child Health Programme launched in 1996, aims explicitly to provide beneficiaries with 'need based, client centred, demand driven, high quality integrated RCH services'.

NFHS-2, however, finds that few users of family planning are provided with the information necessary to make an informed choice.

Information and advice received from health or family planning workers

Only a minority of women (40 percent) remember ever discussing family planning with a health or family planning worker. By far the most frequently discussed method is female sterilization. Only 1 in 10 women have ever discussed the pill and even fewer have ever discussed any of the other methods.

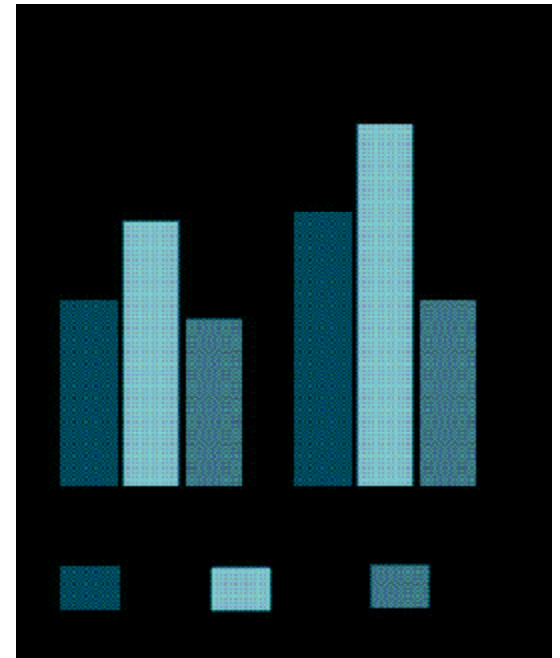


Motivators for contraceptive use

Forty-three percent of current users of a modern method said that they were not motivated by anyone; rather they adopted the method on their own. Only 21 percent said that a government health worker motivated them, and 34 percent said that the motivator was someone other than a government, private, or NGO health worker. The role of government workers is more important in motivating users in rural areas than in urban areas, although even in rural areas government workers motivated only one-quarter of users.

Quality of family planning services

An important indicator of the quality of family planning services is whether women are informed about all available methods and are allowed to make an informed choice about the method most suited to their needs. Only 20 percent of users of modern contraceptives in urban areas, 13 percent in rural areas, and 15 percent in all of India who were motivated by someone were informed about at least one alternative method. Users motivated by a private-sector worker were more likely to be given such information than users motivated by a public-sector worker.



Other important elements of the quality of services include being fully informed about any side effects associated with the method and the provision of follow-up services. Only one-fifth of users of any modern method in both urban and rural areas were informed about possible side effects of their current method by a health or family planning worker at the time of adopting the method. The situation is better with respect to follow-up services. Three-fourths of sterilization users and two-fifths of the users of other modern methods received follow-up services.

Intentions to use contraception among non-users

The majority of women (60 percent) who are not currently using contraception say that they intend to use contraception in the future. Only 34 percent say that they do not intend to use contraception in the future. Among those intending to use contraception, more than one-third intend to do so in the next 12 months. Two-thirds of women who intend to use a method in the future prefer to use female sterilization and 22 percent prefer to use a temporary modern method, mainly the pill. However, among women who intend to use contraception in the next 12 months, less than half want to use female sterilization and 38 percent want to use a modern spacing method. Overall, 25 percent of these women express a preference for the pill. Clearly, a substantial proportion of potential users of contraception have a strong need for spacing methods that will have to be met in the near future.

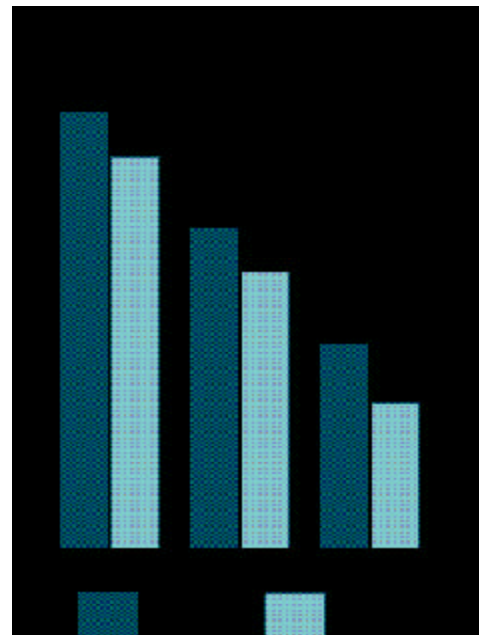
Among women in the prime childbearing ages (15–29 years) who do not intend to use contraception, the reason cited most often is the desire for as many children as possible. Nonetheless, one in five women say that they do not intend to use contraception because of health concerns, worries about side effects, dislike of existing methods, or fear of sterilization. An additional 7 percent do not know of a method or of a source and 12 percent say that contraceptive use is against their religion. If women, especially younger women, are to use contraception, their specific concerns need to be acknowledged and addressed through counselling and the media.

Exposure to family planning messages

Family planning messages disseminated through the mass media were seen or heard by 60 percent of ever-married women in India in the few months before the survey. The most common source of exposure to messages is the television. Forty-four percent of women report having seen a family planning message on television and 38 percent heard one on the radio. Family planning messages through the mass media are least likely to reach women from households with a low standard of living, scheduled-tribe women, and illiterate women.

Unmet need for family planning

The success of any family planning programme must ultimately be judged by its ability to meet all the family planning needs of the population, as well as the need for specific methods whether they be for spacing or limiting. Sixteen percent of currently married women in India have an unmet need for family planning, that is, they are not using contraception even though they do not want more children or want to wait at least two years before their next child. Unmet need for family planning has fallen since NFHS-1 when it was 20 percent. If all of the women who say they want to space or limit their births were to use family planning, the contraceptive prevalence rate would increase from 48 percent to 64 percent of currently married women. Although 75 percent of the total demand for family planning is being met, only 30 percent of the demand for spacing is being met. Notably, unmet need is highest among the youngest women and women with only one child, who also have the highest unmet need for spacing. In most states, at least 70 percent of the demand for contraception is satisfied. The only exceptions are Meghalaya, where only about one-third of demand is satisfied, and Bihar, Nagaland, and Uttar Pradesh, where about half of demand is satisfied. Notably, these states also have high levels of unmet need for spacing. These data indicate that, while progress is being made towards meeting the unmet need for contraception, the needs of women who wish to space their births, such as young women who have yet to meet their family-size goals, are not being effectively met. In addition, there is still substantial scope for improvements to meet the needs of women who do not want any more children.



Sex differentials in childhood mortality

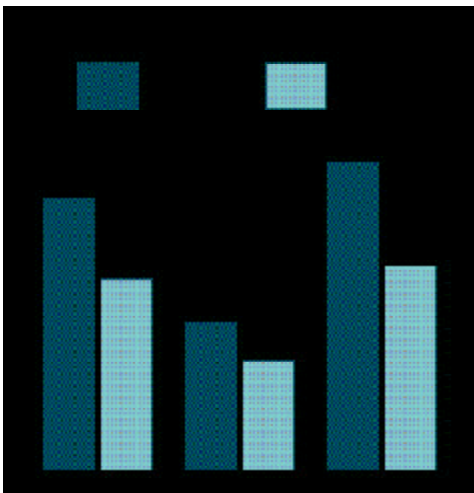
Although male mortality exceeds female mortality at every age in most countries, in countries where the overall level of mortality is high, female mortality often exceeds male mortality during childhood and throughout the childbearing years.

In India, excess female mortality among children is evident at ages beyond the first month of life.

- ◆ During the postneonatal period (age 1–11 months), female mortality exceeds male mortality by 10 percent.

- ◆ After age one year, sex differentials in mortality are even greater. The female child mortality rate (the number of deaths at age 1–4 years per 1,000 children surviving to age 1 year) is one and a half times the male child mortality rate.

- ◆ The female disadvantage in survival from age one to exact age five years is evident in both urban and rural areas, but is much more severe in rural than in urban areas.



MORTALITY

Death rates, especially infant and maternal mortality rates reflect a country's level of socioeconomic development and quality of life. Two of the goals set by the National Population Policy, 2000, for the year 2010 are to reduce the infant mortality rate to 30 deaths per 1,000 live births and the maternal mortality ratio to 100 maternal deaths per 100,000 live births.

Crude death rate

The crude death rate (CDR) is 9.7 deaths per 1,000 population, unchanged from its level in NFHS-1. This estimate is slightly higher than the 1997 SRS estimate of 8.9. The urban CDR of 7.8 is lower than the rural CDR of 10.4. The male CDR (10.1) is slightly higher than the CDR for females (9.3); however, the age-specific mortality rates for females are higher than for males through childhood and the prime childbearing ages (all ages below age 30). The CDR has declined in only 9 states since NFHS-1.

Infant and child mortality

The infant mortality rate is 68 deaths per 1,000 live births for the period 0–4 years before the survey, down from 86 deaths per 1,000 live births approximately 10 years earlier, indicating an average rate of decline of about 2 infant deaths per 1,000 live births per year.

Neonatal, postneonatal, and child mortality rates have also declined.

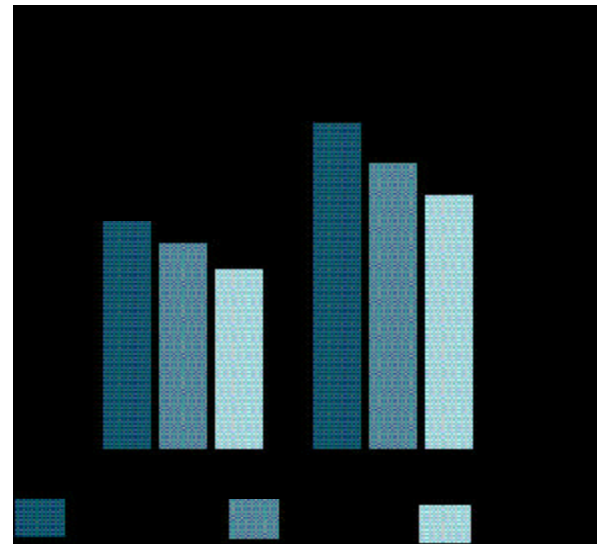
Despite this decline, 1 in every 15 children still die within the first year of life and 1 in every 11 children die before reaching age five.

The infant mortality rate in rural areas is 56 percent higher than the infant mortality rate in urban areas.

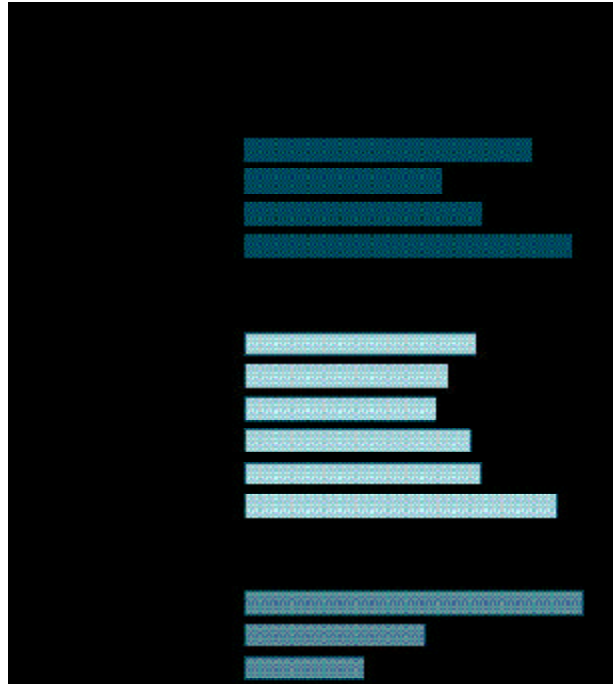
Mothers' literacy and

education are associated with sharp declines in infant mortality. The infant mortality rate for illiterate mothers is almost one and a half times the rate for mothers who have minimal education but are literate, and is two and a half times the rate for mothers who have completed at least high school. Hindu mothers have much higher infant mortality rates than mothers of most other religions including Muslims and Christians, at least partly because Muslims and Christians are more likely than other women to live in urban areas where infant mortality rates are low. Poorer mothers and mothers belonging to the scheduled castes or tribes have experienced much higher than average infant mortality. In the first month of life, the risk of dying is higher for males than for females, but after the first month of life, when factors other than biological ones begin to dominate, female children face an increasingly greater risk of dying than male children. The risk of dying between ages one and five years is 47 percent higher for females than for males.

Children born to mothers who are very young or relatively old at the time of childbirth have a much higher risk of dying than children born to



mothers who are in their prime childbearing ages at the time of childbirth. Infant mortality by mother's age at the time of childbirth is 106 per 1,000 live births for mothers age 40-49, 93 per 1,000 live births for mothers age 15-19, and 63 per 1,000 live births for mothers age 20-29. Children born shortly after the birth of a previous child have an especially high risk of dying in infancy. Infant mortality is almost three times as high for children with a preceding birth



interval of less than 24 months than for children with a preceding interval of 48 months or more. Infant mortality is also much lower among women who received all the recommended care during and after pregnancy, i.e., antenatal care from a health worker, delivery assistance from a medical professional, and postpartum care within two months of delivery, than among women who did not receive the recommended care. Infant and child mortality rates also vary substantially across states. Infant mortality ranges from 16 per 1,000 live births in Kerala to 80-89 per 1,000 live births in Meghalaya, Uttar Pradesh, Madhya Pradesh, Orissa, and Rajasthan. In Madhya Pradesh, Uttar Pradesh, and Meghalaya, about one in eight children die before reaching their fifth birthday.

Maternal mortality

The maternal mortality ratio is the number of maternal deaths to women age 15-49 per 100,000 live births. This measure is based on the annual number of female deaths that occurred during childbirth or within two months after the end of a pregnancy or childbirth. The maternal mortality ratio at the national level is estimated to be 540 deaths per 100,000 live births. According to this estimate more than 130,000 women die each year from causes related to pregnancy and childbirth.

Maternal Mortality

Worldwide, about 500,000 women die every year from pregnancy and childbirth related causes. Most of these deaths are believed to take place in developing countries, including the countries of South Asia. The majority of deaths due to maternal causes are avoidable if pregnant women receive adequate antenatal care during pregnancy, have deliveries in hygienic conditions with the assistance of trained medical practitioners, and receive appropriate and timely postpartum care.

Most demographic surveys do not have samples large enough to produce reliable direct estimates of maternal mortality. The size of the NFHS-2 sample is large enough to provide an estimate of maternal mortality only at the national level. Reliable maternal mortality ratios cannot be calculated for individual states or population groups. In NFHS-2, information on deaths occurring to women age 15-49 during pregnancy or delivery or within two months of childbirth was obtained from the household respondent. The annual number of female deaths is calculated from the total number of such deaths occurring in the two years preceding the survey.

MATERNAL AND REPRODUCTIVE HEALTH

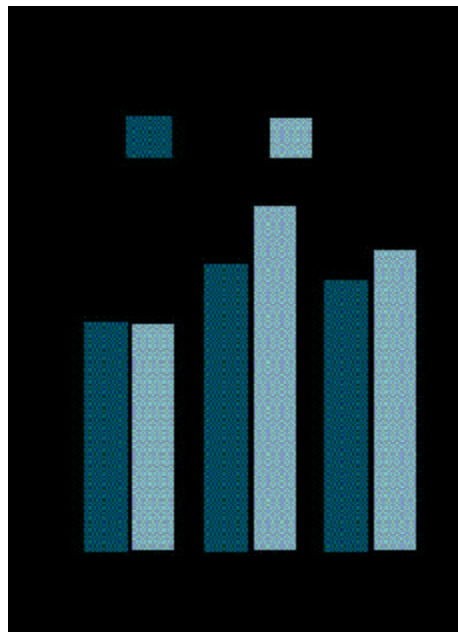
In order to ensure the health of the mother and child, the Reproductive and Child Health Programme in India aims to provide pregnant women with at least three antenatal check-ups, two doses of tetanus toxoid vaccine, and iron and folic acid supplementation during pregnancy for about three months. In addition, the programme encourages institutional deliveries or home deliveries attended by a trained medical professional, and three postpartum visits.

Antenatal care

Mothers of only 20 percent of live births received all the required components of antenatal care. Mothers received at least one antenatal check-up for 65 percent of births but received the recommended three or more check-ups for only 44 percent of births. For 67 percent of births, mothers received two or more doses of tetanus toxoid vaccine and for 58 percent they received iron and folic acid tablets or syrup. There has been no change since NFHS-1 in the proportion of mothers receiving antenatal check-ups but the proportion receiving two doses of tetanus toxoid vaccine has risen by 21 percent from 55 percent in NFHS-1 and the proportion receiving iron and folic acid supplementation has risen by 11 percent from 52 percent at the time of NFHS-1.

Coverage for these antenatal care services is much lower in rural areas and for older mothers, scheduled-tribe mothers, mothers who already have several children, and poorer and less educated mothers. Goa, Kerala, Tamil Nadu, and Andhra Pradesh perform consistently well and Uttar Pradesh, Bihar, and Rajasthan perform consistently poorly on almost all indicators of antenatal care. Among women who did not receive check-ups, most said that they did not consider antenatal check-ups to be necessary. Mothers and families need to be better informed about the benefits of antenatal check-ups.

In order for antenatal check-ups to be effective in monitoring pregnancies, providers should conduct a variety of recommended measurements and tests and provide advice on safe motherhood and related topics. Three-quarters of the women who received antenatal check-ups had their abdomen examined, but two-thirds or fewer received any of the other recommended checks or advice. Only 36 percent of women were told about signs and symptoms of a risky pregnancy.



Delivery and postpartum care

One-third of deliveries take place in health facilities, up from one-quarter at the time of NFHS-1. Among deliveries at home more than half are attended by a traditional birth attendant, and fewer than one in eight are attended by a health professional. There has, however, been an increase in the proportion of all births attended by a health professional from 33 percent in NFHS-1 to 42 percent in NFHS-2. Mothers who received antenatal check-ups were much more likely to deliver in a medical institution and to have a birth attended by a health professional than mothers who did not receive an antenatal check-up. Older women, rural women, and the more socially and economically disadvantaged women are less likely than others to deliver in institutions and to have a health professional present at the time of delivery. Only some states are close to meeting the National Population Policy, 2000, goal of having a health professional attend all births by the year 2010: Kerala (94 percent), Goa (91 percent), and Tamil Nadu (84 percent). Meghalaya, Uttar Pradesh, and Bihar, by contrast, are lagging far behind: less than one-quarter of deliveries in

these states are assisted by a health professional.

Only 17 percent of births not delivered in a medical institution were followed by a postpartum check-up within two months of birth. A postpartum check-up was most likely if the mother had received three or more antenatal check-ups. All states except Tamil Nadu perform very poorly in the provision of postpartum care. In Tamil Nadu, 53 percent of non-institutional deliveries received a postpartum check-up within two months.

Quality of home visits and visits to health facilities

The Reproductive and Child Health Programme in India requires health and family planning workers to visit women at home, especially in rural areas. Only 14 percent of even rural women, however, have received a visit in the past one year. Most women who were visited gave positive feedback on the quality of the visit. Ninety percent said that the worker spent enough time with them and 79 percent said that the worker spoke to them nicely.

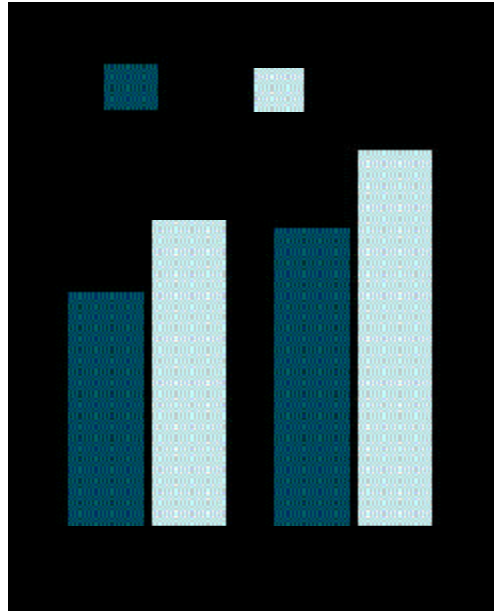
A majority of women are also well satisfied with the quality of their visits to health facilities. Almost all women report receiving the service they went for during their most recent visit to a health facility and 95 percent report that the staff at the facility spent enough time with them. The facility was rated 'very clean' by 67 percent of women, and 73 percent felt that the staff spoke to them nicely. Among women who needed privacy during the visit, 78 percent said that their need for privacy was respected. Private sector facilities were rated higher by women on all of the quality indicators than public sector facilities.

Reproductive Health Problems

If left untreated, reproductive tract infections can cause pregnancy-related complications, congenital infections, infertility, and chronic pain. They are also risk factors for pelvic inflammatory disease and HIV. An important objective of the Reproductive and Child Health Programme is the identification and management of reproductive tract infections.

Nearly 4 out of 10 currently married women in India report at least one reproductive health problem that could be symptomatic of a more serious reproductive tract infection.¹ Self-reported prevalence is consistently high for women in almost all population groups. In all but five states, at least one-third of women report one or more reproductive health problems. The percentage of currently married women with any reproductive health problem varies from 19 percent in Karnataka to 67 percent in Meghalaya. Among women who report any reproductive health problem, two-thirds have not seen anyone for advice or treatment. Less than one-third of women who seek advice or treatment for reproductive health problems go to government health professionals.

¹ These include women who are experiencing abnormal vaginal discharge, symptoms of a urinary tract infection, painful intercourse, or bleeding after intercourse (unrelated to menstruation).



Reproductive health: self-reported problems

Several studies in India have shown that Reproductive tract infections (RTI) are common, and women often bear symptoms silently and without seeking health care.

In NFHS-2, the prevalence of reproductive health problems among ever-married women is estimated from women's self-reported experience in the three months preceding the survey with each of the following problems:

- ♦ vaginal discharge accompanied by itching, by irritation around the vaginal area, by bad odour, by severe lower abdominal pain, by fever, or by any other problem;
- ♦ pain or burning while urinating or frequent or difficult urination.

In addition, currently married women were asked if they:

- ♦ often had painful intercourse
- ♦ ever had bleeding after intercourse.

Women who experience one or more of these reproductive health problems could either have or be at risk of getting an RTI/STI. These data should be interpreted with caution, however, since:

- ♦ women are generally reluctant to talk about or reveal reproductive health problems, given the sensitive nature of the topic;
- ♦ information obtained in the survey is based only on self-reports and not on clinical tests or examinations.

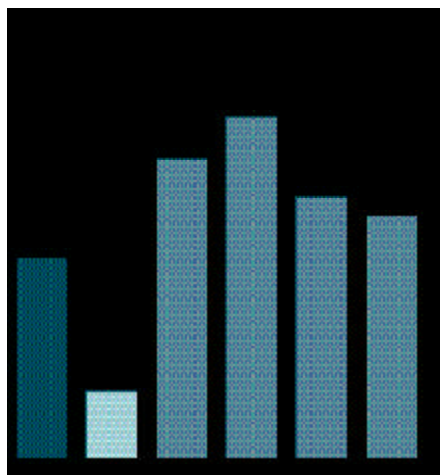
The NFHS-2 estimates reveal a high reported prevalence of reproductive health problems across women in all socio-economic groups of the population.

CHILD IMMUNIZATION AND MORBIDITY

The vaccination of children against six serious but preventable diseases (tuberculosis, diphtheria, pertussis, tetanus, poliomyelitis, and measles) is a cornerstone of the child health care system in India. Children who have received one dose each of the BCG and measles vaccines and three doses each of the DPT and polio vaccines are considered fully vaccinated. Acute respiratory infections (ARI), primarily pneumonia, and diarrhoea are also leading causes of childhood mortality. Early diagnosis and appropriate treatment can prevent a large proportion of these deaths

Vaccination of children

Universal immunization of children against common vaccine preventable diseases has long been a goal of the Universal Immunization Programme and this goal has now been reiterated by the National Population Policy, 2000. Currently, immunization coverage of young children is far from universal, although coverage has improved. Among children age 12–23 months, only 42 percent are fully vaccinated, 44 percent have received some vaccinations, and 14 percent have received no vaccinations. At the time of NFHS-1, the proportion of children who had received all vaccinations was only 36 percent and the proportion who had received no vaccinations was 30 percent. The largest increases in coverage were for the first two doses of polio vaccine, undoubtedly due to the addition of Pulse Polio Immunization Campaigns to the immunization programme in 1995.



vaccinations increases sharply with mothers' education. Nonetheless, more than one-quarter of even the children whose mothers have completed high school are not fully vaccinated. Muslim children are less likely than Hindu children to be vaccinated; however, both Hindu and Muslim children are less likely than children of all other religions to be vaccinated. Only 11 percent of children in Bihar and 14–17 percent in Nagaland, Meghalaya, Assam, and Rajasthan are fully vaccinated. By contrast, in Tamil Nadu, Himachal Pradesh, Goa, and Kerala, 80 percent or more are fully vaccinated.

Coverage of each individual vaccination is much higher than the percentage fully vaccinated. Seventy-two percent of children have been vaccinated against tuberculosis (BCG), 55 percent have received all three doses of the DPT vaccine, 63 percent have received all three doses of the polio vaccine, and 51 percent have been vaccinated against measles. Only 13 percent of children have received the polio 0 vaccine that is supposed to be given soon after birth. The public medical sector is the main vaccination source for the vast majority of children (82 percent) who have received any vaccinations.

Sixty-one percent of urban children age 12–23 months are fully vaccinated compared with only 37 percent of rural children. Boys are only slightly more likely than girls to be fully vaccinated against childhood diseases. Children of higher birth-orders and scheduled-tribe and poorer children are much less likely than most other children to be fully vaccinated. The likelihood of having received all

Only 11 percent of children in Bihar and 14–17 percent in Nagaland, Meghalaya, Assam, and Rajasthan are fully vaccinated.

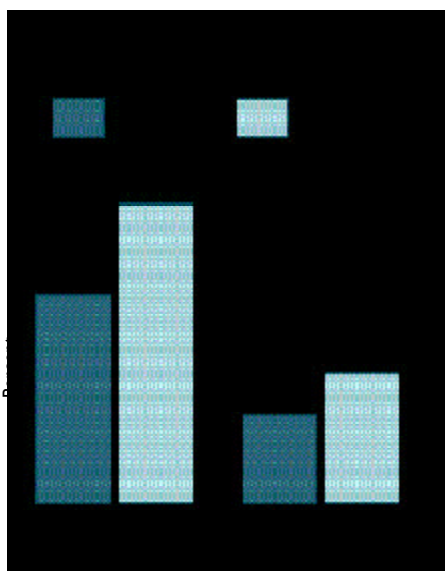
Vitamin A supplementation

Vitamin A deficiency, which is one of the most common nutritional deficiency disorders in the world, is closely associated with night blindness. The National Programme on Prevention of Blindness targets children under age five years and administers oral doses of vitamin A every six months, starting at age nine months. Only a minority of children age 12–35 months, however, have received even one dose of vitamin A (30 percent) and fewer still (17 percent) have received a dose within the past six months. Goa, Himachal Pradesh, and Mizoram, where over 70 percent of children have received vitamin A supplementation, stand out as states with relatively successful programmes. By contrast, vitamin A supplementation is extremely limited (7–18 percent) in Nagaland, Bihar, Uttar Pradesh, Assam, Tamil Nadu, and Rajasthan.

Child morbidity and treatment

During the two weeks preceding the survey, 19 percent of children under age three years had symptoms of acute respiratory infection (cough accompanied by short rapid breathing), and 19 percent had diarrhoea. Three percent had diarrhoea with blood, a symptom of dysentery. Almost two-thirds of the children with ARI or diarrhoea were taken to a health facility or provider.

Children age 6–11 months, followed by those age 12–23 months are more likely than other children to have ARI or diarrhoea. Although boys and girls are about equally likely to have either of the two conditions, boys are slightly more likely than girls to be taken for treatment to a health provider. Children of more educated mothers are much less likely than children of illiterate or less educated mothers to have ARI or diarrhoea.



Knowledge and use of Oral Rehydration Salt (ORS) packets for the treatment of diarrhoea has increased since NFHS-1. Sixty-two percent of mothers of children under age 3 years know about ORS, up from 43 percent at the time of NFHS-1. Although only 27 percent of children with a recent bout of diarrhoea were given ORS, this proportion is much higher than it was at the time of NFHS-1 (18 percent). The source of ORS packets is more likely to be the private medical sector or shops (57 percent) than the public medical sector (38 percent).

The use of ORS by mothers is low in all states, ranging from 15–16 percent of children with diarrhoea receiving ORS in Bihar and Uttar Pradesh to 51–55 percent in Goa and Manipur.

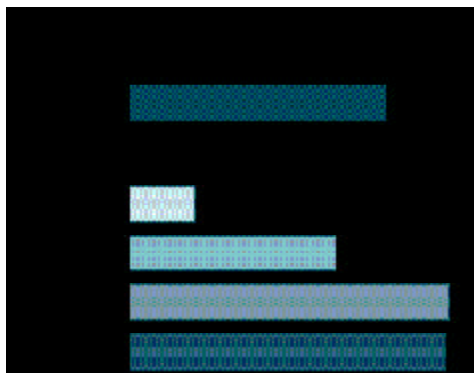
Only two-fifths of even the children of more educated mothers are given ORS when sick with diarrhoea. Overall, 27 percent of children with diarrhoea received no treatment and more than half were not given any form of oral rehydration therapy (ORS salts, gruel,

Sixty-two percent of mothers of children under age 3 years know about ORS, up from 43 percent at the time of NFHS-1.

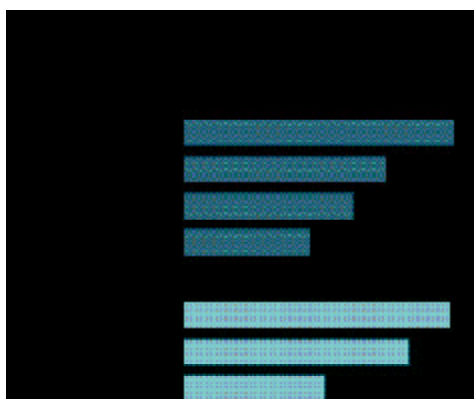
homemade sugar-salt-water solution, or increased fluids) at all. Almost two-thirds of mothers are not able to identify two or more signs of diarrhoea that would signal the need for medical treatment. In addition, mothers of one-third of young children have the misconception that children with diarrhoea should be given less to drink than usual.

Measures of children's nutritional status

Nutritional status is a major determinant of the health and well-being of children. Inadequate or unbalanced diets and chronic illness are associated with poor nutrition among children. To assess nutritional status, measurements of weight and height/length were obtained in NFHS-2 for children born in the three years preceding the survey.



Child malnutrition is widespread, especially after the first year of life.



Children whose mothers are illiterate are about twice as likely to be undernourished as children whose mothers have completed at least high school.

NUTRITIONAL STATUS OF WOMEN AND CHILDREN

India has some of the highest levels of malnutrition among women and children in the world. Malnutrition can be a factor in maternity-related complications and infant deaths. Undernourished mothers are more likely to have undernourished children. Inadequate nutrition can also compromise a child's physical and mental development.

Women's food consumption

A well balanced diet containing adequate amounts of proteins, carbohydrates, fat, vitamins, and minerals is essential for good health. The diet of most women in India regularly includes vegetables and pulses or beans (85 percent or more women consume each of these types of foods at least weekly). Milk or curd is consumed regularly by slightly more than half of women and fruits by only one-third. Eggs, chicken, meat, or fish are consumed at least weekly by less than one-third of women. Overall, about 1 in 10 women never consume milk or curd and 1 in 3 never consume chicken, meat, or fish. The consumption of all foods, but especially of fruits and milk or curd, increases with women's education and the household standard of living. The regular consumption of chicken, meat, or fish (at least once a week) is very low throughout Northern and Central India (except in Jammu and Kashmir), as well as in Gujarat (4-15 percent). Chicken, meat, or fish is eaten regularly by more than two-thirds of women in Goa, Kerala, Nagaland, and West Bengal.



Nutritional status of women

The Body Mass Index (BMI) is an indicator derived from height and weight measurements. A BMI value below 18.5 kg/m² indicates chronic energy deficiency, whereas a BMI value of 25 kg/m² or more indicates obesity. In India, more than one out of three women age 15-49 is undernourished according to the BMI and 11 percent are obese. While undernourishment is widespread among women in most population groups, obesity is especially common only among Jain and Sikh women, richer women, and more-educated women. Obesity is most common in Delhi and Punjab. Almost half of women in Orissa are undernourished and two out of five or more are undernourished in West Bengal and Maharashtra.

Nutritional status of children

Almost half of children (47 percent) under three years of age are underweight, a measure of short and long term undernutrition. A similar proportion are malnourished to the extent that they are stunted (46 percent). Severe underweight is observed for 18 percent of children and severe stunting for 23 percent. Sixteen percent of children are excessively thin (wasted). Rural children are much more likely than urban children to be undernourished.

Undernutrition is lowest among children less than six months old, an age when children are mainly breastfed, and most widespread among

children age 12–35 months. Children born to mothers who already have a large number of children and to mothers who are themselves undernourished are more likely to be undernourished. Undernutrition among children varies greatly by mothers' education and household standard of living. Children born to illiterate mothers are more than twice as likely to be underweight or stunted as children born to mothers who have completed at least high school. Children from scheduled tribes are more likely than other children to be undernourished (especially wasted). At least half of the children in Madhya Pradesh, Bihar, Orissa, Uttar Pradesh, and Rajasthan are underweight and at least 20 percent of children are underweight in every state. Wasting is 20 percent or more in Orissa, Maharashtra, Bihar, Karnataka, Tamil Nadu, and Madhya Pradesh.

Infant feeding practices

The recommended feeding practices for infants include initiation of breastfeeding immediately after childbirth without squeezing out the 'first milk' (colostrum), breastfeeding children exclusively from birth to four months, supplementing breastmilk after age 6 months with adequate and appropriate complementary foods, and continuing breastfeeding through the second year of life or beyond. Few mothers follow these guidelines, however. Only 37 percent of newborn children were put to the breast within one day of birth and even fewer were breastfed within one hour of birth. Most mothers squeezed out the 'first milk' before breastfeeding. These practices are widespread across all subgroups of women, although the more educated women are somewhat more likely than most other women to initiate breastfeeding within a day of childbirth. Initiation of breastfeeding is earlier for children born in a health facility, particularly a public health facility, than children born at home.

Only 55 percent of children under four months of age are exclusively breastfed. Contrary to the recommendation, 20 percent of children under four months are fed supplements along with breastmilk and 23 percent are given water. The introduction of complementary foods is delayed for most children. Only 32 percent of children age 7 months consume solid or mushy foods, and even at age 9 months this proportion is less than half. Only about one-third of older children (age 18–35 months) eat any fruit and less than 60 percent eat green, leafy vegetables. Breastfeeding, however, continues for a long period, as recommended. Ninety-two percent of children are still being breastfed at 12 months of age and 59 percent are still being breastfed at 24 months of age. Children are breastfed for 25 months and exclusively breastfed for 4 months, on average. The median duration of exclusive breastfeeding is only 2 months, however. The median duration of breastfeeding is two months shorter for girls than for boys. In general, urban women, more educated women, Sikh and Jain women, richer women, and women who gave birth in health facilities breastfed for a shorter length of time than most other women. The use of bottles with nipples (a practice which is not recommended for children's feeding at any age) is relatively rare among breastfed children in India, increasing from 4 percent in the first month after birth to 18 percent among children eight months of age and then declining.

The median duration of breastfeeding is at least 20 months in every state except Tamil Nadu. The percentage of children exclusively breastfed for the recommended period of four months ranges from 75 percent in Andhra Pradesh to less than 20 percent in Delhi, Meghalaya, Sikkim, and Himachal Pradesh. Timely complementary feeding is most often delayed in Bihar, Uttar Pradesh, and Rajasthan, where less than 20 percent of children start complementary feeding at the right age. Bottle feeding of infants is most common in Goa, Delhi, and Tamil Nadu.

Recommendations for infant feeding

Infant feeding practices have significant effects on both mothers and children. Mothers are affected through the influence of breastfeeding on the period of postpartum infertility, and hence on fertility levels and the length of birth intervals. These effects vary by both the duration and intensity of breastfeeding. For children, breastfeeding improves nutritional status and reduces morbidity and mortality. The timing and type of supplementary foods introduced in an infant's diet also have significant effects on the child's nutritional status.

Guidelines for infant feeding include the following practices:

- ♦ Breastfeeding be initiated immediately after childbirth. The first breast milk (colostrum) should be given to the child rather than discarded, because it provides natural immunity to the child.
- ♦ Infants be given only breast milk for the first four to six months of their life. Most babies do not require any other foods or liquids during this period.
- ♦ By age seven months, adequate and appropriate complementary foods should be added to the infant's diet in order to provide sufficient nutrients for optimal growth.
- ♦ Breastfeeding should continue, along with complementary foods, through the second year of life or beyond.
- ♦ A feeding bottle with a nipple should not be used at any age, for reasons related mainly to sanitation and the prevention of infections.

Anaemia measurement in NFHS-2

Anaemia is characterized by a low level of haemoglobin in the blood. Iron-deficiency anaemia usually results from a nutritional deficiency of iron, folate, vitamin B₁₂, or some other nutrients.

NFHS-2 undertook direct measurement in the field of the haemoglobin levels of eligible women and children, using the HemoCue system. The HemoCue system is used throughout the world to estimate the concentration of haemoglobin in capillary blood in field situations. The following steps are involved in measuring anaemia using the HemoCue system:

- ♦ The finger (or heel in the case of infants under six months old) is pricked;
- ♦ A single drop of blood is drawn into a cuvette;
- ♦ The cuvette is inserted into the portable battery operated HemoCue instrument;
- ♦ In less than one minute, the haemoglobin concentration is indicated on a digital read-out on the instrument.

NFHS-2 health investigators were provided extensive training and practice in these standardized procedures in order to ensure accuracy of measurements in the field.

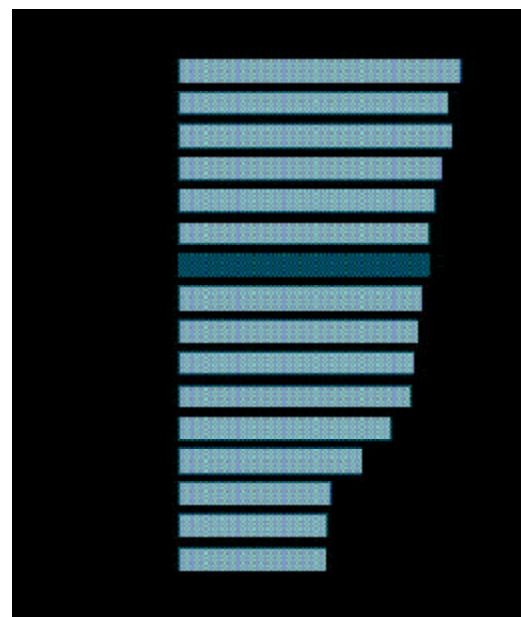
Before anaemia testing was undertaken in any household, the health investigators obtained permission from the eligible woman by reading her a detailed informed consent statement, and tests were conducted only if permission was granted.

Anaemia among women and children

Anaemia is widespread among both women and young children, but children are even more likely than women to be anaemic. Overall, 52 percent of women and 74 percent of children age 6–35 months are anaemic. About one-third of anaemic women are moderately to severely anaemic compared with more than two-thirds of anaemic children. Forty percent or more of women in every population subgroup are at least mildly anaemic, as are two-thirds or more of children in almost every subgroup. Among both women and children the risk of anaemia is higher the lower the woman's/mother's education, the poorer the household, for those living in rural areas, and for scheduled tribes and scheduled castes. The prevalence of anaemia among children varies strongly by the anaemia status of the mother: 68 percent of children whose mothers are not anaemic are themselves anaemic, compared with 86–87 percent of children whose mothers are moderately to severely anaemic.

Anaemia during pregnancy increases the risks of maternal and infant death, premature delivery, and low birth weight. In India, pregnant women are more likely than nonpregnant and non-breastfeeding women, as well as breastfeeding women, to be moderately to severely anaemic, but are less likely to be mildly anaemic. These results suggest some degree of success in reducing the level of mild anaemia among pregnant women through the provision of iron and folic acid tablets during pregnancy. Despite this success, however, 28 percent of pregnant women are moderately to severely anaemic.

Among the major states, anaemia among women is most common in Assam, Bihar, Orissa, and West Bengal, where more than 6 out of 10 women are anaemic and least common in Kerala where 23 percent of women are anaemic. Anaemia among children is most common in Haryana, Rajasthan, Bihar, and Punjab where at least 80 percent of children are anaemic. The only states where less than half of the children are anaemic are Nagaland, Kerala, and Manipur.



Did you know that . . .

On completion of tests in each household:

- ♦ the respondent was given a written record of the results for herself and each of her children, if any;
- ♦ the health investigator explained the meaning of the results and advised the respondent if medical treatment was necessary;
- ♦ in cases of severe anaemia, consent is obtained for the survey organization to inform a local health official about the problem.

For each Primary Sampling Unit, a local health official was given a list of severely anaemic women (and children) who had consented to the referral.

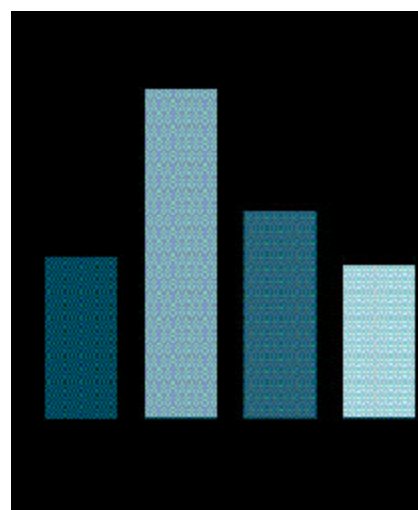
KNOWLEDGE OF AIDS

India, because of its large population size, currently has a higher number of HIV-infected people than any other country in the world: at least 3.5 million. Since there is no cure for AIDS, efforts have largely been focused on prevention through raising awareness of AIDS and how it is spread.

Only 4 out of 10 ever-married women in India have heard of AIDS. Knowledge is even lower among rural women, illiterate women, and women belonging to scheduled castes and scheduled tribes. Only 18 percent of illiterate women have heard of AIDS compared with 92 percent of women who have completed at least high school. Television is the most important information source on AIDS, followed by the radio. About one-third of women who know about AIDS also report receiving information on AIDS from friends or relatives.

Awareness has however improved. In all 12 states with information available in both surveys, AIDS awareness has increased between NFHS-1 and NFHS-2 with the proportion of women who have heard of AIDS more than doubling in several states. In Tamil Nadu, 87 percent of women have now heard of AIDS compared with 23 percent at the time of NFHS-1. AIDS awareness varies greatly by state. Awareness is particularly low in Bihar (12 percent), Uttar Pradesh (20 percent), Rajasthan, (21 percent) and Madhya Pradesh (23 percent).

One-third of women who have heard of AIDS do not know any way of avoiding AIDS. Poorer women, illiterate women, scheduled-tribe women, and women not regularly exposed to any media were most likely not to know any way to avoid AIDS. Among women who know that something can be done to prevent AIDS, the most commonly mentioned way was to have only one sex partner, followed by avoiding injections or using clean needles. Only 20 percent mentioned condom use as a means to avoid AIDS. More than 80 percent of women in Mizoram, Tamil Nadu, and Orissa know of at least one way to avoid AIDS, whereas in Sikkim, Arunachal Pradesh, Jammu and Kashmir, Assam, and West Bengal more than half do not know of any way to avoid AIDS.



CONCLUSIONS

The second National Family Health Survey (NFHS-2), like its predecessor (NFHS-1) six and a half years earlier, provides state and national level data on fertility, family planning, infant and child mortality, reproductive health and child health, and nutrition and presents this information within the context of related socioeconomic and cultural factors. The major objective of the survey has been to provide policymakers and programme administrators with a comprehensive snapshot of the demographic and health status of households, women, and children. This information will assist them in monitoring progress towards the achievement of population, health, and nutrition goals, identifying problem areas, and planning and implementing strategies to improve existing programmes.

Fertility and family planning

- ◆ Fertility is continuing to decline in India. The total fertility rate (TFR) is 2.9 children per woman and the crude birth rate is 25 per 1,000 population. According to this estimate, fertility is about half a child lower per woman than it was six and a half years ago. If women were to have only the children they wanted, however, fertility would decline to the replacement level. In most states, at current fertility rates, women will have at least half a child more than they consider ideal and in a few states the excess fertility will be more than one child.
- ◆ Contraceptive prevalence has increased since NFHS-1. Forty-eight percent of currently married women age 15–49 are using contraception, up by 18 percent in the six and a half years since NFHS-1 when it was 41 percent.
- ◆ Female sterilization continues to dominate contraceptive use. Female sterilization alone accounts for 71 percent of contraceptive prevalence and for 91 percent of the increase in contraceptive prevalence since NFHS-1.
- ◆ Although contraceptive use has increased, only 75 percent of women who want no more children or want to space their next birth are using a contraceptive method. Overall, 16 percent of all currently married women have a need for contraception which is not met. Among younger women (age 15–24), unmet need is even higher: one in four has an unmet need for contraception, and almost all of the unmet need is for methods to help them space their births. Male sterilization, by contrast, accounts for only 4 percent of contraceptive prevalence, and its share in contraceptive prevalence has declined to half what it was at the time of NFHS-1.
- ◆ Despite the obvious desire on the part of young women to be able to space their births, spacing methods are not being widely promoted and not being used by women. While knowledge of modern spacing methods (pills, IUDs, and condoms) has increased since NFHS-1, knowledge of these methods is still much less widespread than knowledge of sterilization. Among the minority of women who report ever having discussed family planning with a health or family planning worker, female sterilization is by far the method discussed most often. Only 7 percent of women are currently using a modern spacing method and only 18 percent of women who are sterilized (or have husbands who are sterilized) have ever used any other method.
- ◆ Young women who are in the process of family building are expressing a strong need to be able to space their births, yet few are using spacing methods. Outreach efforts that help young women and men understand how the available spacing methods will help them meet their own fertility goals are urgently needed. A programme that primarily focuses on terminal methods not only fails to meet the changing needs of women over time, but also helps to sustain a fertility rate that is much higher than the rate that would prevail if women had only the children they wanted. The promotion of spacing methods can also help to reduce high-risk births. By giving women an effective means to postpone their births, spacing methods help to reduce high-risk births occurring to very young mothers or very soon after a previous birth.
- ◆ Few women are being given an opportunity to make an informed choice about the method that would best suit their needs. Only 15 percent of modern contraceptive users who were motivated by someone to use their current method were told of any alternative method by that person. Only 22 percent of all users of modern methods were informed about side effects or other problems with their method at the time of

accepting the method. Notably, however, a substantial proportion of modern-method users and acceptors of female sterilization said that it was their own decision to use the method.

- ◆ Follow-up services after accepting a contraceptive method are more likely to be provided to sterilization users than to users of other methods. Three-fourths of sterilization users and two-fifths of the users of other modern methods received follow-up services.

Mortality

- ◆ Infant mortality has been declining at an average rate of about two infant deaths per 1,000 live births per year. Neonatal and child mortality rates have also declined. Nonetheless, 1 in every 15 children die within the first year of life and 1 in every 11 die before reaching age five. More than 130,000 Indian women die every year from causes related to pregnancy and childbirth.

- ◆ Infant and maternal mortality remain high in part due to the high occurrence of high-risk births, i.e., births to very young mothers, births that take place too soon after a previous birth, and high parity births. Nineteen percent of total fertility is contributed by very young mothers (age 15–19). Very young mothers have an infant mortality rate that is almost one and a half times higher than that for mothers in their twenties; yet half the women age 20–49 had their first child before age 20. Similarly, the infant mortality rate of births that occur within 24 months of a previous birth is almost three times as high as for children born after an interval of four years or more; yet one birth out of every four occurs within 24 months of a previous birth. Although ideal family size is less than three children, 28 percent of births are of order four or higher. Children at higher birth orders also have a higher risk of dying in infancy and this risk increases the higher the birth order. Encouraging women to have only the births they want and to use spacing methods of contraception can help to reduce high-risk births.

- ◆ The continuing low levels of education among women and the under-utilization by women of safe-motherhood services are also keeping infant mortality and maternal mortality high. The infant mortality rate for illiterate mothers is more than two and a half times the rate for mothers who have completed at least high school. Similarly, infant mortality for mothers who did not receive each of the following types of care: antenatal care from a health worker, delivery assistance from a health professional, and postpartum care within two months of delivery, is also more than twice as high as for mothers who received all of these types of care.

Health and Nutrition

- ◆ Despite improvements in the coverage of individual components of reproductive health services since NFHS-1, few pregnant women receive the entire complement of recommended services. Mothers of only 20 percent of births receive all of the different types of antenatal care. Less than half of all deliveries are attended by a health professional and only one-third of births take place in a medical institution. Only 17 percent of births not delivered in a medical institution receive a postpartum check-up within two months of birth.

- ◆ Home visits by paramedical staff are rare. Only 14 percent of even rural women were visited at home by a health or family planning worker in the past year. Women who were visited at home felt that the health worker spoke to them nicely and spent enough time with them.

- ◆ Undernutrition among women and children continues to be a serious problem. More than one-third of women age 15–49 are undernourished (according to the body mass index) and almost half the children under age three years are underweight or stunted. Although the extent of undernutrition varies greatly by women's/mothers' level of education and by household standard of living, it is substantial in almost every population subgroup and in all states.

- ◆ Inappropriate feeding of infants may be contributing to the high prevalence of undernutrition among children. Breastfeeding, which should be initiated immediately after birth, is delayed for the vast majority of children. Most mothers squeeze out the first breast milk, which should be fed to infants to boost their immune system. Instead of exclusive breastfeeding, almost half of the children under four months of age are given water or other supplements along with breast milk. The introduction of solid or mushy

food is also delayed for most children, even though breast milk should be supplemented with solid or mushy food starting at six months of age. Even at age nine months, however, less than half of the children receive solid or mushy foods. The provision of counselling and advice on proper feeding practices for mothers and infants should be an essential component of antenatal and postpartum care. The timing of such counselling and advice is critical since by age 6–11 months almost one-third of children are already malnourished.

◆ The prevalence of anaemia among women and children is extremely high. More than half the women age 15–49 and almost three-fourths of the children age 6–35 months are anaemic. The majority of anaemic children and one out of three anaemic women are moderately to severely anaemic. Despite variation in the prevalence of anaemia among women and children by mothers' education and the socioeconomic status of the household, the majority of children and 40 percent or more women in all sub-groups of the population are anaemic. Children whose mothers are anaemic are more likely to be anaemic than children whose mothers are not anaemic. Pregnant women are more likely than women who are not pregnant to be moderately to severely anaemic and women who are breastfeeding are more likely than other women to have any anaemia. Recognizing the high prevalence of anaemia and the seriousness of its consequences, the Reproductive and Child Health Programme recommends providing pregnant women with an adequate amount of iron and folic acid tablets. Given the high levels of moderate to severe anaemia among pregnant women, these results suggest a need to further strengthen iron and folic acid supplementation programmes for pregnant women. In addition, these results point to an urgent need to have programmes that address anaemia in young children as well as breastfeeding women.

◆ Immunization coverage has been increasing but only two-fifths of all children age 12–23 months have received all of the recommended childhood vaccinations. The proportion of children who have received none of the recommended childhood vaccinations has halved (from 30 percent to 14 percent) over the period of six and a half years since NFHS-1 and the coverage of all individual vaccines has improved. Drop-out rates for the polio and DPT vaccines remain high, however. Only three-fourths of the children who receive one dose of the polio or the DPT vaccine go on to receive all three doses. Also, only half of the children have been vaccinated against measles and the coverage of the polio 0 vaccine, which is administered at birth, remains very low. The vaccination rates for children with illiterate mothers and for scheduled-tribe children remain exceptionally low, indicating an urgent need to have special programmes designed to reach these particular populations.

◆ A rapid increase has been seen in the coverage for the first two polio vaccinations because of the Pulse Polio Immunization Campaigns, but more than one-third of children had not received three doses of the polio vaccine at the time of the survey. If polio is to be eradicated worldwide, renewed efforts will have to be made to reach the 16 percent of children who have not received any polio vaccine and to ensure that children who receive the first dose stay in the programme.

◆ The prevalence of diarrhoea among children under age three years remains high, yet few mothers can identify the signs of diarrhoea that signal the need for medical treatment. While knowledge of Oral Rehydration Salt (ORS) packets has increased, most children under age three years are not given ORS or any other type of oral rehydration therapy when sick with diarrhoea. Mothers are also misinformed about appropriate feeding of infants during diarrhoea. A substantial proportion of mothers say incorrectly that children need to be given less to drink than usual when sick with diarrhoea. Much greater attention needs to be paid to educating mothers on appropriate ways of treating diarrhoea and on recognizing acute diarrhoea if it occurs.

◆ Only about half of households use cooking salt that is iodized at the recommended level. The use of iodized salt remains particularly low among rural households.

Education and women's status

◆ Education is a catalyst of change and its role in the process of national development cannot be over-emphasized. Women's education is also critical for meeting the country's demographic and health goals. High levels of women's education are consistently associated with lower fertility and infant mortality and with better nutrition and health of women and children. In India, the record on education – women's and

men's – remains poor. Despite some improvement in literacy levels, about half the women and one-fourth the men age 6 years and above are illiterate. Only 22 percent of men and 12 percent of women have completed high school or received education beyond high school. Despite the constitutional requirement of compulsory education for children up to age 14, about 1 in 5 male children and 1 in 4 female children age 6-14 years are not attending school.

- ◆ Besides contributing to the low status of women in society, early ages at marriage for women help to keep fertility high and increase the probability of high-risk births. Although the age at marriage has been rising in India, half of even the younger women (age 20–24) still marry before the legal minimum age at marriage (18 years).

- ◆ Reductions in fertility and improvements in the health and nutrition of adults and children at the household level are all often perceived to be the responsibility of women. However, about half of the ever-married women age 15–49 do not participate in decisions about their own health care, the majority need permission to go to the market or to visit friends or relatives, and two-fifths do not have any money that they can use as they wish. In addition, at least one-fifth of all ever-married women have been subjected to domestic violence. Clearly the ability of women to fulfill their potential is greatly limited by the constraints on their empowerment.

Regional and community disparities

- ◆ There is considerable variation in the demographic and health status of the populations in the different states of India. Some states such as Kerala, Goa, Himachal Pradesh, and Tamil Nadu were already fairly advanced even at the time of NFHS-1. Others, such as Andhra Pradesh, Delhi, Maharashtra and Punjab, are making good progress on most indicators. Bihar, Orissa, Rajasthan, and Uttar Pradesh continue to lag far behind, even though there have been some improvements in all of these states since NFHS-1.

- ◆ Even within states, there are large disparities between different communities. Rural areas continue to lag far behind urban areas. Scheduled-tribe populations, followed by scheduled-caste populations, are distinctly under-served. Similarly, religious groups differ greatly in their fertility levels, family planning acceptance rates, infant and child mortality, and utilization of maternal and child health services. In every state, special efforts are needed to reach rural women, scheduled-tribe women, illiterate women, and poor women, who continue to be left out of the process of national development. The likelihood of success of health and family welfare programmes will be greatly enhanced if they can be tailored to meet the specific needs of the communities they are meant to serve.

- ◆ Households that have a low standard of living perform distinctly worse on most demographic and health outcome indicators than households that have a relatively high standard of living. These findings underscore the need for giving high priority to poverty reduction programmes and to investments that increase the access of households to basic amenities.

- ◆ NFHS-2 data underscore the need to formulate and implement effective and innovative IEC programmes that bring about change in the attitudes of men, women, and communities that contribute to the a low status of women and negatively affect the achievement of demographic, health, and nutrition goals. Further, improvement in the coverage and quality of health and welfare services needs to be given higher priority so as to reach economically and/or socially disadvantaged sections of the population.

