

# India - National Family Health Survey 1998-1999

**International Institute for Population Sciences (IIPS) - Ministry of Health and  
Family Welfare (MOHFW)**

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# Sampling

## Sampling Procedure

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### SAMPLE SIZE AND REPORTING DOMAINS

The sample size for each state was specified in terms of a target number of completed interviews with eligible women. The target sample size was set considering the size of the state, the resources available for the survey, and the aggregate level (urban/rural, region, metropolitan cities) at which separate estimates were needed. The initial target sample size was 4,000 completed interviews with eligible women in states with a 1991 population of more than 25 million, 3,000 completed interviews with eligible women in states with a 1991 population between 2 and 25 million, and 1,500 completed interviews with eligible women in states with a population of less than 2 million. However, there are some exceptions. For Uttar Pradesh, Bihar, Madhya Pradesh, and Rajasthan, the samples were designed to provide estimates for major regions of the states. The target sample size was set at 10,000 completed interviews with eligible women in Uttar Pradesh and 7,000 completed interviews with eligible women in Madhya Pradesh, Bihar, and Rajasthan.

For Maharashtra, West Bengal, and Tamil Nadu, the initial target samples were increased to allow separate estimates to be made for the metropolitan cities of Mumbai, Calcutta, and Chennai. The target sample size was 5,500 in Maharashtra, 4,750 in West Bengal, and 4,750 in Tamil Nadu. For Mumbai, the target sample was large enough to allow separate estimates for its slum and non-slum populations.

The urban and rural samples within each state were drawn separately and, to the extent possible, the sample within each state was allocated proportionally to the size of the state's urban and rural populations. In states where the proportion of urban population was not sufficiently large to provide a sample of at least 1,000 completed interviews with eligible women, the urban areas were appropriately oversampled (except in Goa, Sikkim, and the six small northeastern states where the target sample size was only 1,500 eligible women each). The state samples are not large enough to provide reliable estimates for individual districts in any state.

### SAMPLE DESIGN

A uniform sample design was adopted in all the states. In each state, the rural sample was selected in two stages: the selection of Primary Sampling Units (PSUs), which are villages, with probability proportional to population size (PPS) at the first stage, followed by the random selection of households within each PSU in the second stage. In urban areas, a three-stage procedure was followed. In the first stage, wards were selected with PPS sampling. In the next stage, one census enumeration block (CEB) was randomly selected from each sample ward (except in Jammu and Kashmir, where two CEBs were randomly selected from each sample ward). In the final stage, households were randomly selected within each sample CEB.

### SAMPLE SELECTION IN RURAL AREAS

In rural areas, the 1991 Census list of villages served as the sampling frame. The list was stratified by a number of variables. Except in Delhi, the first level of stratification was geographic, with districts being subdivided into contiguous regions. Within each of these regions, villages were further stratified using selected variables from the following list: subregions, village size, percentage of males working in the nonagricultural sector, percentage of the population belonging to scheduled castes or scheduled tribes, and female literacy. However, not all variables were used in every state. Each state was examined individually and a subset of variables was selected for stratification with the aim of creating not more than 6 strata for small states, not more than 12 strata for medium size states, and not more than 15 strata for large states. Female literacy was used for implicit stratification (i.e., the villages were ordered prior to selection according to the proportion of females who were literate) in every state except Kerala and Orissa, where female literacy was an explicit stratification variable. From the list of villages arranged in this way, villages were selected systematically with probability proportional to the 1991 Census population of the village. Small villages with 5-49 households were linked with an adjoining village to form PSUs with a minimum of 50 households. Villages with fewer than five households were excluded from the sampling frame.

In every state, a mapping and household listing operation was carried out in each sample area. The listing provided the necessary frame for selecting households at the second stage. The household listing operation involved preparing up-to-date notional and layout sketch maps of each selected PSU, assigning numbers to structures, recording addresses of these structures, identifying residential structures, and listing the names of heads of all the households in residential structures in the selected PSUs. Large sample villages (with more than a specified number of households, usually 500) were segmented, and two segments were selected randomly using the PPS method. Household listing in the segmented PSUs was carried out only in the selected segments. Each household listing team comprised one lister and one mapper. Senior field staff of the concerned field organization supervised the listing operation.

The households to be interviewed were selected with equal probability from the household list in each area using systematic sampling. The interval applied for the selection was determined to obtain a self-weighting sample of households. On average, 30 households were initially targeted for selection in each selected enumeration area. To avoid extreme variations in the workload, minimum and maximum limits were put on the number of households that could be selected from any area, at 15 and 60, respectively. Each survey team supervisor was provided with the original household listing, layout sketch map, and the list of selected households for each PSU. All the households which were selected were contacted during the main survey, and no replacement was made if a selected household was absent during data collection. However, if a PSU was inaccessible, a replacement PSU with similar characteristics was selected by IIPS and provided to the field organization.

## SAMPLE SELECTION IN URBAN AREAS

The procedure adopted for the first stage of the sample design in urban areas was similar to the one followed in rural areas. The 1991 Census list of wards was arranged according to districts and within districts by the level of female literacy, and a sample of wards was selected systematically with probability proportional to size. Next, one census enumeration block, consisting of approximately 150-200 households, was selected from each selected ward using the PPS method. In Jammu and Kashmir, two census enumeration blocks were selected in each selected ward. As in rural areas, a household listing operation was carried out in each selected census enumeration block, which provided the necessary frame for selecting households in the third stage of sample selection. On average, 30 households per block were targeted for selection (except in Jammu and Kashmir and in Mumbai, where the target was 20 households per block).

## Response Rate

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A total of 91,196 households were interviewed, two-thirds of which were rural. The overall household response rate-the number of households interviewed per 100 occupied households-was 98 percent. The household response rate was more than 94 percent in every state except Meghalaya and Delhi where it was 89 percent and 91 percent, respectively. The household response rate was almost 100 percent in Tamil Nadu.

In the interviewed households, interviews were completed with 89,199 eligible women who stayed in the household the night before the household interview. The individual response rate-the number of completed interviews per 100 identified eligible women in the households with completed interviews-was 96 percent for the country as a whole. The variation in the women's response rate by state was similar to that observed for the household response rate.

## Weighting

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The population covered in NFHS-2 differs slightly from that in NFHS-1. NFHS-1 did not include Sikkim and the Kashmir region of Jammu and Kashmir. NFHS-2 covered all the 26 states, but the survey work in Tripura was delayed considerably due to some local problems. Therefore, estimates for Tripura are not included in the national estimates. However, the population of the regions not common in the two surveys is small and should have only a negligible impact on the comparability of the national estimates from the two surveys.

At the national level, the overall sample weight for each household or woman is the product of the design weight for each state (after adjustment for nonresponse) and the state weight.

After adjustment for nonresponse, the weights are normalized so that the total number of weighted cases is equal to the total number of unweighted cases.

For the tabulations on anaemia and height/weight of women and children, two separate sets of weights were calculated using a similar procedure. In this case, however, the response rates for anaemia (for both women and children) are based on the percentage of eligible women whose haemoglobin level was measured and the response rates for height/weight (for both women and children) are based on the percentage of eligible women who were weighed or measured.

# Questionnaires

## Overview

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NFHS-2 collected information on a variety of indicators that will assist policymakers and programme managers to formulate and implement strategies to reach the goals set in the National Population Policy. NFHS-2 used three types of questionnaires: the Household Questionnaire, the Woman's Questionnaire, and the Village Questionnaire. The overall content and format of the questionnaires were determined through a series of workshops held at IIPS in Mumbai in 1997 and 1998. The workshops were attended by representatives of a wide range of organizations in the population and health fields, as well as experts working on gender issues. The questionnaires for each state were bilingual, with questions in both the language of the state and English.

a) The Household Questionnaire listed all usual residents in each sample household plus any visitors who stayed in the household the night before the interview. For each listed person, the survey collected basic information on age, sex, marital status, relationship to the head of the household, education, and occupation. The Household Questionnaire also collected information on the prevalence of asthma, tuberculosis, malaria, and jaundice, as well as three risk behaviours—chewing paan masala or tobacco, drinking alcohol, and smoking. Information was also collected on the usual place where household members go for treatment when they get sick, the main source of drinking water, type of toilet facility, source of lighting, type of cooking fuel, religion of the household head, caste/tribe of the household head, ownership of a house, ownership of agricultural land, ownership of livestock, and ownership of other selected items. In addition, a test was conducted to assess whether the household uses cooking salt that has been fortified with iodine. Finally, the Household Questionnaire asked about deaths occurring to household members in the two years before the survey, with particular attention to maternal mortality. The information on the age, sex, and marital status of household members was used to identify eligible respondents for the Woman's Questionnaire.

b) The Woman's Questionnaire collected information from all ever-married women age 15-49 who were usual residents of the sample household or visitors who stayed in the sample household the night before the interview. The questionnaire covered the following topics:

- Background characteristics: Questions on age, marital status, education, employment status, and place of residence provide information on characteristics likely to influence demographic and health behaviour. Questions are also asked about a woman's husband, gender roles, and the treatment of women in the household.
- Reproductive behaviour and intentions: Questions cover dates and survival status of all births, current pregnancy status, and future childbearing intentions of each woman.
- Quality of care: Questions assess the quality of family planning and health services.
- Knowledge and use of contraception: Questions cover knowledge and use of specific family planning methods. For women not using family planning, questions are included about reasons for nonuse and intentions about future use.
- Sources of family planning: Questions determine where a user obtained her family planning method.
- Antenatal, delivery, and postpartum care: The questionnaire collects information on whether women received antenatal and postpartum care, who attended the delivery, and the nature of complications during pregnancy for recent births.
- Breastfeeding and health: Questions cover feeding practices, the length of breastfeeding, immunization coverage, and recent occurrences of diarrhoea, fever, and cough for young children.
- Reproductive health: Questions assess various aspects of women's reproductive health and the type of care sought for health problems.
- Status of Women: The questionnaire asks about women's autonomy and violence against women.
- Knowledge of AIDS: Questions assess women's knowledge of AIDS and the sources of their knowledge, as well as knowledge about ways to avoid getting AIDS.

In addition, the health investigator on each survey team measured the height and weight of each woman and each of her children born since January 1995 (in states where fieldwork started in 1998) or January 1996 (in states where fieldwork started in 1999) [see Table 1.1 for the month and year of fieldwork in each state]. This height and weight information is useful for assessing levels of nutrition prevailing in the population. The health investigators also took blood samples from each woman and each of her children born since January 1995/1996 to assess haemoglobin levels. This information is useful for assessing prevalence rates of anaemia among women and children. Haemoglobin levels were measured in the field at the end of each interview using portable equipment (the HemoCue) that provides test results in less than one minute. Severely anaemic women and children were referred to local medical authorities for treatment. In Delhi and Mumbai, the blood samples of young children were also used to test levels of lead using the portable LeadCare instrument.

c) For each village selected in the NFHS-2 sample, the Village Questionnaire collected information on the availability of various facilities in the village (especially health and education facilities) and amenities such as electricity and telephone connections. Respondents to the Village Questionnaire were also asked about development and welfare programmes

operating in the village. The village survey included a short, open-ended questionnaire that was administered to the village head, with questions on major problems in the village and actions that could be taken to alleviate the problems.

# Data Collection

## Data Collection Dates

| Start   | End     | Cycle |
|---------|---------|-------|
| 1998-11 | 1999-06 | N/A   |

## Data Collection Mode

Face-to-face

### DATA COLLECTION NOTES

In order to achieve better coordination and supervision, the NFHS-2 survey operation was carried out in two phases. The first phase included the states of Andhra Pradesh, Bihar, Gujarat, Haryana, Madhya Pradesh, Punjab, Rajasthan, Sikkim, Uttar Pradesh, and West Bengal. The second phase states were Arunachal Pradesh, Assam, Delhi, Goa, Himachal Pradesh, Jammu and Kashmir, Karnataka, Kerala, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Orissa, and Tamil Nadu. Tripura fieldwork was delayed due to local problems.

### RECRUITMENT, TRAINING, AND FIELDWORK

In order to maintain uniform survey procedures across the states, four manuals dealing with different aspects of the survey were prepared. The Interviewer's Manual consists of instructions to the interviewers regarding interviewing techniques, field procedures, and the method of asking questions and recording answers. The Manual for Field Editors and Supervisors contains a detailed description of the role of field editors and supervisors in the survey. A list of checks to be made by the field editor in the filled-in questionnaires is also provided in this manual. The Household Listing Manual, designed for household listing teams, contains procedures to be adopted for household listing. Guidelines for the training of the field staff are described in the manual entitled Training Guidelines.

Representatives of each field organization were trained in Training of Trainers Workshops organized by IIPS at the beginning of each phase of data collection. The purpose of these workshops was to ensure uniformity in data collection procedures in different states. The workshops covered the objectives of NFHS-2, different aspects of the survey, roles of various organizations participating in the survey, details of each of the three questionnaires used in the survey, methods of data collection and field supervision, and guidelines for the training of the field staff. Persons who were trained in each workshop subsequently trained the field staff in each state according to the standard procedures discussed in the Training of Trainers Workshops.

The fieldwork in each state was carried out by a number of interviewing teams, each team consisting of one field supervisor, one female field editor, four female interviewers, and one health investigator. The number of interviewing teams in each state varied according to the sample size. In each state, interviewers were hired specifically for NFHS-2, taking into consideration their educational background, experience, and other relevant qualifications. All interviewers were female, a stipulation that was necessary to ensure that women who were survey respondents would feel comfortable talking about topics that they may find somewhat sensitive.

Training of the field staff lasted for a minimum of three weeks in each state. The training course consisted of instruction in interviewing techniques and survey field procedures, a detailed review of each item in the questionnaires, instruction and practice in weighing and measuring children, mock interviews between participants in the classroom, and practice interviews in the field. In addition, at least two special lectures were arranged in each state: one on the topic of family planning at the beginning of training on the section on contraception in the Woman's Questionnaire, and one on maternal and child health practices, including immunizations, at the beginning of training on the section on the health of children. In addition to the main training, two days' training was arranged for field editors and supervisors, which focused on the organization of fieldwork as well as methods of detecting errors in field procedures and in the filled-in questionnaires. Health investigators attached to interviewing teams were given additional specialized training on measuring height and weight and testing for anaemia in a centralized training programme conducted by IIPS in collaboration with the All India Institute of Medical Sciences (AIIMS), New Delhi. This specialized training included classroom training and extensive field practice in schools, anganwadis, and communities.

Assignment of Primary Sampling Units (PSUs) to the teams and various logistical decisions were made by the survey coordinators from each field organization. Each interviewer was instructed not to conduct more than three individual interviews a day and was required to make a minimum of three callbacks if no suitable informant was available for the household interview or if the eligible woman identified in the selected household was not present at the time of the household interview.

The main duty of the field editor was to examine the completed questionnaires in the field for completeness, consistency, and legibility of the information collected, and to ensure that all necessary corrections were made. Special attention was paid to missing information, skip instructions, filter questions, age information, and completeness of the birth history and the health section. If major problems were detected, such as discrepancies between the birth history and the health section, the interviewers were required to revisit the respondent to correct the errors. An additional duty of the field editor was to observe ongoing interviews and verify the accuracy of the method of asking questions, recording answers, and following skip instructions.

## Data Collectors

| Name  | Abbreviation | Affiliation |
|---|--------------|-------------|
| ACNielsen Research Services Pvt. Ltd.   |              |             |
| Centre for Operations Research and Training   |              |             |
| Centre for Population and Development Studies   |              |             |
| Centre for Research in Rural and Industrial Development                                       |              |             |
| Economic Information Technology   |              |             |
| Indian Institute of Health and Family Welfare   |              |             |
| ORG Centre for Social Research  |              |             |
| Population Research Centre, M.S. University of Baroda   |              |             |
| Population Research Centre, Institute for Social and Economic Change                          |              |             |
| Population Research Centre Institute of Economic Growth, University Enclave                   |              |             |
| Population Research Centre, J.S.S. Institute of Economic Research                             |              |             |
| Population Research Centre, The Gandhigram Institute of Rural Health and Family Welfare Trust |              |             |
| TNS Mode Research Private Limited   |              |             |

## SUPERVISION

The field supervisor was responsible for the overall operation of the field team and collection of information on villages using the Village Questionnaire. In addition, the field supervisor conducted spot-checks to verify the accuracy of information collected on the eligibility of respondents. IIPS also appointed one or more research officers in each state to help with monitoring throughout the training and fieldwork period in order to ensure that correct survey procedures were followed and data quality was maintained. Survey directors and other senior staff from the field organizations, project coordinators, other faculty members from IIPS, senior research officers, and staff members from ORC Macro and the East-West Center also visited the field sites to monitor the data collection operation. Medical health coordinators appointed by IIPS monitored the nutritional component of the survey. Field data were quickly entered into microcomputers, and field-check tables were produced to identify certain types of errors that might have occurred in eliciting information and filling out questionnaires. Information from the field-check tables was fed back to the interviewing teams and their supervisors so that their performance could be improved.



# Data Processing

## Data Editing

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All completed questionnaires were sent to the office of the concerned field organization (FO) for editing and data processing (including office editing, coding, data entry, and machine editing). Although field editors examined every completed questionnaire in the field, the questionnaires were re-edited at the FO headquarters by specially trained office editors. The office editors checked all skip sequences, response codes that were circled, and information recorded in filter questions. Special attention was paid to the consistency of responses to age questions and the accurate completion of the birth history. In the second stage of office editing, appropriate codes were assigned for open-ended responses on occupation and cause of death, and commonly mentioned "other" responses were added to the coding scheme. For each state, the data were processed with microcomputers using the data entry and editing software known as the Integrated System for Survey Analysis (ISSA). The data were entered directly from the precoded questionnaires, usually starting within one week of the receipt of the first set of completed questionnaires. Data entry and editing operations were usually completed a few days after the end of fieldwork in each state. Computer-based checks were used to clean the data and remove inconsistencies. Age imputation was also completed at this stage. Age variables such as the woman's current age and the year and month of birth of all of her children were imputed for those cases in which information was missing or incorrect entries were detected.

Preliminary reports with selected results were prepared for each state within a few months of data collection and presented to policymakers and programme administrators responsible for improving health and family welfare programmes. Detailed NFHS-2 state reports are being prepared by IIPS, in collaboration with the Population Research Centres, other local organizations, ORC Macro, and the East-West Center. The state reports contain detailed information on such topics as the state's survey design and implementation, household and respondent background characteristics, fertility and fertility preferences, family planning, mortality, morbidity, child immunization, lifestyle indicators, domestic violence, knowledge of HIV/AIDS, nutritional status of women and children, infant feeding practices, anaemia among women and children, maternal care and reproductive health, and the quality of care of health and family welfare services.

# Data Appraisal

## Estimates of Sampling Error

The sample of women selected in NFHS-2 is only one of many samples that could have been selected from the same population, using the same design and expected sample size. Each of these samples would yield results that differ somewhat from the results of the actual sample selected. The sampling error is a measure of the variability among all possible samples. Although the degree of variability is not known exactly, it can be estimated from the survey results.

The sampling error is usually measured by the standard error for a particular statistic (for example, a mean or percentage), which is the square root of the variance. The standard error can be used to calculate confidence intervals within which the true value for the population can reasonably be assumed to fall. For example, for any given statistic calculated from a sample survey, the value of that statistic will fall within a range, calculated as the value of the statistic plus or minus two times the standard error of that statistic in 95 percent of all possible samples of identical size and design.

If the sample of women had been selected as a simple random sample, it would have been possible, for many statistics, to use straightforward formulas for calculating sampling errors. However, the NFHS-2 sample is the result of a multi-stage stratified sample design, and it is therefore necessary to use more complex formulas. The computer software used to calculate sampling errors for NFHS-2 is ISSA (the Integrated System for Survey Analysis). The linear Taylor series approximation method for variance estimation is used for estimates of means, proportions and ratios. The JACKKNIFE repeated replication method is used with ISSA for variance estimation for more complex statistics such as fertility and mortality rates.

In addition to the standard error, ISSA computes the design effect (DEFT) for each estimate, which is defined as the ratio of the standard error using the given sample design to the standard error that would result if a simple random sample had been used. A DEFT value of 1.0 indicates that the sample design is as efficient as a simple random sample, while a value greater than 1.0 indicates the increase in the sampling error due to the use of a more complex and less statistically efficient design. ISSA also computes the relative standard error and confidence limits for the estimates.

Sampling errors for NFHS-2 are calculated for selected variables considered to be of primary interest. The results are presented in appendix to the Final Report for the country as a whole and for urban and rural areas separately, except for the variable on salt iodization for which the results are shown separately for large cities, small cities, towns, and rural areas.

## Other forms of Data Appraisal

The purpose of the appendix C to the Final report is to provide the data user with an overview of the general quality of the NFHS-2 data. The tables in this appendix refer to possible nonsampling errors: for example, rounding or heaping on certain ages or dates; omission of events occurring further in the past; deliberate distortion of information by some interviewers in an attempt to lighten their work load; noncooperation of the respondent in providing information; or refusal to have children measured for height and weight or tested for anaemia. A description of the likely magnitude of such nonsampling errors is provided in appendix to the final Report.

The distribution of the de facto household population by single years of age and sex is presented. In many (but not all) cases, the respondent was the head of the household. It is well documented that ages are poorly reported in most parts of India. Ages are of little relevance to much of the rural population in particular, and no amount of probing will ensure that ages are properly recorded. In interviewer training for NFHS-2, a great deal of emphasis was placed on obtaining as accurate information as possible on ages and dates of events. Nevertheless, it is clear that age reporting in NFHS-2 shares the same problems inherent in all Indian censuses and surveys. Heaping on ages ending in 0, 2, 5, and 8 is considerable and is particularly severe in the older age groups. However, the NFHS-2 age data are evidently of considerably better quality than age data from other sources. This can be seen, for example, by comparing the degree of age heaping in NFHS-2 with that in the 1991 Census. Age reporting appears to be better in NFHS-2 than in the 1991 Census, particularly at the young adult ages. Another measure of the quality of the NFHS-2 age data is the percentage of persons whose ages were recorded as not known or missing. In the country as a whole, information on age was missing for only 70 persons out of 486,011 persons listed on the household schedules.

Other data quality tables are presented in appendix to the Final report.



## Related Materials

### Questionnaires

#### National Family Health Survey - Household Questionnaire

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|                |   |
|----------------|---|
| Title          | National Family Health Survey - Household Questionnaire   |
| Author(s)      | International Institute for Population Sciences (IIPS)  |
| Date           | 1998-11-01  |
| Country        | India   |
| Language       | English   |
| Contributor(s) | ORC Macro   |
| Description    | <p>The Household Questionnaire listed all usual residents in each sample household plus any visitors who stayed in the household the night before the interview. For each listed person, the survey collected basic information on age, sex, marital status, relationship to the head of the household, education, and occupation. The Household Questionnaire also collected information on the prevalence of asthma, tuberculosis, malaria, and jaundice, as well as three risk behaviours-chewing paan masala or tobacco, drinking alcohol, and smoking. Information was also collected on the usual place where household members go for treatment when they get sick, the main source of drinking water, type of toilet facility, source of lighting, type of cooking fuel, religion of the household head, caste/tribe of the household head, ownership of a house, ownership of agricultural land, ownership of livestock, and ownership of other selected items. In addition, a test was conducted to assess whether the household uses cooking salt that has been fortified with iodine. Finally, the Household Questionnaire asked about deaths occurring to household members in the two years before the survey, with particular attention to maternal mortality. The information on the age, sex, and marital status of household members was used to identify eligible respondents for the Woman's Questionnaire.</p> |
| Filename       | IND_DHS_1998-99_Questionnaire_Household_En.pdf  |

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#### National Family Health Survey - Woman's Questionnaire

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|                |  |
|----------------|--|
| Title          | National Family Health Survey - Woman's Questionnaire  |
| Author(s)      | International Institute for Population Sciences (IIPS) |
| Date           | 1998-11-01   |
| Country        | India  |
| Language       | English  |
| Contributor(s) | ORC Macro  |

The Woman's Questionnaire collected information from all ever-married women age 15-49 who were usual residents of the sample household or visitors who stayed in the sample household the night before the interview. The questionnaire covered the following topics:

- Background characteristics: Questions on age, marital status, education, employment status, and place of residence provide information on characteristics likely to influence demographic and health behaviour. Questions are also asked about a woman's husband, gender roles, and the treatment of women in the household.
- Reproductive behaviour and intentions: Questions cover dates and survival status of all births, current pregnancy status, and future childbearing intentions of each woman.
- Quality of care: Questions assess the quality of family planning and health services.
- Knowledge and use of contraception: Questions cover knowledge and use of specific family planning methods. For women not using family planning, questions are included about reasons for nonuse and intentions about future use.
- Sources of family planning: Questions determine where a user obtained her family planning method.
- Antenatal, delivery, and postpartum care: The questionnaire collects information on whether women received antenatal and postpartum care, who attended the delivery, and the nature of complications during pregnancy for recent births.
- Breastfeeding and health: Questions cover feeding practices, the length of breastfeeding, immunization coverage, and recent occurrences of diarrhoea, fever, and cough for young children.
- Reproductive health: Questions assess various aspects of women's reproductive health and the type of care sought for health problems.
- Status of Women: The questionnaire asks about women's autonomy and violence against women.
- Knowledge of AIDS: Questions assess women's knowledge of AIDS and the sources of their knowledge, as well as knowledge about ways to avoid getting AIDS.

## Description

In addition, the health investigator on each survey team measured the height and weight of each woman and each of her children born since January 1995 (in states where fieldwork started in 1998) or January 1996 (in states where fieldwork started in 1999) [see Table 1.1 for the month and year of fieldwork in each state]. This height and weight information is useful for assessing levels of nutrition prevailing in the population. The health investigators also took blood samples from each woman and each of her children born since January 1995/1996 to assess haemoglobin levels. This information is useful for assessing prevalence rates of anaemia among women and children. Haemoglobin levels were measured in the field at the end of each interview using portable equipment (the HemoCue) that provides test results in less than one minute. Severely anaemic women and children were referred to local medical authorities for treatment. In Delhi and Mumbai, the blood samples of young children were also used to test levels of lead using the portable LeadCare instrument.

Filename IND\_DHS\_1998-99\_Questionnaire\_Woman\_En.pdf

## National Family Health Survey - Village Questionnaire

Title National Family Health Survey - Village Questionnaire

Author(s) International Institute for Population Sciences (IIPS)

Date 1998-11-01

Country India

Language English

Contributor(s) ORC Macro

Description For each village selected in the NFHS-2 sample, the Village Questionnaire collected information on the availability of various facilities in the village (especially health and education facilities) and amenities such as electricity and telephone connections. Respondents to the Village Questionnaire were also asked about development and welfare programmes operating in the village. The village survey included a short, open-ended questionnaire that was administered to the village head, with questions on major problems in the village and actions that could be taken to alleviate the problems.

Filename IND\_DHS\_1998-99\_Questionnaire\_Village\_En.pdf

## Reports

### National Family Health Survey 1998-99 - Final Report

Title National Family Health Survey 1998-99 - Final Report

Author(s) International Institute for Population Sciences (IIPS)

Date 2000-10-01  
 Country India  
 Language English  
 Contributor(s) ORC Macro

The success of the first National Family Health Survey, conducted in 1992-93, in creating an important demographic and health database in India has paved the way for repeating the survey. The second National Family Health Survey (NFHS-2), undertaken in 1998-99, is designed to strengthen the database further and facilitate implementation and monitoring of population and health programmes in the country. As in the earlier survey, the principal objective of NFHS-2 is to provide state and national estimates of fertility, the practice of family planning, infant and child mortality, maternal and child health, and the utilization of health services provided to mothers and children. In addition, the survey provides indicators of the quality of health and family welfare services, women's reproductive health problems, and domestic violence, and includes information on the status of women, education, and the standard of living.

Another feature of NFHS-2 is measurement of the nutritional status of women. Height and weight measurements, which were available only for young children in the earlier survey, were extended to cover all eligible women in NFHS-2. In addition, ever-married women and their children below age three had their blood tested for the level of haemoglobin, using the HemoCue instrument. Through these blood tests, for the first time the survey provides information on the prevalence of anaemia throughout India. In two metropolitan cities, Delhi and Mumbai, a further test was done for children below age three to measure the lead content in their blood. The survey also measured the extent to which households in India use cooking salt that has been fortified with iodine.

Description The NFHS-2 survey was funded by the United States Agency for International Development (USAID) through ORC Macro, USA. UNICEF provided additional financial support for the nutritional components of the survey. The survey is the outcome of the collaborative efforts of many organizations. The International Institute for Population Sciences (IIPS) was designated as the nodal agency for this project by the Ministry of Health and Family Welfare, Government of India, New Delhi. Thirteen reputed field organizations (FOs) in India, including five Population Research Centres, were selected to carry out the houselisting operation and data collection for NFHS-2. ORC Macro, Calverton, Maryland, USA, and the East-West Center, Honolulu, Hawaii, USA, provided technical assistance for all survey operations.

The NFHS-2 survey covered a representative sample of more than 90,000 eligible women age 15-49 from 26 states that comprise more than 99 percent of India's population. The data collection was carried out in two phases, starting in November 1998 and March 1999. The survey provides state-level estimates of demographic and health parameters as well as data on various socioeconomic and programmatic factors that are critical for bringing about desired changes in India's demographic and health situation. The survey provides urban and rural estimates for most states, regional estimates for four states (Bihar, Madhya Pradesh, Rajasthan, and Uttar Pradesh), separate estimates for three metro cities (Calcutta, Chennai and Mumbai), and estimates for slum areas in Mumbai.

The survey used uniform questionnaires, sample designs, and field procedures to facilitate comparability of the data and to achieve a high level of data quality. Preliminary reports with selected results were prepared earlier for each state and presented to policymakers and programme administrators responsible for improving health and family welfare programmes in the states. The report presents survey findings from all Indian states except Tripura, where the fieldwork was delayed due to a local problem.

The contents of this report are based on a standard tabulation plan developed at a workshop held in Kodaikanal during the period 15-17 January 1999. IIPS finalized the tabulation plan according to the recommendations of the NFHS-2 Technical Advisory Committee and produced the tables and figures for the final reports. This report has been written jointly by authors from IIPS, ORC Macro, and the East-West Center.

Filename <http://www.dhsprogram.com/pubs/pdf/FRIND2/FRIND2.pdf>

## National Family Health Survey 1998-99 Final Report

Title National Family Health Survey 1998-99 Final Report  
 Author(s) International Institute for Population Sciences (IIPS)  
 Date 2000-10-01  
 Country India  
 Language English  
 Contributor(s) ORC Macro

The success of the first National Family Health Survey, conducted in 1992-93, in creating an important demographic and health database in India has paved the way for repeating the survey. The second National Family Health Survey (NFHS-2), undertaken in 1998-99, is designed to strengthen the database further and facilitate implementation and monitoring of population and health programmes in the country. As in the earlier survey, the principal objective of NFHS-2 is to provide state and national estimates of fertility, the practice of family planning, infant and child mortality, maternal and child health, and the utilization of health services provided to mothers and children. In addition, the survey provides indicators of the quality of health and family welfare services, women's reproductive health problems, and domestic violence, and includes information on the status of women, education, and the standard of living.

Another feature of NFHS-2 is measurement of the nutritional status of women. Height and weight measurements, which were available only for young children in the earlier survey, were extended to cover all eligible women in NFHS-2. In addition, ever-married women and their children below age three had their blood tested for the level of haemoglobin, using the HemoCue instrument. Through these blood tests, for the first time the survey provides information on the prevalence of anaemia throughout India. In two metropolitan cities, Delhi and Mumbai, a further test was done for children below age three to measure the lead content in their blood. The survey also measured the extent to which households in India use cooking salt that has been fortified with iodine.

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